



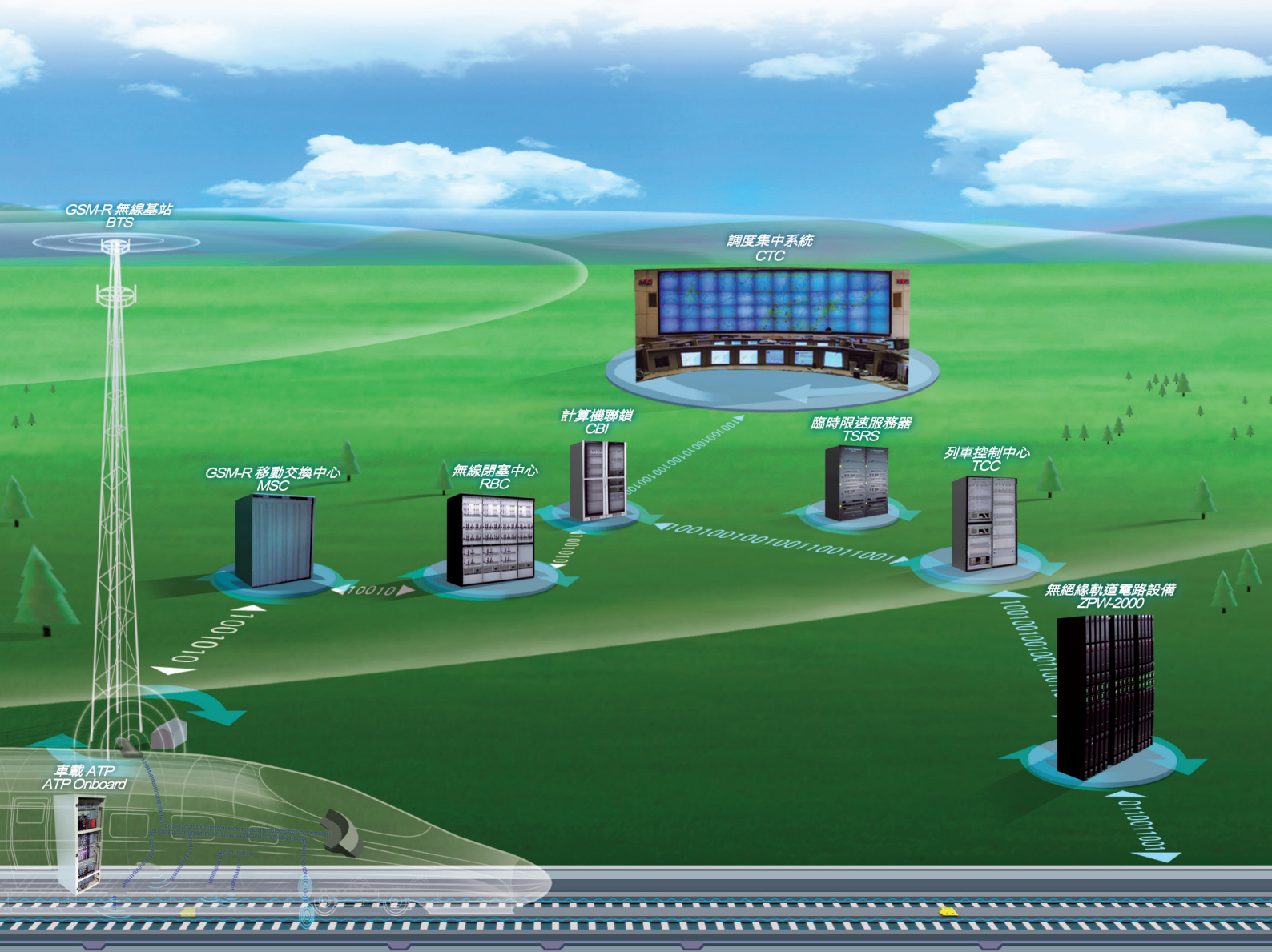
中国通号

China Railway Signal & Communication Corporation Limited*

中國鐵路通信信號股份有限公司

(A joint stock limited liability company incorporated in the People's Republic of China)

Stock code : 3969



2022
Annual Report

*For identification only

IMPORTANT NOTICE

I. THE BOARD AND THE SUPERVISORY COMMITTEE OF THE COMPANY AND THE DIRECTORS, SUPERVISORS AND MEMBERS OF THE SENIOR MANAGEMENT WARRANT THE TRUTHFULNESS, ACCURACY AND COMPLETENESS OF THE CONTENTS HEREIN AND CONFIRM THAT THERE ARE NO MISREPRESENTATIONS OR MISLEADING STATEMENTS CONTAINED IN, OR MATERIAL OMISSIONS FROM, THIS ANNUAL REPORT, AND ACCEPT SEVERAL AND JOINT LEGAL RESPONSIBILITIES.

II. THE COMPANY MADE NO PROFIT AT THE TIME OF LISTING AND HAS NOT BEEN YET PROFITABLE

Yes No

III. WARNING OF SIGNIFICANT RISKS

For the description of relevant risks, please refer to Section IV “Management Discussion and Analysis and Report of the Directors” of this report.

IV. ALL DIRECTORS OF THE COMPANY ATTENDED THE BOARD MEETING.

V. BDO CHINA SHU LUN PAN CERTIFIED PUBLIC ACCOUNTANTS LLP ISSUED A STANDARD UNQUALIFIED AUDIT REPORT FOR THE COMPANY. UNLESS OTHERWISE STATED, ALL THE DATA PRESENTED IN THIS REPORT ARE DENOMINATED IN RMB.

VI. ZHOU ZHILIANG, PERSON-IN-CHARGE OF THE COMPANY, LI LIANQING, CHIEF FINANCIAL OFFICER, AND ZHANG SHIHU, HEAD OF THE FINANCIAL DEPARTMENT (PERSON IN CHARGE OF ACCOUNTING), CONFIRM THAT THE FINANCIAL REPORT IN THIS ANNUAL REPORT IS TRUE, ACCURATE AND COMPLETE.

VII. PROFIT DISTRIBUTION PLAN OR RESERVES-TO-EQUITY TRANSFER PLAN DURING THE REPORTING PERIOD AS CONSIDERED BY THE BOARD

As considered by the 12th meeting of the fourth session of the Board of the Company, the Company plans to distribute cash dividend of RMB1.7 (including tax) to all Shareholders for every 10 shares based on the total share capital of 10,589,819,000 shares on 31 December 2022, totaling RMB1,800,269,230. The profit distribution plan needs to be considered and approved by the Company’s 2022 annual general meeting.

VIII. WHETHER THERE ARE IMPORTANT MATTERS SUCH AS SPECIAL ARRANGEMENTS FOR CORPORATE GOVERNANCE

Applicable Not applicable

IMPORTANT NOTICE

IX. DISCLAIMER OF FORWARD-LOOKING STATEMENTS

Applicable Not applicable

This report contains forward-looking statements that are based on some subjective judgements and prospective assumptions with precedent conditions to the domestic and overseas economic trends and macro policies in the future. The judgements and assumptions may change under the influence of constraints. The final results or trends may differ from these forward-looking statements.

The forward-looking statements included in this report in relation to future plans, development strategies, etc. do not constitute any substantive commitment to investors by the Company. Investors should be aware of investment risks.

X. WHETHER THE CONTROLLING SHAREHOLDER OR ITS RELATED PARTIES HAVE MISAPPROPRIATED THE COMPANY'S FUNDS FOR PURPOSES OTHER THAN FOR BUSINESS

No

XI. WHETHER THE COMPANY HAS PROVIDED EXTERNAL GUARANTEES IN VIOLATION OF ANY PRESCRIBED DECISION-MAKING PROCEDURES

No

XII. WHETHER THE COMPANY HAS MORE THAN HALF OF THE DIRECTORS THAT CAN NOT GUARANTEE THE TRUTHFULNESS, ACCURACY AND COMPLETENESS OF THE ANNUAL REPORT DISCLOSED BY THE COMPANY

No

XIII. OTHERS

Applicable Not applicable

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SECTION I DEFINITIONS

I. DEFINITIONS

Unless otherwise stated in the context, the following terms should have the following meanings in this report:

Definitions of Common Words

A share(s)	ordinary share(s) in the share capital of the Company, with a nominal value of RMB1.00 each, which are listed on the SSE and traded in RMB
Board	the board of directors of the Company
China or the PRC	the People's Republic of China, which for the purposes of this report excludes Hong Kong, Macau and Taiwan
CRSC or our Company or Company	China Railway Signal & Communication Corporation Limited* (中國鐵路通信信號股份有限公司)
CRSC Group	China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司), the controlling shareholder of the Company
Director(s)	the director(s) of the Company
SASAC	the State-owned Assets Supervision and Administration Commission of the State Council of China (中國國務院國有資產監督管理委員會)
CSRC	China Securities Regulatory Commission (中國證券監督管理委員會)
Group	the Company and its subsidiaries
SSE	the Shanghai Stock Exchange
Hong Kong Stock Exchange	The Stock Exchange of Hong Kong Limited
CNRG	China National Railway Group Co., Ltd. (中國國家鐵路集團有限公司)
Reporting Period	the year ended 31 December 2022
CAM	China Association of Metros (中國城市軌道交通協會)
ATO	Automatic Train Operation, the automatic train operation system, a system that automatically adjusts the speed and operation status of trains to automatically control a train's operation
ATP	Automatic Train Protection, the automatic train protection equipment that automatically brakes train when it exceeds speed limits

SECTION I DEFINITIONS

CBTC	Communication Based Train Control System, train control system for urban transit, the wireless communication-based automatic train control system, a wireless communication system for urban transit that enables bidirectional communication between vehicle and ground facilities to control the operation of trains
CIPS	Computer Integrated Processing System, automation system of the freight marshalling yard, a system for centralized supervision and control of marshalling yard operations
CTCS	Chinese Train Control System, developed by China for ensuring the safe operation of trains, which is divided into 0 to 4 levels based on function and equipment configuration according to the operational requirements of different lines. The higher the level, the faster the train speed applied and the higher the technical difficulty
EPC	Engineering Procurement Construction, the whole process or certain stages of the contract entrusted by the owner to the Company to carry out the design, procurement, construction, and trial operation of the construction project in accordance with the contract
ITCS	Incremental Train Control System, an enhanced train control system, which is currently applied to the Qinghai-Tibet Railway
MATC	Magnetic Automatic Train Control, medium and low speed maglev control system, an automatic control system for moving block trains based on cross induction loops, suitable for medium and low speed maglev trains
RBC	Radio Blocking Center, the ground core equipment of the CTCS-3 system to generate control information on the driving permission, line description and temporary speed limit for the controlled train according to the train status provided by the train ATP, the interlock path status provided by the interlock device, the track occupation status, and the temporary line speed limit command provided by the TSRS and transmit such information to the on-board ATP through the GSM-R network to control the driving status of the train
TACS	Train Autonomous Circumambulation System, the automatic train operation system, a signal system for a train to realize autonomous resource management and active interval protection based on the operation plan and real-time location of the train

Note: In this report, figures shown as totals in different ways may not be an arithmetic aggregation of the figures preceding them, which are due to rounding adjustments.

SECTION II CHAIRMAN'S STATEMENT

Dear shareholders:

2022 was an extremely important year in the history of the Communist Party of China (CPC) and China. The 20th National Congress of the CPC was successfully convened and the entire Party and the Chinese people of all ethnic groups embarked on a new journey to build China into a modern socialist country through a Chinese path to modernization. 2022 was also a year for CRSC to deeply implement the "14th Five-Year" strategic plan and speed up in reform and development. During the year, CRSC adhered to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, deeply studied and implemented the spirit of the 20th National Congress of the CPC, seized on the new development stage and completely, accurately and comprehensively implemented the new development concept. It focused on principal responsibilities and businesses, adopted technology-driven approach, continuously propelled reform and breakthroughs, innovation and upgrading to enhance the core competitiveness of the Company.

In 2022, we sped up in achieving full independence with respect to high technology and promoted high-quality development with technological innovation to achieve new breakthroughs. Focusing on world-level cutting-edge technologies, the main economic fields, the country's critical needs, and the people's health, the Company deeply implemented the Outline of the National Innovation-Driven Development Strategy and the Program of Building National Strength in Transportation and the strategy of "leading science and technology." With "consolidating its leading position in the industry, ensuring safety and quality, supporting business expansion and promoting the transformation of internationalization" as the center, the Company simultaneously promoted the coordinated technological and institutional innovation, continuously enhanced scientific and technological innovation capacity and level, and propelled the high-quality development of the Company with scientific and technological innovation. The Company accelerated the process to make breakthroughs in core technologies and RMB1.874 billion was utilized for R&D purposes last year. The breakthrough results were applied in Anqing-Jiujiang High-speed Railway and metro lines in Xi'an and Changsha. It carried out researches on key reserve technology in the signaling and communications system of Sichuan-Tibet Railway, electromagnetic environmental effects of rail transportation, key 5G technology of rail transportation and other fundamental and forward-looking researches. The Company deeply advanced the transformation of achievements in scientific and technological innovation. The high-speed maglev train operation control system was put into testing on-site in the Yanggao test line in Datong, Shanxi. The new train control system guaranteed the successful opening of Ruoqiang-Hetian Railway in Xinjiang. The collaborative transportation and service system of regional rail transportation conducted demonstration application in Jiangtiao Section. The high-density automatic operation control technology for ad-hoc network of heavy-haul train won the bidding for Baotou-Shenmu Railway of China Shenhua. The fully autonomous moving blocking system based on BeiDou Navigation Satellite System (BDS) completed joint commissioning and testing in Pingmei Group. The fully

SECTION II CHAIRMAN'S STATEMENT

automatic coupling and uncoupling function was opened for application in Zhengzhou-Xuchang intercity railways. The research results of the “key technology for digital transformation in the operation and maintenance of the train control system of super-large metros and its application” have been applied in Shanghai and Kunming. The Branch Technical Committee of the National Standardization Committee of Communication Signal for Railways was established in CRSC and it released the national standard system on communication signal for railways. 4 standards formulated under the leadership of the Company have been officially established by the International Organization for Standardization and the International Electrotechnical Commission and 2 standards have been officially released by the International Electrotechnical Commission, representing breakthroughs in leading the releasing of the first international standard. The Company actively carried out the construction of high-level sci-tech innovation platforms. The “Engineering Research Center for Intelligent Control on Train Autonomous Operation in Railway Industry” was unveiled for operation. It vigorously applied for national innovation platforms. One state-accredited enterprise technology center, one innovation base for “Innovation China,” two national railway engineering research centers, and two world-class model enterprises and “specialized and new” model enterprises established by the SASAC were newly added.

In 2022, we actively demonstrated the undertaking as a central enterprise and opened a new chapter of high-quality development with practical efforts and tangible results. The Company made concerted efforts to meet challenges head-on in solidarity, steadily improved the development quality and accelerated the establishment of a world-class enterprise with excellent products, outstanding brands, leading innovation and modern governance. It served key transportation construction in China and successfully opened Hangzhou-Shaoxing-Taizhou High-speed Railway, Huanggang-Huangmei High-speed Railway, Huzhou-Hangzhou High-speed Railway and other key projects, supporting the establishment of the asterisk shape high-speed railway network in China and improved the main high-speed railway of the “eight vertical and eight horizontal lines (八縱八橫)”. It opened Nanjing Metro Line S8, Hangzhou Metro Line 19, Xi'an Metro Line 6 and other key urban rail transit projects with high standards. The Company was awarded 11 awards, including the National Quality Engineering Award, as well as 3 Luban prizes and 1 Tien-yow Jeme Civil Engineering Prize during the year. It promoted the joint construction of “the Belt and Road”. The Beno section of Hungary-Serbia Railway was successfully opened; the 10th of Ramadan Railway was opened with high standards; the Yawan High Speed Railway was successfully demonstrated at the G20 Summit; the Novi Sad-Subotica section of the Hungary-Serbia Railway, the double-track railway in Thailand, the Mexico City Metro and other key projects were under orderly progress. The Company safeguarded the safe and stable operation of rail transit lines. It completed tasks on guaranteeing services for the key engineering projects of 20th National Congress of the CPC, the construction of Winter Olympics and the Paralympic Winter Games, and the celebration of the 25th Anniversary of Hong Kong's Return to the Motherland as well as the tasks on guaranteeing the operation of Shanghai Metro during the Shanghai CIIE with high quality.

SECTION II CHAIRMAN'S STATEMENT

In 2022, we continuously deepened the reform of state-owned enterprises and stimulated new drivers to high-quality development with reform and progress. The Company ensured that the channels, enthusiasm and efforts in reform remain unchanged and successfully completed the tasks on the three-year campaign for the reform of state-owned enterprises. It sped up in implementing the rights and powers of the boards of directors of its subsidiaries. Subsidiaries at all levels implemented the rights and powers of the boards of directors in different layers, categories and stages. 13 secondary enterprises and 11 tertiary enterprises carried out plans on the implementation of the rights and powers of the boards of directors and guaranteed the effective implementation. In combination with the appointment of management through competition and the tenure system and contractual management among managers, they prioritized the implementation of rights on the appointment of management members, the appraisal on their performance and the distribution of remuneration to them. It advanced the pilot reform of the technological systems, actively explored the implementation of mechanisms on “selecting the best candidates to undertake key research projects (揭榜掛帥),” co-investment, risk mortgage and simulated legal person of business groups, implemented more flexible and efficient systems on total wage management and remuneration distribution, intensified and highlighted the results in the transformation of scientific research results and deeply propelled the special reform of “demonstration action on technological transformation.” The Company increasingly improved the market-based operation mechanism, facilitated the full coverage of the tenure system and contractual management among mid-level management of enterprises of all level, emphasized the incentive mechanism and intensified rigid assessment and fulfillment. It expanded the scope for implementation to medium management of enterprises at all levels, encouraged and guided qualified branches and project departments to promote contractual management, directed and urged all enterprises to implement “one position for one person” and enter into “two letters and one agreement.” The Company consolidated and deepened the results in the reform of three systems. 35 enterprises conducted the appointment of management through competition and implemented adjustment for the bottom and exit of incompetent members on a normalized basis. It released the Guiding Opinions on Enhancing the Full Implementation of Market-based Employment and the Guiding Opinions on Enhancing the Appraisal on the Performance of All Employees, granting enterprises with more autonomous right in remuneration management.

SECTION II CHAIRMAN'S STATEMENT

2023 is the first year for fully implementing the spirit of the 20th National Congress of the CPC as well as a crucial year in its development during the "14th Five-Year" Plan period. CRSC will adhere to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, deeply study and implement the spirit of the 20th National Congress of the CPC and the Central Economic Work Conference, and implement the decisions and deployments of the CPC Central Committee and the State Council. It will completely, accurately and comprehensively implement the new development concept and serve the establishment of the new development pattern under the unified leadership of the Party Committee of the SASAC. CRSC will make continued efforts to seek progress while maintaining stability. The Company will pursue synergistic coordination in strategies, targets, factors and tasks along the high-end development route and focus on ensuring stable growth, optimizing the industrial system, making breakthrough in scientific and technological innovation, enhancing safety and quality, deepening reform, improving corporate governance and guarding against development risks, make efforts in consolidating the foundation, improving weak links and making full use of advantages, constantly strengthen, optimize, expand and cultivate its brand portfolio to drive higher-quality development. It will accelerate the establishment of a world-class enterprise, strive to become a top multinational industrial group in the world with rail transportation control systems and technologies as features and create more wealth and value for the society and shareholders!

On behalf of the Board of Directors, I hereby would like to express our sincerest thanks to the shareholders who champion the Company's reform and development, as well as friends from all ranks of life who concern and root for the Company!

ZHOU Zhiliang
Chairman

Beijing, the PRC
23 March 2023

SECTION III BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

I. CORPORATE INFORMATION

Chinese name of the Company	中國鐵路通信信號股份有限公司
Chinese abbreviation	中國通號
English name of the Company	China Railway Signal & Communication Corporation Limited
English abbreviation	CRSC
Legal representative of the Company	ZHOU Zhiliang
Registered office of the Company	20/F, CRSC Building A 1 Compound, Automobile Museum South Road Fengtai District Beijing, China
Postal code of registered office of the Company	100070
Historical change of registered office of the Company	In November 2017, the Company's registered office was changed from B 49 Xisihuan South Road, Fengtai District, Beijing, China to 20/F, CRSC Building A, 1 Compound, Automobile Museum South Road, Fengtai District, Beijing, China
Principal place of business	CRSC Building 1 Compound, Automobile Museum South Road Fengtai District Beijing, China
Postal code of principal place of business	100070
Website of the Company	www.crsc.cn
E-mail	ir@crsc.cn
Principal place of business in Hong Kong	40th Floor, Dah Sing Financial Centre, No. 248 Queen's Road East, Wanchai, Hong Kong

II. CONTACT PERSONS AND CONTACT METHODS

	Secretary to the Board (Domestic representative for information disclosure)
Name	LI Lianqing
Correspondence address	19/F, CRSC Building A 1 Compound, Automobile Museum South Road Fengtai District Beijing, China
Telephone	+86 10-50809286
Fax	+86 10-50809075
E-mail	ir@crsc.cn



SECTION III BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

III. INFORMATION DISCLOSURE AND PLACE OF INSPECTION

Media and website designated by the Company for annual report disclosure	China Securities Journal (www.cs.com.cn), Shanghai Securities News (www.cnstock.com), Securities Times (www.stcn.com) and Securities Daily (www.zqrb.cn)
Website designated by the CSRC for publishing the A share annual report of the Company	www.sse.com.cn
Website designated by the Hong Kong Stock Exchange for publishing the H share annual report of the Company	www.hkexnews.hk
Place of inspection of the annual report of the Company	Board Office of the Company
Index to changes during the Reporting Period	None

LANGUAGE AND MEANS OF RECEIPT OF CORPORATE COMMUNICATIONS

The Company provides corporate communications to the shareholders based on their respective choice of language and means of receipt. The shareholders have the following options:

- to read the online version of all corporate communications published on the Company's website by electronic means in the future instead of receiving the printed version and receive printed notice for the publication of the corporate communications published on the Company's website;
- to receive printed English version of all corporate communications only in the future;
- to receive printed Chinese version of all corporate communications only in the future; or
- to receive both printed English and Chinese versions of all corporate communications in the future.

The shareholders may choose and/or change their choice on the language of our corporate communications and/or the way to receive the corporate communications at any time. The shareholders may notify the Company of their options by the following ways:

- By mail: 17M Floor, Hopewell Centre, 183 Queen's Road East, Wanchai, Hong Kong
- By email: crsc.ecom@computershare.com.hk

For enquiry on the arrangement relating to the language and means of receipt of corporate communications, the shareholders may contact the hotline at +852 2862 8688 at any time.

SECTION III BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

IV. BASIC INFORMATION OF SHARES/DEPOSITARY RECEIPTS OF THE COMPANY

(I) Basic information of shares of the Company

Applicable Not applicable

Basic information of shares of the Company

Class of share	Place of listing and sector	Stock abbreviation	Stock code	Stock abbreviation before change
A share	SSE STAR Market	CRSC	688009	None
H share	Hong Kong Stock Exchange Main Board	CRSC	03969	None

(II) BASIC INFORMATION OF DEPOSITARY RECEIPTS OF THE COMPANY

Applicable Not applicable

V. OTHER RELEVANT INFORMATION

Accounting firm engaged by the Company (domestic)	Name	BDO China SHU LUN PAN Certified Public Accountants LLP
	Office address	4/F, No. 61 Nanjing East Road, Shanghai
	Name of signing accountants	GUO Jian, WANG Xiaoyan
Sponsor institution performing the duty of continuous supervision during the Reporting Period	Name	China International Capital Corporation Limited
	Office address	27th and 28th Floor, China World Office 2, 1 Jianguomenwai Avenue, Chaoyang District, Beijing, China
	Name of signing sponsor representative	MA Qinghai, WU Jiaqing
	Term of continuous supervision	From the listing date to 31 December 2022

Note: Pursuant to the amendments to the Listing Rules of the Hong Kong Stock Exchange and relevant requirements of the Ministry of Finance and the CSRC, a company incorporated in China and listed on the Hong Kong Stock Exchange is permitted to adopt the PRC GAAP Standards to prepare its financial statements and to engage a Chinese accounting firm recognized by the Ministry of Finance and the CSRC to provide relevant services according to the PRC auditing standards since 15 December 2010. Therefore, the Company appointed one accounting firm as its external major auditor starting from the financial year of 2019 (no division of domestic and overseas).

SECTION III BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

VI. KEY ACCOUNTING DATA AND FINANCIAL INDICATORS IN THE PAST THREE YEARS

(I) Key accounting data

Unit: Yuan Currency: RMB

Key accounting data	2022	2021	Change as	2020
			compared with the corresponding period of last year (%)	
Revenue	40,203,207,773.29	38,358,297,108.78	4.81	40,124,476,710.76
Net profit attributable to shareholders of the listed company	3,633,640,258.62	3,274,672,689.28	10.96	3,819,046,319.02
Net profit deducting non-recurring profit or loss attributable to shareholders of the listed company	3,416,830,555.97	3,123,863,726.28	9.38	3,578,794,910.78
Net cash flow generated from operating activities	2,082,161,660.88	2,768,701,491.06	-24.80	3,007,375,953.08
			Change as	
			compared with	
			the end of	
	At the end of 2022	At the end of 2021	last year (%)	At the end of 2020
Net assets attributable to shareholders of the listed company	45,323,917,197.95	43,554,652,753.64	4.06	42,563,468,050.40
Total assets	116,806,544,483.88	108,942,588,838.30	7.22	105,328,082,320.59

SECTION III BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

(II) Key financial indicators

Unit: Yuan Currency: RMB

Key financial indicators	2022	2021	Change as compared with the corresponding period of last year (%)	2020
Basic earnings per share (RMB/share)	0.33	0.30	10.00	0.34
Diluted earnings per share (RMB/share)	0.33	0.30	10.00	0.34
Basic earnings per share after deduction of non-recurring profit or loss (RMB/share)	0.31	0.28	10.71	0.32
Weighted average rate of return on net assets (%)	8.17	7.57	Increased by 0.60 percentage point	9.09
Weighted average rate of return on net assets after deduction of non-recurring profit or loss (%)	7.68	7.22	Increased by 0.46 percentage point	8.52
R&D investment as a percentage of revenue (%)	4.66	4.96	Decreased by 0.30 percentage point	4.32

Key accounting data and financial indicators of the Company in the past three years as at the end of the Reporting Period

Applicable Not applicable

SECTION III BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

VII. DIFFERENCES IN ACCOUNTING DATA UNDER DOMESTIC AND OVERSEAS ACCOUNTING STANDARDS

(I) Differences in net profit and net assets attributable to shareholders of the listed company in financial reports disclosed in accordance with international accounting standards and Chinese accounting standards

Applicable Not applicable

(II) Differences in net profit and net assets attributable to shareholders of the listed company in financial reports disclosed in accordance with overseas accounting standards and Chinese accounting standards

Applicable Not applicable

(III) Explanation of differences between domestic and overseas accounting standards:

Applicable Not applicable

VIII. MAIN QUARTERLY FINANCIAL DATA FOR 2022

Unit: Yuan Currency: RMB

	The first quarter (January to March)	The second quarter (April to June)	The third quarter (July to September)	The fourth quarter (October to December)
Revenue	6,941,051,579.25	11,442,310,858.50	8,561,411,457.15	13,258,433,878.39
Net profit attributable to shareholders of the listed company	648,016,868.11	1,286,067,205.81	667,112,771.41	1,032,443,413.29
Net profit deducting non-recurring profit or loss attributable to shareholders of the listed company	643,473,040.27	1,237,841,222.90	640,718,794.54	894,797,498.26
Net cash flow generated from operating activities	-1,014,920,672.61	-76,252,093.33	906,260,076.74	2,267,074,350.08

Explanation of differences between quarterly data and data disclosed in the periodic report

Applicable Not applicable

SECTION III BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

IX. NON-RECURRING PROFIT OR LOSS ITEMS AND AMOUNTS

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Non-recurring profit or loss items	Amount of 2022	Note (if applicable)	Amount of 2021	Amount of 2020
Profit and loss on disposal of non-current assets	29,599,933.66	/	35,949,376.07	171,224,991.74
Government grants recognized through profit or loss for the period (other than government grants which are closely related to the Company's normal business operations, which comply with national policies and can be enjoyed continuously based on a fixed amount or a fixed quantity according to a certain standard)	225,886,038.73	/	109,073,995.77	117,599,839.57
Profit or loss on debt restructuring	—	/	13,849,690.16	—
Reversal of the impairment provision for receivables and contract assets which are tested individually for impairment	5,479,157.91	/	2,755,674.64	2,766,661.64
Other non-operating income and expenses apart from the aforesaid items	29,432,450.43	/	25,667,778.45	19,375,081.16
Less: Effect of income tax	52,080,244.77	/	35,036,177.88	65,689,329.87
Effect of minority interest (after tax)	21,507,633.31	/	1,451,374.21	5,025,836.00
Total	216,809,702.65	/	150,808,963.00	240,251,408.24

SECTION III BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

For the non-recurring profit and loss items as defined under the Explanatory Notice on Information Disclosure of Companies with Public Offering No. 1-Non-recurring Profit and Loss (《公開發行證券的公司信息披露解釋性公告第1號—非經常性損益》) of the Company, explain why defining the non-recurring profit and loss items listed in the Explanatory Notice on Information Disclosure of Companies with Public Offering No. 1-Non-recurring Profit and Loss as recurring profit and loss items.

Applicable Not applicable

X. ITEMS MEASURED AT FAIR VALUE

Applicable Not applicable

Unit: Yuan Currency: RMB

Items	Opening balance	Closing balance	Current change	Amount of impact on current profits
Receivables for financing	2,142,993,114.00	1,048,965,771.85	-1,094,027,342.15	—
Other equity instrument	<u>1,124,819,159.20</u>	<u>1,124,819,159.20</u>	—	—
Total	<u>3,267,812,273.20</u>	<u>2,173,784,931.05</u>	<u>-1,094,027,342.15</u>	—

XI. EXPLANATION OF PERFORMANCE INDICATORS OF NON-ENTERPRISE ACCOUNTING STANDARDS

Applicable Not applicable

XII. EXPLANATION OF DISCLOSURE SUSPENSIONS AND WAIVERS DUE TO STATE SECRETS, TRADE SECRETS, ETC.

Applicable Not applicable

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

I. DISCUSSION AND ANALYSIS ON BUSINESS OPERATIONS

In 2022, the Company further strengthened the leading position of operation and made all efforts to capture the market opportunity. During the year, the aggregate value of newly-signed contracts of the Company amounted to RMB73.009 billion, representing an increase of 1.01% compared with the same period in 2021, among which, the value of newly-signed contracts in railway sector amounted to RMB23.915 billion, representing a year-on-year increase of 0.76%; the value of newly-signed contracts in urban transit sector amounted to RMB12.685 billion, representing a year-on-year decrease of 4.81%; the value of newly-signed contracts in overseas sector amounted to RMB2.576 billion, representing a year-on-year increase of 17.23%; and the value of newly-signed contracts in general contracting and other sectors amounted to RMB33.833 billion, representing a year-on-year increase of 2.45%. As of the end of 2022, the Company's order in hand amounted to RMB147.412 billion.

Regarding the main business of “Four Electric Systems” integration in railways, the Company overcame unfavorable factors and made reasonable business deployment. While securing the market for new high-speed railway projects, it actively made plans with respect to newly constructed normal-speed railways, local railway special lines, reconstruction of existing lines and other markets. It successively undertook several key projects including the renovation of Shenyang-Baihe High-speed Railway, Chongqing-Kunming High-speed Railway, Hangzhou-Wenzhou High-speed Railway, Hanzhong-Bazhong-Nanchong High-speed Railway, Lanzhou-Urumchi High-speed Railway from Jinghe to Alataw Pass section, Shanghai Urban Railway Airport Line and Qinghai-Tibet Railway from Golmud to Lhasa section, the electrification reconstruction of Yangquan-Shexian Railway, the quality improvement and renovation of Guiyang-Guangzhou Railway, the relocation and reconstruction of “Three Electric Systems” of Xiong’an-Shangqiu High-speed Railway and the construction of the demonstration line of safety standards of Beijing-Guangzhou High-speed Railway. It coordinated and advanced the joint development of high-speed railway and normal-speed railway markets and ensured a year-on-year increase in the contract value of the railway market. On that basis, the Company promoted to split the results of high-speed railways. CRSC Engineering Bureau Group and Shanghai Engineering Bureau Group, subsidiaries of the Company, have the qualification for independently undertaking weak current integration projects for high-speed railways. The establishment of three bidding entities laid a solid foundation for further consolidating and expanding its market share in the railway weak current sector. The Company independently undertook the four electric systems integration project for the construction of an engineering station for the second route of Lanzhou-Urumchi High-speed Railway from Jinghe to Alataw Pass section, achieving performance breakthroughs in integrated “Four Electric Systems” of new railways and laying a solid foundation for expanding into the railway strong current sector and turning it into a new economic growth driver.

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In the field of urban transit signal system integration, as many key projects failed to be called for tendering as scheduled during the year, the value of the contracts undertaken by the Company decreased as compared with the previous years. However, CRSC CASCO and CRSC Urban Rail Transit, the subsidiaries of the Company still stood firmly at the front rank in the industry of control system and undertook 22 projects in succession, including the second phase project of Xuzhou Subway Line 3 and Xuzhou Subway Line 6, the eastern extension of Changchun Subway Line 2 and Changchun Subway Line 6, Shenyang Subway Line 3, Xiamen Subway Lines 4 and 6, the second phase project of Chengdu Subway Line 17, the third phase project of Chengdu Subway Line 18, the second phase project of Chengdu Subway Line 19, the eastern extension of Hefei Subway Line 2 and the southern extension of Hefei Subway Line 3, Suzhou Subway Line 7, the western extension of Shanghai Subway Line 2, the western extension of Shanghai Subway Line 13, the western extension of Shanghai Subway Line 17, the third phase of Xi'an Subway Line 1, Xi'an Subway Lines 10 and 15, the extension of Beijing Subway Line 6, the northern section of Tianjin Subway Line 4, etc., securing half of the national market share and maintaining unparalleled leading advantages. On that basis, the Company had been awarded the communication system of Chongqing Subway Line 18, the communication and automatic ticket sales and inspection system for the third phase project of Xi'an Metro Line 1, the capacity expansion project of Beijing Subway Line 13, the signal system renovation of Shanghai Subway Lines 3/4, the reconstruction and expansion of the technology prevention system for the existing lines of Shanghai Rail Transit, the ATS outsourcing for the LAR project of Hong Kong Airport Express, the upgrading and renovation of the video monitoring system of the first and second phases of Shenzhen Metro, the construction of the smart safety inspection system of Guangzhou Metro and other key projects, making a supporting role to the stabilization of the Company's urban transit business.

In the overseas market, the Company leveraged the unique advantages of the "three-in-one" services of design and development, equipment manufacturing and engineering services in the full industrial chains, achieving results in deeply carrying out localized operation and the implementation of promoting the undertaking of projects with practical work. It successively undertook the construction of cable cars at Phuket Island in Thailand, the modern upgrading and renovation of Záhony Port in Hungary, the comprehensive transportation system in southern areas (Line 4) of the Guadalajara Metropolitan Area in Mexico and other key projects with significant growth in the value of newly-signed external contracts, demonstrating a sound trend of growth year by year. On that basis, the Company successfully completed the laboratory integration testing and acceptance of the self-developed on-board equipment ETCS-400T in Vienna, Austria, knocking the gate of the EU core market represented by Germany and filling the blankness of domestic signal equipment providers in such certified sector.

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Regarding the general contracting business, the Company continued to strengthen the control requirements under which relevant businesses should be strongly related to and vigorously boost main business and generate high returns. On the basis of ensuring the quality of projects undertaken, the Company played its leading role of design and technology, built up its project undertaking and construction capacity, comprehensively improved the resource integration and management and risk prevention and control capacity of the whole industry chain, reasonably controlled the undertaking of general contracting projects and adjusted the structure of contracts undertaken. During the undertaking of specific businesses, it continuously enhanced the EPC general contracting capacity, fully displayed the BIM application capability and technological advantages and improved the quality of projects undertaken, laying a solid foundation for its subsequent undertaking of rail transportation, municipal informatization and other businesses in relevant areas.

At the same time, the Company also noted that the domestic railway construction is still intense to some extent, but the competition in the traditional market of “Four Electric Systems” integration was intensified and market space is squeezed; the investment and construction models of high-speed railway and intercity railway showed a tendency of diversity, and the bidding of large infrastructure projects generally adopts a mode of total professional and overall and total package service. The competition for urban transit equipment is becoming more and more severe; overseas infrastructure is still greatly affected by the political and economic situation. Therefore, in combination with the three-year reform action plan and the “14th Five-Year Plan,” the Company strived to strengthen the system building, increase the investment in technology, improve the capacity of management and control as well as further consolidate the market foundation and enrich the market power. Beginning with the source, the Company obtained extensive market information, conducted in-depth analysis, and made plans and preparation in advance. According to the information currently available to the Company, in 2023, the market size for “Four Electric Systems” integration for high-speed railways will not be lower than that in 2022. It is expected that the peak of bidding will concentrate around the second quarter and the fourth quarter, and the Company will capture the two favorable opportunities of performance differentiation and performance breakthrough and will organize relevant subsidiaries to fully ensure further growth in the market share of key projects. In the field of urban transit control system, according to the preliminary information available to the Company, there will be 30 new/extended lines of more than 900 km in 2023 for the bidding of signal system, which will be higher than the actual bidding volume in 2022 in terms of the overall level. The Company will also spare no effort to strengthen the expansion and resource investment in related business, the Company will increase efforts for the contracting of telecommunications integration and construction business to support the reasonable growth of urban transit business. In the field of overseas business, the Company will continue to start from the renovation market of the existing line and the new line market in the key regions and countries along “the Belt and Road” to drive the professional contracting of the “Four Electric Systems” with the core advantages of the train control system and explore the municipal and informatization business, so as to further improve the contracting ability of overseas businesses. In the field of general contracting, the Company will continue to adhere to the existing management and control requirements, shift the market focus and market resources to economically developed areas, and appropriately improve the contracting level while ensuring project quality with an aim to promote the urban transit, information technology and other core businesses. The Company will endeavor to achieve significant growth in the overall contracting ability in 2023, and the growth rate in core business areas such as railways, urban transit and overseas business will exceed that in 2022.

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II. MAJOR BUSINESSES AND OPERATION MODE, INDUSTRY INFORMATION AND RESEARCH AND DEVELOPMENT INFORMATION OF THE COMPANY DURING THE REPORTING PERIOD

(I) Major Businesses, Major Products or Services

The Company has undertaken the important mission of developing national industry and national technology since its establishment and has been focusing on the research and exploration of rail transportation control system technology and its derivative applications. As a core enterprise to ensure the safe operation of national rail transportation, the Company continuously strengthens its own capacity building, adheres to the dominant business of rail transportation, actively integrates into the new development pattern, improves and upgrades a “three-in-one” industrial chain integrating the industry-leading rail transportation control system design and development, equipment manufacturing and engineering services, and build a modern industrial chain of rail transportation to continuously provide high-quality integrated services throughout the industrial chain of rail transportation control system to global customers. While providing safe and efficient core technical support for the operation of national rail transportation, the Company continues to utilize profound technological accumulation to expand new market, and support the national modernization and digital development construction.

The core businesses of the Company’s rail transportation cover: 1) Design and integration, mainly includes provision of system integration services for related products of rail transportation control system and provision of design and consultancy services mainly for construction of rail transportation projects; 2) Equipment manufacturing, mainly includes producing and selling signal system, communication information system products and other related products; 3) System implementation, mainly includes construction, equipment installation and maintenance services for rail transportation control system projects.

While continuing to lead the business in the field of rail transit control systems, the Company also implements the “Six Cores, One Body, Two Wings” business strategy, and builds a “rail transit + N” industrial pattern, striving to build an industrial group featuring rail transit, with global leading system technology and world-class comprehensive strength. The Company attaches great importance to the accumulation of technology and continuous innovation, and takes innovation as the eternal theme and the first driving force for the sustainable development of CRSC. In active response to the frontier of world science and technology, the Company accelerates scientific and technological innovation and transformation of achievements, leads the technological development of the industry, and strives to maintain the leading position in the industry. In the future, the Company will grasp the new development stage scientifically: focusing on the advantageous business of rail transportation control system, the Company will extend the core technology to other industrial sectors actively; centering on the national key strategic directions such as digital industry and new infrastructure, the Company will vigorously develop key businesses such as information and communication, power and electrification, etc.; refine and optimize the general contracting business, strive to grow the new pillar industries that support the Company’s sustainable development, and form a diversified industrial pattern with reasonable structure, scientific layout and high synergy.

Since its establishment, the Company’s main business has remained stable without undergoing any significant changes.

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(II) Major Operating Models

The Company has focused on the field of rail transportation control system in China, and has a deep understanding of China's railway and urban rail transit policy, operating model, market environment and other market elements. The business model adopted is fully adapted to the market environment, which is stable and efficient. The Company mainly obtains orders through public bidding, and mainly obtains raw materials for production through centralized procurement. The Company provides integrated and comprehensive services of rail transportation control system or customizable specialized services to its customers under the mature business model of design and integration, equipment manufacturing and system implementation.

1. *Sales mode*

The Company is active in the purchasing by invitation to bid of domestic users as well as in the purchasing activities of foreign users. The operations division of the Company, as the centralized management department of marketing and sales, is responsible for formulating and revising systems in relation to marketing and sales management, and supervising and inspecting the marketing and sales activities at all levels of the Company. Giving full play to its core technology and brand influence in the industry and adhering to the philosophy of providing safe and highly reliable products and high-efficiency services oriented at customer needs, the Company obtains orders for products and services through market-oriented methods such as bidding and business negotiations.

2. *Production and service mode*

In order to comply with the overall operation mode of railway and urban transit system in the PRC, the Company has established a mature and stable production and service model for design and integration, equipment manufacturing and system implementation etc. Relying on its strong technical strength, it can provide customized production and services according to the specific needs of domestic and foreign owners. The Company provides relevant products and services in strict accordance with the contract requirements on schedule and quality. The operations division of the Company, as the centralized production and service management department for design and integration and system implementation, and the science and technology innovation department, as the centralized production and service management department for equipment manufacturing, are responsible for formulating relevant production and service management systems and for supervising and inspecting production and service activities at all levels of the Company, respectively.

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3. *Purchase mode*

All procurement activities of the Company were conducted in strict compliance with relevant national laws and regulations and the Administrative Measures for the Procurement in China Railway Signal & Communication Corporation Limited* 《中國鐵路通信信號股份有限公司採購管理辦法》. The Company selected procurement methods including public tender, tender invitation and competitive negotiation according to the specific conditions to ensure procurement efficiency. The Company mainly implements a centralized procurement system, under which the Company's materials and equipment division acts as the centralized management department for procurement activities and is responsible for formulating and revising the relevant system of procurement management, monitoring and reviewing the procurement activities at various levels of the Company. The centralized procurement system is carried out at two levels, including two modes, namely the centralized procurement by the Company's headquarters and the centralized procurement by subordinate secondary enterprises. Secondary enterprises also have a sound procurement management system, under which the procurement activities of subordinate enterprises are independently and centrally managed by the specialized procurement department.

4. *Management mode*

The Company implements a market operation and management system with the headquarters of the joint-stock company taking the lead, secondary enterprises responsible for operation and tertiary enterprises responsible for implementation, to build a coherent, coordinated, scientific and efficient internal organization system. By improving the management structure system of "headquarters – secondary enterprises – tertiary enterprises" and realizing the coordination of "strategy leading and control center – business operation and profit center – execution center and cost center," the headquarters highlight the six orientations of strategic decision-making, resource allocation, safety and quality supervision, science and technology innovation coordination, industrial incubation and risk management and control, and give play to strategic control, integration of scientific and technological resources, new industry incubation, etc., to build a stronger headquarters featuring "strategic + operational control." Positioned at the seven orientations of strategy execution, market development, business operation, income and profit, science and technology innovation, safety and quality management, and talent cultivation, secondary enterprises give play to the main role of operation, innovation and industry to achieve common enhancement of business and economic efficiency. Positioned at business execution and cost control, tertiary enterprises provide support for business, level up fine management, and increase efficiency and effectiveness, to create a more optimal input-output ratio.

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(III) Relevant Industry Information

1. *Industrial development stage, basic characteristics and main technical thresholds*

Seen from the perspective of global railway industry, according to Oxford Economics' forecast on investment in infrastructure construction for all regions of the world, total investment amount in railroad around the globe is expected to grow from US\$382 billion in 2020 to US\$565 billion in 2040, at a compound annual growth rate of 1.88%. In terms of cumulative investment amount, cumulative investment in railroad infrastructure is expected to reach US\$5,137 billion during the 21 years from 2020 to 2040 around the globe, excluding China. In addition to China, Europe is still the top destination of future investment in railroad infrastructure. From 2020 to 2040, cumulative investment in railroad in Europe will reach US\$2,385 billion, with Asia (excluding China) ranking the second with an estimated investment of US\$1,602 billion, followed by the Americas with an estimated investment of US\$823 billion, Australia with an estimated investment of US\$169 billion and Africa with an estimated investment of US\$158 billion. Railroad infrastructure construction will maintain a relatively high growth momentum around the globe.

With respect to the railroad industry in China, during the 14th Five-Year Plan period China's mileage of railways in operation increased by about 23,700 kilometers and total investment in the railroad market is expected to reach RMB3.5 trillion, basically flat over the 13th Five-Year Plan period. In the same period, China's inter-city and urban (suburban) railways in operation will increase by 3,000 kilometers and total investment in the construction of railway special lines is expected to reach RMB800 billion. Railroad infrastructure construction will also maintain a relatively high growth momentum in China. With the continuous growth of China's railroad mileage, there is a notable tendency that the focus of railroad investment is shifting from new construction to reconstruction, operation and maintenance. More than 8,000 kilometers of high-speed railroads opened to traffic in early stages of the 11th Five-Year Plan and 12th Five-Year Plan have entered the stage of overhaul and renovation. For general speed railroads, as the new mileage increases gradually, focus will be on the electrification, upgrading, capacity expansion and renovation of existing lines. Reconstruction of other railway projects is also underway. Therefore, China's railroad industry is at a stage of attaching equal importance to new construction and upgrading and reconstruction.

Seen from the perspective of the global urban rail transit industry, the structure of urban rail transit varies greatly from region to region in the world due to the stage of urban development and development mode, with subways being the main urban rail transit in Asia and the Americas, and trams being the main urban rail transit in Europe. According to the data of the International Association of Public Transport ("UITP"), during the "14th Five-Year Plan" period, the new mileage of urban rail transit in the world (excluding China) has reached 1,412 kilometers, of which Asia (excluding China) ranked the first to reach 667 kilometers, followed by the Americas, with approximately 520 kilometers. Hence, there is still a certain market space in general.

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Seen from the perspective of the domestic urban rail transit industry, during the “14th Five-Year Plan” period, the new national urban rail transit operation mileage will reach 3,000 kilometers, equivalent to the new operation mileage in the “13th Five-Year Plan.” By 2025, the number of cities operating urban rail transit in mainland China will reach 50, of which Shanghai and Beijing will develop a huge network of over 1,000 kilometers respectively. It is expected to maintain a high level of investment during the “14th Five-Year Plan” period. The market size of urban rail transit communication signal is expected to reach RMB22 billion per year, of which the market size of the signal control system is expected to be about RMB10 billion per year. With the accelerated urbanization process, the rapid growth of traffic flow in second- and third-tier cities, and the increasing demand for new-added lines of networks in the suburbs of first-tier cities, the development demand for small and medium capacity urban rail systems such as straddle-beam monorail line, urban (suburban) express rail, tram and auto-oriented rail transit will be gradually released, and domestic urban rail transit industry will be in a period of stable development.

The rail transportation control system industry features high access barrier in terms of the core technology and there are extremely high requirements for the safety, reliability, stability and sustainability of the products and services provided by enterprises, which requires relevant suppliers to have strong technology R&D capabilities, sophisticated industry technology capabilities, full-fledged product development and testing and verification capabilities and possess strong anti-risk ability and ability to rapidly respond to demand to consistently provide reliable and high-quality products and services in the long run. It also has significant cyclical characteristic in the industry, which is determined by the nature of rail transit construction and maintenance itself and the iterations of the core components of the related product systems. According to the requirements of relevant technical specifications and industry practices, the life cycle of high-speed rail transportation control system is generally about 10 to 15 years, while certain outdoor equipment systems are subject to shorter update cycles due to environmental factors.

2. *Analysis of relevant industrial status and changes thereof*

As a world-class provider of rail transportation control system solutions, the Company continues to maintain the leadership in the industry. As of the end of 2022, the cumulative contracted mileage covered by the Company’s core products and services of high-speed railway control system continued to rank the first in the world. The Company’s market share continued to occupy the leading position in the industry in terms of the domestic high-speed railway control system integration projects as well as the core equipment of track circuit, centralized traffic control system, computer interlocking, CTCS-3 on-board ATP system, RBC, train control center and other products. In the field of domestic urban transit, the Company’s core products and services of urban transit control system have covered more than 140 routes in all cities of the PRC which have been in operation and completed the bidding of control system, continuing to be in the leading position of the industry. By accelerating its overseas business layout, continuing to strengthen investment in overseas market resources and making full use of the high-quality opening and advancement of overseas projects such as the Hungary-Serbia High Speed Railway(匈塞高鐵) and the Jakarta-Bandung High Speed Railway(雅萬高鐵), the Company has won a good reputation, so as to strongly enhance its brand power and influence in the global rail transit market, and is gradually becoming an important player in the field of international rail transportation control systems.

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Despite of the changing and more intense market pattern in the field of rail transportation control systems, the Company will continue to grasp the favorable trends and opportunities in the development of the global rail transit industry in the future, insist on the technology-led, innovation-driven, digitally empowered and capital-assisted principle to build an “innovative, technology-based, digitally intelligent and international” enterprise, develop into a rail transit industrial group featuring more advanced technology innovation, more reliable and safe system, more rational industry layout, more optimized business structure, more advanced management, better quality and efficiency, and more trustworthy brand image, and strive to become a world-class enterprise.

3. Development of new technology, new industry, new business type and new mode during the Reporting Period and future development trend

Firstly, with acceleration of the reform of the competitive links in the railway industry, the main body of railway construction and operation has converted from a “one-dimensional structure” to a “two-dimensional structure,” bringing market opportunities for the Company to participate in the construction of local railways and the development of power supply and electrification business, etc. According to the relevant guidance of the National Development and Reform Commission, intercity railways, urban (suburban) railways, feeder railways and special railway lines are mainly funded by the relevant local governments and enterprises, and the project owners can independently choose the construction and operation mode, which means that the voice of local governments in bidding and tendering for railway projects will gradually increase. Secondly, the threshold for the construction of metro and light rail has been raised at the national level, requiring all regions to reasonably choose the urban rail system in accordance with the affordable principle and enhance investment efficiency. With the accelerated urbanization process, the rapid growth of traffic flow in second- and third-tier cities, and the increasing demand for new-added lines of networks in the suburbs of first-tier cities, the development demand for small and medium capacity urban rail systems such as straddle-beam monorail line, urban (suburban) express rail, tram and auto-oriented rail transit will be gradually released, and the characteristics of system diversification will gradually appear. Thirdly, during the “14th Five-Year Plan” period, the reform of investment and financing system in the field of urban rail transit will be accelerated, the cooperation between government and social capital will be deepened, and the financing channels and modes will be more and more diversified; PPP, BOT, F+EPC and other modes will be gradually matured and standardized and are expected to be adopted by more urban rail transit owners, the scope of piloted TOD development will be further expanded, and the scale volume and investment strength will gradually become important competitive factors.

In addition, with the rapid development of economy in the PRC and the acceleration of the development of city clusters, arterial railways, intercity railways, urban (suburban) railways, urban rail transit and other systems have played a major role in the transportation in the city clusters. However, due to the limitation of management model and technological development, the various modes in the region do not link with each other, restricting the improvement of transportation efficiency and service quality. With the rapid development of big data analysis, Internet+, Internet of Things, artificial intelligence, image recognition, network communication and other technologies,

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the realization of the collaborative transportation in regional rail transportation and the research on integrated service theory and technology have become feasible. Based on various advanced information technologies, the strongest “smart brain (智慧大腦)” for regional rail transportation will be built, which can deduce the situation of passenger flow, train flow, and facilities and equipment in real time, provide coordinated preparation and dynamic adjustment of the entire network transportation plan, and strengthen comprehensive support and linkage response processing so as to achieve new reforms in regional rail transportation, enhance the attractiveness of rail transit, alleviate urban traffic congestion, and promote the high-quality development of city clusters. At present, the Company has independently developed the collaborative transportation and service system of regional rail transportation, and has completed field demonstration application.

The Program of Building National Strength in Transportation stated: By 2035, the building of national strength in transportation in the PRC will have been basically finished. During the period, the transport structure will be optimized, the construction of key “highway-to-railway transportation” projects such as port collecting and distributing railway, and special railway lines for logistics parks and large industrial and mining enterprises will be accelerated, and the orderly transfer of bulk cargo and medium and long-distance cargo transportation to railway and water transportation will be promoted in the PRC. The railway transportation industry has ushered in important development opportunities. Railway transportation enterprises need to improve the efficiency of transport organization, expand development space, improve traditional transport organization methods, production operation methods, marketing service methods and information service methods, strengthen transport scheduling and command, enhance business collaborative operation, improve transport organization efficiency, raise freight train transport capacity, compress the whole operation time and ensure the time limit for cargo delivery. At present, the Company has independently developed an integrated dispatching & commanding management system for railway freight, and has completed field application demonstration. Meanwhile, based on China’s high-speed rail control and autonomous driving technology, the Company independently developed a high-density automatic operation control system for ad-hoc network of heavy-haul freight trains, with the aim of improving transport efficiency, tapping the driving potential, increasing the quality of freight train operation, reducing the labor intensity of drivers and transport energy consumption, significantly enhancing the comprehensive efficiency of freight rail transport, and meeting the growing demand for capacity and volume of heavy-haul railways in China.

The Outline of the 14th Five-Year Plan for National Economic and Social Development and Vision 2035 of the People’s Republic of China put forward the requirement of building modern metropolitan areas: China will improve the coordinated development of one-hour commute circles by relying on the central cities with strong capacity to facilitate the development of surrounding areas, and foster several modern metropolitan areas with a high degree of urban integration. With intercity railways, suburban railways, and other rail transits as the backbone, we will eliminate all kinds of “dead end roads” and “bottleneck roads,” promote effective connection of intra-city and inter-city traffic and integration of “the four networks” – trunk, intercity, suburban, and urban railways, and improve the connectivity of infrastructure in metropolitan areas. The share of construction of urban (suburban) railways/intercity railways in the railway infrastructure sector has seen a gradual

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increase. At present, according to the needs of urban (suburban) railways in different regions, the Company has carried out the integrated research of multi-mode control systems, completed the research and development of compatible on-board equipment, and completed the field test for 3-minute automatic turnback and 20-second automatic manipulative side change functions of the CTCS2+ATO system in urban railways.

(IV) Core Technology and Research and Development Progress

1. Core technology and its leading edges and changes during the Reporting Period

The Company focuses on technology research & development, and promotes sustainable development of its overall business by technology innovations. Since its establishment, the Company has been working in the field of rail transportation control system, and owned many industry-leading core technologies leveraging on its outstanding technology innovation strength. As of the end of the Reporting Period, the Company has 3,929 registered patents to protect its core technologies in the PRC. Meanwhile, the Company signed special confidentiality agreements with relevant technicians regarding core technologies to ensure that core technologies would not be disclosed or spread.

The core technologies owned by the Company primarily include but not limited to the below:

No	Core technology	Source of technology	Technical level and degree of application
1	Train operation control technology	Independently researched and developed	Train operation control technology has been widely used in HSRs, ICRs and urban transit, which provides core technical guarantee for safe and high-efficient operation of rail transportation. Responding to the demand for highly safe and reliable operation of rail transportation, this technology has addressed certain significant technology issues such as dynamical control curve model of train, precise positioning of train, speed and distance detecting of train, onboard fully functional seamless switch, wireless redundancy coverage of multiple doubling railways, moving blocking and railway network connectivity.

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No	Core technology	Source of technology	Technical level and degree of application
2	Automatic unmanned train operation technology	Independently researched and developed	Automatic unmanned train operation technology has been successfully applied in the fields of HSRs, ICRs and urban transit. Based on train control system, by using this technology, automatic train operation is realized; through advanced automatic driving control algorithm, certain significant technology issues such as calculation of desired speed curve of train operation, the algorithm of precise stop of train, intelligent control of multiple objects, perception of status in complex operation environment, remote safe control have been addressed, and multiple indicators such as punctuality rate of operation and train parking accuracy and ride comfort and operation consumption have been improved.
3	Integrated automation technology of freight railway	Independently researched and developed	Integrated automation technology of freight railway has been widely used in many marshalling yards in national railway and dispatch centers of railway bureaus, which provides core technology guarantee in improving railway freight efficiency, benefit and safety. The technology has addressed some significant technology issues such as intelligent calculation of freight traffic, intelligent adjustment of running line of railway wagons, intelligent preparation of locomotive usage plan and shunting plan, smart issuance of periodical maintenance and repair plan of vehicles, source control of train operation, as a result, the railway freight efficiency and intellectualization level have been improved.
4	Train traffic control automation technology	Independently researched and developed	Train traffic control automation technology has been widely used in HSRs, ICRs, urban transit and some normal-speed railways. This technology integrates computer technology, network technology and control technology, forms a closed-loop system of train operation dispatch and instruction, addresses technology issues such as train tracing, automatic control for hump rolling routes, prevention and control of mistaken receiving-departure at multi-directional hub station, train dispatch management and control at sectional station and intermediate station and intelligent adjustment of operation plan, as a result, automation level of operation instruction and emergent handling level under fault conditions have been improved.

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No	Core technology	Source of technology	Technical level and degree of application
5	Intelligent detection, operation and maintenance technology of rail transportation	Independently researched and developed	Intelligent detection, operation and maintenance technology of rail transportation has been successfully used in the fields of HSRs, normal-speed railways, urban transit. This technology has used big data system and cloud service technology to promote the development of rail transit inspection operation and maintenance to the direction of digitization, intelligence and informatization. With the technologies such as diverse integration of intelligent perception, multi-drive engines integration of analysis and judgement, Big Data health assessment analysis as breakthrough points, through expert system, mode identification, trend analysis, comprehensive appraisal, comprehensive positioning and mobile internet, it has realized the advance prediction of rail transit operation risks, active maintenance and health management of key equipment during whole lifetime based on all factors such as personnel, equipment, environment and operation and maintenance processes, improved the maintenance efficiency of equipment, effectively shortened breakdown time, and significantly decreased the failure rate of equipment.
6	Train control integration technology	Independently researched and developed	The train control integration technology has been widely used in the fields of HSRs, ICRs, urban transit. Through the integrated engineering software design platform integrating data platform technology and graphic software technology, the technology has been applied to make engineering design, data allocation, automatic compiling an organic entirety, resulting in the improvement of software integration; by summarizing features of domestic hub and utilization scenario, an integration process of site installation, commissioning, test and construction standardization has been built. This technology is appropriate for the connectivity of different modes of equipment with various operation grades at newly-built routes, reconstructed routes and complex hubs.

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No	Core technology	Source of technology	Technical level and degree of application
7	Safe computer platform technology	Independently researched and developed	The safe computer platform technology has been widely used at the train operation control system centers, stations, onboard safe control devices, which provides a very safe, reliable, high-performed and expandable basic software and hardware platform for products. This technology has addressed some core technology issues such as safe drive and collection based on electronic components, clock level multi-machine synchronous comparison, operation fault detection and fast redundancy switch, and it has been granted highest grade safety certification of International Functional Safety Standard.
8	Mobile frequency key control signal safety modulation technology	Independently researched and developed	Mobile frequency key control signal safety modulation technology has been widely used in the fields of HSRs, ICRs and normal-speed railways. This technology has built a set of fault-safety rail circuit system with mobile frequency key control signal as power and rail as conductor, addressed contactless safety signal source technology, mobile frequency key control signal digital spectrum analysis technology, all-region at transmission channel detection technology, and realized safe and core functions covering rail section occupancy-idling detection, transmitting information to train through rail, and real-time detection of completeness of rails.
9	Turnout switch technology	Independently researched and developed	Turnout switch technology has been widely used in the fields of HSRs, normal-speed railways, heavy-haul railways and urban transit in the PRC. This technology has addressed the major problems in large-size turnout switch synchronization technology, industrial and electrical interface integration, the switch technology of movable point frog of high-speed turnout, external-locking technology of turnouts, established world-leading high speed turnout switch system technology system, and provided powerful safeguard to the development of railway in the PRC.

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No	Core technology	Source of technology	Technical level and degree of application
10	Rail transportation simulation test technology	Independently researched and developed	Rail transportation simulation test technology has been widely used in the fields of HSRs, ICRs, freight railways, urban transit, which provides support to test and verification processes at various stages of lifetime from plan verification, function development, system integration to engineering execution of train control system, freight and train operation instruction system. This technology has addressed some significant technology issues such as simulation test structure based on distribution semi-physical, modelling approach for complex engineering system, multi-source data at multi-level traceable test management method, automatic test, reappearance of fault and analysis, safe control system interface monitoring, test of optimization deployment of environmental resources, aiming at the requirements of large scale of simulation of tested object, greater isotacticity and strong instantaneity and higher automation, and the utilization of such technology improved the defect remediation rate and quality reliability of tested system.
11	High precision simulation technology based on coupling of multi-physics	Independently researched and developed	High precision simulation technology based on coupling of multi-physics enables ground rail circuit system to work safely and reliably under railway natural conditions, electromagnetic environment and complicated route conditions, including in the circumstances of coupling of multi-physics of high-speed train rails contact electric shunt, high power electrification traction current disturbance, high-frequency transient signal shock caused by lightening, bridge-roadbed-tunnel multispace structure routes, alternating dry-wet ballast bed and parallel running on complex hub multi routes. This technology has been applied to build a high precision simulation analysis platform with error within 0.5%. The platform was used for precise analysis of transmission features of approximately 10,000 typical deployment rail circuits at engineering.

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No	Core technology	Source of technology	Technical level and degree of application
12	Manufacture technology of rail transportation safety products	Independently researched and developed	The operation control system of rail transportation has a high requirement to safety and reliability. Based on complete identification of product manufacture risk, the manufacture technology of rail transportation safety products targets the control in the whole process from material selection, manufacture equipment, production technology, test and detection, reliability verification to lifetime analysis, thus providing a systematic quality assurance basis for the safety and reliability of products.
13	Application technology in broadband wireless communication industry	Independently researched and developed	Application technology in broadband wireless communication industry is based on broadband wireless communication technology of LTE-M/R, which can actualize data transmission and integration of multiple operations, improve the efficiency and experience of trunking command direction system. This technology can meet the railway operation business's demand of wireless broadband, terminal intellectualization and business mobilization.
14	Comprehensive video monitoring technology for rail transportation	Independently researched and developed	Comprehensive video monitoring technology for rail transportation has been widely used in the transportation fields such as HSRs and ICRs, which provides comprehensive management system containing video monitoring, Big Data display and visualization for safe operation of rail transportation. Aiming at the demand for all-weather and full-coverage monitoring of rail transportation, this technology has addressed the technology issues such as decoding and forwarding of high definition video stream, concurrent read-write, unity and connect of railway three-stage platform, massive video retrieval, intelligent face recognition and certification, intelligent operation and maintenance, clustering of platform management, dynamic load balance of storage resource and engineering, thus, leading the development of comprehensive video monitoring technology for rail transportation.

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No	Core technology	Source of technology	Technical level and degree of application
15	Collaborative transportation and service technology of regional rail transportation	Independently researched and developed	Collaborative transportation and service technology of regional rail transportation focuses on the operation and collaborative linkage of trunk railways, ICRs, urban (suburb) railways and urban rail transportation network in city clusters/metropolitan areas to improve the overall regional transportation capacity, and makes breakthroughs in technologies such as refined prediction of passenger flow in composite road networks, preparation and dynamic adjustment of collaborative transportation plans, global safety situation control and emergency linkage command, intelligent station safety management, and passenger information service in the whole trip chain to improve the overall regional transportation capacity, enhance emergency response and operation and maintenance efficiency, and shorten cross-mode travel time of passengers.
16	Intelligent transportation and control technology of light rail transit	Independently researched and developed	With train control as the core, intelligent transportation and control technology of light rail transit, based on cloud computing, sets a unified rail transit cloud platform which is deeply interconnected with and intelligently integrates trains, passengers, environment, facilities, equipment, resources and other information, to realize the functions integrating independent train operation control, comprehensive automation, intelligent travel services, and collaborative transport and emergency command. The intelligent transportation and control system applies to a variety of light rail transit systems such as medium and low speed maglev lines, mountain rail transit, and special tourist lines, presenting the trend of data synthesis and business integration of each professional system equipment and guiding the technical development and application direction of the rail transit systems.

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No	Core technology	Source of technology	Technical level and degree of application
17	Train autonomous operation technology	Independently researched and developed	Train autonomous operation technology has realized autonomous resource management and active interval protection for the train through three key innovations, namely the optimization of platforms, the streamlining of systems and the refinement of resources. With a simplified structure of the system from a complex one and easily-driven complicated functional applications, it achieved full-process and comprehensive protection. It may apply for rail side resources and achieve direct communication among trains based on the tasks on train operation. With on-board autonomous computing and mobile authorization, it improved the utilization rate of rail side resources. The capability on the real-time handling of key businesses and accurate speed detecting and positioning improved the efficiency of train operation. It may formulate corresponding handling mechanisms based on different business demands and meet the demand for the upgrading of different systems.
18	BeiDou navigation system-based train autonomous operation control technology	Independently researched and developed	With BeiDou Navigation Satellite System as the basis, BeiDou navigation system-based train autonomous operation control technology has applied diverse integration and train autonomous positioning technology, integrated longitudinal dynamics models, multi-particle longitudinal dynamics models and safety braking models of trains, combined inspection technologies with high safety, autonomy and completeness on wind pressure, location and speed information and applied the block dynamic swift technology with traffic control as the centre and the dynamic railway capacity allocation strategy, achieving the highly-efficient operation of trains, the simplification of rail side equipment and the centralization of central equipment. It shortened train tracking interval and improved the freight transport capacity.

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No	Core technology	Source of technology	Technical level and degree of application
19	Full-electronic computer interlocking control technology	Independently researched and developed	All-electronic execution unit for full-electronic computer interlocking control technology has applied safe output, safe cut-off, turnout safety control, safe design of self-inspection on modulo conversion, the structure of double two out of two, network redundancy structure and other technology. Full electronic interlock system and electronic modules have passed third-party safety assessment with the level of safety completeness reaching level SIL4, meeting the requirements on the high safety and reliability of the rail transit signal interlock system and being characterized by small size, easy construction, high reliability, high maintainability and high safety. It full leveraged the industrialization advantages of CRSC and initiated “standardized design, factory commissioning and on-site plugging and splicing” in the industry. It can save the time on on-site indoor construction and installment and equipment commissioning at typical stations by 80% and enjoys a bright future with wide market application.
20	High-speed rail communication and signal training system	Independently researched and developed	With the orientation of serving the capability requirements of practical positions and improving the occupational capability, high-speed rail communication and signal training system focused on “teaching, learning, exercise, testing and research” and applied various information technology, making breakthroughs in virtual-real combination and interconnection of equipment in the high-speed rail signal control system, filling the blankness in occupational training products on high-speed rail signal, solving the “difficulties in teaching, practical exercise and assessment” in occupational education and meeting the requirements of railway electric staff and signal majors in colleges on the working principle of the high-speed rail system, practice, inspection and repairing, solving of failures and practice of other skills. It is characterized by full coverage of scenarios, virtual-real combination, internal-external linkage and train-land interconnection.

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No	Core technology	Source of technology	Technical level and degree of application
21	CTCS2+ATO automatic turnback technology	Independently researched and developed	CTCS2+ATO automatic turnback technology can be widely applied in urban railways to improve the services in the “as-frequent-as-buses” operation of urban railways. The technology addressed technology issues such as safety communication between head and tail of trains, rapid automatic starting, on-site automatic end change and automatic turnback after reaching the destination. It achieved automatic turnback in 3 minutes after reaching the destination and on-site automatic end change in 20 seconds, which can effectively cut down the interval time for turnback, further shorten the tracking interval of trains, reduce the average waiting time of passengers, meet the public travelling demand for “high speed, high density and as-frequent-as-buses services” and relieve urban traffic jam.
22	Video intelligent analysis technology	Independently researched and developed	Video intelligent analysis technology adopted intelligent analysis algorithm, allowing the video system to automatically adapt to all-weather lighting conditions with different density, improving the capacity of resisting disturbance under complicated video background and effectively enhancing the comprehensive analysis performance. It adopted the deep learning technology in artificial intelligence sector and developed a professional algorithm exercise platform through long-term accumulation and improvement of intelligent algorithm sample database for railways, which can flexibly and rapidly meet customized demands under complicated scenarios and achieve automatic empowerment of relevant businesses through accurate judgment, dynamic analysis and ancillary decision-making.

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No	Core technology	Source of technology	Technical level and degree of application
23	400MHz wireless dispatching and communication technology of railway digital trains	Independently researched and developed	Leveraging on digital and wireless advantages, the 400MHz wireless dispatching and communication technology of railway digital trains addresses technical issues such as the bridging of wire SIP communication and wireless PDR communication and business guarantee under failure and weakened conditions. It adopted a professional and integrated hardware platform and fully combined the demand in the wireless dispatching business, achieving data transmission in joint control of trains and railways and reliable communication in voice cluster for wireless dispatching, providing a safe, reliable, effective and convenient means of communication for rail transit, improved the driving safety, transportation efficiency and management and enhanced the quality of wireless communication services.

The Company actively deployed innovation chain surrounding industrial chain, and was dedicated to transformation and industrialization of core technology achievements. It applied its core technology to rail transportation core systems such as train control system of railway, train control system of ICRs, train control system of urban transit, freight automation system, operation command automation and detection system and communication information system. Through its newly-added automatic train operation technology, the Company has realized autonomous resource management and active interval protection, and the corresponding processing mechanism can be customized according to different business requirements; the newly-added automatic train and control technology based on BeiDou Navigation Satellite System (BDS) can actualize multi-mode and two-way radio communication through multiple channels such as satellite and public network to satisfy the dynamic configuration of train tracking interval, which can enable moving blocking and improve freight transportation capacity; the newly-added full-electronic computer interlocking control technology pioneered “standardized design, factory commissioning and on-site plugging and splicing” in the industry, which can shorten the indoor construction and installation time and equipment commissioning time of typical stations by more than 80%; the new high-speed rail communication and signal training system filled the blankness in occupational training products on high-speed rail signal; the new CTCS2+ATO automatic turnback technology further shortened the tracking interval of trains, reduced the average waiting time of passengers, met the public travelling demand for “high speed, high density and as-frequent-as-buses services” and relieved urban traffic jam; the new video intelligent analysis technology endowed the video system with intelligent analysis and deep learning capabilities, improved the automatic adaptability under all-weather lighting conditions with different density and enhanced the capacity of disturbance resistance, accurate judgment and dynamic analysis; the new 400MHz wireless dispatching and communication

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technology of railway digital trains achieved data transmission in joint control of trains and railways and reliable communication in voice cluster for wireless dispatching and improved the driving safety, transportation efficiency and management. The development of core businesses such as design and integration, equipment manufacturing, system implementation of rail transportation control system of the Company will fully depend on its core technology.

During the Reporting Period, no material changes in the core technology occurred.

Details of awards for the National Technology Award

✓ Applicable Not applicable

Name of Awards	Year of Awards	Name of Project	Level of Awards
National Award for Science and Technology Progress	2002	Integrated technology and equipment for projects related to raising the speed of China's railways	First Prize
National Award for Science and Technology Progress	2006	Model ZPW-2000A jointless frequency shift automatic blocking system	Second Prize
National Award for Science and Technology Progress	2007	Comprehensive Technology and Application of Heavy Haul Transportation for the Datong-Qinhuangdao Railway Line	First Prize
National Award for Science and Technology Progress	2008	Qinghai-Tibet Railway Engineering Project	Grand Prize
National Award for Science and Technology Progress	2009	Key technology and application of onboard safety control system under complex and high-speed conditions	Second Prize
National Award for Science and Technology Progress	2010	Research and application of key technology for the Suining-Chongqing ballastless track	First Prize

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Name of Awards	Year of Awards	Name of Project	Level of Awards
National Award for Science and Technology Progress	2012	Beijing-Tianjin Intercity Railway Project	First Prize
National Award for Science and Technology Progress	2015	Beijing-Shanghai High-Speed Railway Project	Grand Prize

Recognition of the National Specialized and New “Small-giant” Enterprises and the Model Enterprise of the Manufacturing Industry

✓ Applicable Not applicable

Title awarded	Year of recognition	Name of products/name of companies
Single Manufacturing Champion Demonstration Enterprise	2020	Complete sets of equipment for rail transit control system
Single Manufacturing Champion Demonstration Enterprise	2020	Development and integration of complete sets of equipment for rail transportation control system
Single Manufacturing Champion Demonstration Enterprise	2021	Rail transit signal infrastructure
Single Manufacturing Champion Demonstration Enterprise	2021	Train operation control system
Single Champion Product	2022	Railway signal relay
National Specialized and New “Small-giant” Enterprise	2022	Casco Signal (Beijing) Ltd.
National Specialized and New “Small-giant” Enterprise	2022	Tianjin Railway Signal Co., Ltd.
National Specialized and New “Small-giant” Enterprise	2022	CRSC Wanquan Signal Equipment Co., LTD.

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2. *Research and development achievements during the Reporting Period*

During the Reporting Period, in terms of fundamental and forward-looking researches, the Company completed the research on electromagnetic environmental effects of rail transportation and the construction of the test platform. The “Electromagnetic Environmental Effects and Electromagnetic Safety Engineering Research Center in the Railway Industry” became a technological innovation base in the railway industry recognized by the State Railway Administration. It carried out the research on key 5G technology and equipment for rail transit and developed the prototype of relevant equipment for 5G-based railway communication. It conducted the research on perception and prevention of rail side obstacles and mastered key technology on positioning and obstacle detection, laying a sound foundation for the development of the autonomous perception control system.

In terms of supporting the construction of overseas projects, the Company completed the construction of laboratories in Beijing and Serbia, supporting the application of ground equipment of ETCS train control system based on baseline 3 in Beograd-Stara Pazova section of the Hungary-Serbia Railway in Serbia; completed the integration testing of the onboard equipment ATP in Austria and the acceptance of the owners’ laboratory, the testing of the VUZ loop line in Czech and the testing of the main lines in Germany and Austria, and obtained the SIL4 safety certification for the LTM unit; completed the construction of the laboratory in Thailand and strongly supported the renovation of railway signal systems in Thailand.

In terms of supporting significant national strategies, based on long and big ranges, big and long tunnels, long and steep slopes as well as other extreme conditions of Sichuan-Tibet Railway, the Company developed the opinions on the selection of equipment for the communications and signaling system for Sichuan-Tibet Railway and prepared the analysis report on the characteristics of Sichuan-Tibet Railway for the selection of the train control system; completed the pilot application of the regional coordinative transportation service system in Chongqing Rail Transit Dazhulin Center and South Square of Chongqing North Railway Station; carried out the development of the low-vacuum pipeline ultra-high-speed maglev operation control system, completed the R&D of the sectionalized operation control system and the on-board operation control system and completed the field test on the ultra-high-speed maglev in the Yanggao test line in Datong, Shanxi; completed the development of prototypes of on-board and ground equipment of the high-density automatic operation control system for ad-hoc network of heavy-haul train and the test on the functions of the laboratory.

In terms of promoting the technological development of the industry, the Company completed the development of on-board and ground equipment of train control system for normal-speed railways and completed the field test for on-board and ground communication equipment; completed the on-site comprehensive trial and verification of new train control system based on BDS; completed the development of integrated train control interlocking equipment and the on-site test and opening of Hetian-Ruoqiang Railway; completed the development of the prototype of the 400M wireless

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dispatching and communication for digital trains and completed the on-site test; carried out the research of key technology for the integrated analysis platform of the Internet of Videos and completed the development of target detection and obstacle detection under dark light, regional demographics and other algorithms.

In terms of promoting the construction of smart urban rail transit, the Company completed the research and development of intelligent light rail transit control system, which was successfully applied in Fenghuang Maglev; completed the research and development of operation control and transportation system of suspended permanent magnetic trains and carried out on-site test in Xingguo County; completed the condition monitoring of the Train Autonomous Circumambulate System (TACS) of urban rail trains in phase I of Shenzhen Metro Line 20, which was in a stable and good operation, completed the release of the requirements baseline of the signal system of Shanghai Metro Line 3/4, and completed the preliminary development of software; completed the application of CBTC system based on full-electronic interlocking in Changsha Metro Line 6; achieved automatic turnback in 3 minutes and automatic end change in 20 seconds in the CTCS2+ATO system for urban railways and successfully completed the test on unmanned automatic turnback; completed the functions of network-level multidisciplinary integrated automatic work order, linkage between operation control and operation maintenance of intelligent urban rail dispatching system, completed the construction of the operation and maintenance center of Kunming Metro lines and conducted the trial use on Chentai Road in Shanghai; completed the research on intelligent analysis technology, integrated artificial intelligence algorithm, developed the intelligent passenger traffic analysis system and achieved the on-site application in Fenghuang Maglev and Taizhou Commuter Rail S1 Line.

In terms of the development of fundamental equipment, the Company completed the on-road trial of locomotive on-board relays and obtained the application report; completed the design and optimization of on-board relay process method, carried out small-batch trial production and the on-road trial; completed the development of high-frequency digital AC power supply module and the trial production of the lightweight power system; achieved the on-road trial, the promotion and application of the outdoor monitoring system (split) for ZPW-2000 range rail circuit, the intelligent diagnosis system on turnout switch, the rail breakage monitoring system of turnouts and other products.

Regarding the Company's core technologies and main products, newly applied patents increased by 1,339, and newly authorized patents increased by 876 (the total number of currently effective authorized patents reached 3,929, including 211 overseas patents). As of the date of this report, the Company has been granted a total of over 40 awards at or above the provincial and ministerial levels. Key Technology and Application of Train Operation Control System Under Complex Working Conditions undertaken by the Company as the main contractor was awarded the grand prize under the Scientific and Technological Progress Awards by China Communications and Transportation Association, and Research on Autonomous Multifunctional Vehicle Bus Chip was awarded the first prize under the Scientific and Technological Progress Awards by China Association of Metros and won two excellent project awards under the China Patent Award. The

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Company undertook 11 research projects supported by governmental authorities at national and ministerial levels, 13 research projects supported by industrial administration organizations, and the preparations of 42 standards at national and industrial levels. 2 international standards prepared by the Company as the leading unit were published on IEC/TC46 and it obtained the preparation of 4 new international standards as the leading unit. As a sponsor of authoritative journal Railway Signaling & Communication Engineering in the rail transportation control industry, the Company has published R&D and application achievements in those industrial authoritative journals, such as Railway Signaling & Communication sponsored by CNRG, Journal of the China Railway Society and Railway Signaling & Communication Engineering sponsored by China Railway Society.

List of intellectual property rights obtained during the Reporting Period

	Increase for the year		Accumulative number	
	Number of applications	Number of approvals	Number of applications	Number of approvals
Invention patent	1,119	591	4,104	1,649
Including overseas patent	142	103	524	210
Utility model patent	207	271	2,575	2,127
Design patent	13	14	175	153
Software copyright	285	276	1,939	1,793
Registration of exclusive rights of integrated circuit layout design	2	2	4	4
Total	<u>1,626</u>	<u>1,154</u>	<u>8,797</u>	<u>5,726</u>

3. Research and development investment

Unit: RMB

	This year	Last year	Change (%)
Expensed research and development expenditure	1,689,810,596.63	1,638,494,903.20	3.13
Capitalized research and development expenditure	184,415,202.90	263,354,737.62	-29.97
Total research and development investment	1,874,225,799.53	1,901,849,640.82	-1.45
Percentage of total research and development expenditure in revenue (%)	4.66	4.96	Decreased by 0.3 percentage point
Percentage of capitalized research and development expenditure (%)	9.84	13.85	Decreased by 4.01 percentage points

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Reasons for the material change in total research and development investment as compared to last year

Applicable Not applicable

Reasons for the material change in percentage of capitalized research and development expenditure and its rationality

Applicable Not applicable

4. *Projects under development*

Applicable Not applicable

Unit: RMB0'000

Project No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
1	Research on electromagnetic environmental effects of rail transportation and construction of test platform	3,319.00	1,739.55	3,220.24	Completed the research on electromagnetic environmental effects of rail transportation and construction of test platform, with the ability for carrying out high-speed rail electromagnetic interference spot test and laboratory simulation. The "Electromagnetic Environmental Effects and Electromagnetic Safety Railway Industry Engineering Research Centre" became scientific and technological innovation base in the railway industry recognized by State Railway Administration	To complete the research on electromagnetic environmental effects of rail transportation and construction of test platform with the ability for carrying out simulation tests such as high-speed rail all-digital electromagnetic environment simulation, off-line electromagnetic interference test of pantograph network, and high-speed rail typical electromagnetic interference coupling simulation.	It can provide technical supports, including real-time collection, simulation analysis, faults reoccurrence and analysis for products electromagnetic interference problems; the testing capability and technical level in the field of electromagnetic environmental effects research of the train control system will reach the domestic leading level.	It can provide theoretical and data support for electromagnetic compatibility design.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
2	Research and development of a new generation of centralized traffic control system	14,858.06	2,359.46	8,377.65	Combined with the automatic adjustment requirements of high-speed railway operation plan and the demands for integration of OCC and ESC, the functions related to intelligent CTC were further optimized, completed the application of intelligent CTC automatic adjustment for high speed rail optimization and normal speed railway projects; completed the extended application of external interfaces such as ESCs; completed the software release and field application in conjunction with CTC3.0 major project of large hub sections and marshalling yards.	To complete the research and development of a new generation of centralized traffic control system and apply it in engineering practice.	The new generation of centralized traffic control system adopts the principle of intelligent decentralized and self-discipline design to realize the unified control of train and shunting operation, and realize the safety management and card control of station-level operation.	It can be applied to railway.
3	Research and application of high-density automatic operation control technology for ad-hoc network of heavy-haul trains	9,180.98	2,873.46	5,646.67	Completed the research and development of onboard and ground prototype equipment for the ad-hoc network and high-density automatic operation control system; completed the laboratory functional tests.	To assemble the equipment for the ad-hoc network and high-density automatic operation control system of heavy-haul train.	Based on China's high-speed rail control and autonomous driving technology, the project aims to improve the efficiency and safety of heavy-haul freight rail transportation, which is at the leading level in China.	It can be applied to the domestic heavy-haul railways.
4	Development of a new train control system	13,294.01	3,730.94	10,786.07	Completed the circular track test of new train control system, the onsite test and trial review of Hetian-Ruoqiang Railway were completed; the onsite test of Jingbian-Shenmu Railway was completed, and acceptance test and project completion were passed; completed the validation testing work for on-site trial of Pingdingshan Coal Project.	To assemble a complete set of equipment for the new train control system.	Based on the mature technical application of the existing train control system and combined with the BDS positioning technology, it builds a moving block technical scheme suitable for heavy-haul railway, shortening the train tracking interval and improving the overall transport capacity of heavy-haul railway.	It can be applied to the domestic heavy-haul railways.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
5	Development of train fully-autonomous operation and control system	17,169.63	3,033.88	7,192.16	The system has been put into commercial operation on Shenzhen Metro Line 20, becoming the first TACS system in the industry to operate commercially. The system has been basically stable since its operation for more than one year. Shanghai Metro Line 3/4 have defined the requirements of large systems, and released the requirements baseline; the preliminary of such software was completed.	To assemble the train fully-autonomous operation and operation system.	It completed the development of the first Train Autonomous Circumambulate System (TACS) based on vehicle-to-vehicle communication in China, which has reached the advanced level in the world.	It can be applied to urban rail transit.
6	Intelligent rail transit integrated video system	1,866.00	538.31	1,860.64	The development of the video train tracking platform, video data service platform, video security platform and video operation and maintenance management system was completed; demonstration application was conducted.	To assemble a new generation of video monitoring, train tracking system, video GIS visualization system and video security platform.	Based on artificial intelligence and big data technology, integrated video monitoring system in railway and subway industry has been upgraded in all aspects to enhance diversified application and security of video data, and stay on top of the industry.	It can be applied to the field of railway and urban rail transit.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
7	Intelligent passenger traffic analysis system	965.00	474.89	965.00	Completed the development of nine algorithms for passenger flow statistics, regional density estimation, belongings left behind, pedestrian opposing flow, abnormal crowd gathering/spreading detection, prolonged stay, queue detection, license plate recognition and image segmentation. It was successfully applied in Fenghuang Maglev Project and Taizhou Commuter Rail S1 Line Project.	To create an intelligent passenger analysis system.	Based on the advanced concepts in the field of computer vision AI, a general framework of target detection + weakly supervised semantic segmentation was established, the end-to-end multi-task parallel training approach was optimized and the two-dimensional features of crowd distribution changing with space and time was integrated, to comprehensively improve the performance of algorithms for detection, tracking, belongings left behind, and group behavior prediction; and stay on top of the industry.	It can be applied in many fields such as smart city, smart transportation, and smart government.
8	Basic technology research	6,084.00	3,004.76	5,551.71	Digital track circuitry at stations has passed technical assessment and safety LED signalling machines have completed technical assessment, and on-road test commenced.	To complete the fundamental and deep-level scientific mechanism research on lightning protection and electromagnetic compatibility of signal products in complex environment to provide scientific basis for subsequent product research and development.	The research aims to improve the safety and reliability of rail side signal equipment of railway and develop digital track circuit and railway safety signal display equipment, which has reached the leading level in the industry.	It can be applied to the field of railway and urban rail transit.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
9	Research on key technology and equipment development of train control system for normal-speed railways	7,420.54	718.28	5,138.92	Completed the overall technical plan for the locomotive C1 train control system, completed the development of the prototype of locomotive C1 vehicle equipment, prototype of ground data server, LKJ and CO units, and completed the stage safety certification. Completed field tests of vehicle-ground communication and other equipment.	To form a complete set of CTCS-1 system suitable for normal-speed railways.	The system can realize the detour of high-speed railway trains on normal-speed train lines, and the interconnection between high-speed railway network and normal-speed railway network, which has among the leading level in the industry.	It can be applied in the field of railway.
10	Research on intelligent detection and perception technology of rail transit	2,021.00	682.17	1,993.41	Completed the prototypes for inspection of long-distance broken rails in one section; conducted on-site application of the turnout switching intelligent diagnostic system and rail breakage detection system of turnouts.	To carry out the research on intelligent detection and perception technology of rail transit, and create the series of products such as rail breakage detection of turnout.	Intelligent detection and perception technology of rail transit is helpful to the early warning and protection of various faults and disasters in the field of rail transit, and has the leading technical level in the industry.	It can be applied in the fields of railway and urban rail transit.
11	Development and application of train control interlocking integration	14,199.21	5,726.67	13,783.82	Completed the equipment development and production and passed the test, type test and circular road test organized by the industry experts; field test of Hetian-Ruoqiang Railway were completed; completed the design of automatic configuration tools.	To create train control interlocking integration equipment.	The existing interlocking and train control system is optimized and integrated into a compact-structured and simplified system from a complex one, thus improving the maintainability and reliability of the signal system with higher cost performance.	It can be applied in the field of railway.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
12	Development of basic signal equipment	2,390.00	603.62	1,707.53	Locomotive on-board relays were put into trial use, the application report was obtained and the small batch trial production and on-road test of onboard relays was carried out; the development of high-frequency digital AC power supply module was completed, and the small batch trial production of DC high-frequency switching power supply module was completed; the trial production of the prototype of light-weighted power system was completed; the review of scheme design and conversion of drawings of switch-tie switch machine with information output function, and the trial production of prototype parts was completed. Completed the assembly and commissioning and testing of power units and other components, and completed the assembly of the whole machine.	To complete the development of a new generation of rail transit signal basic equipment, such as small-sized relay, light-rail switch machine, safe, light-weighted and intelligent railway signal power supply.	This project aims to improve the technical level of signal basic products and develop a new generation of rail transit signal basic products that meet the international and domestic technical needs.	It can be applied in the fields of railway and urban rail transit.
13	Integrated development and certification of onboard systems in five European nations	1,148.00	481.81	810.93	The integration testing of the on-board equipment ETCS-400T with LZB/PZB in Vienna, Austria and the acceptance of the owners' laboratory were completed. Completed the VUZ loop test in the Czech and the main line tests in Germany and Austria.	To develop ETCS onboard system applicable to the operation requirements of five European nations, and complete safety certification, NoBo certification and DeBo certification, so as to support the promotion and application of our ETCS onboard products in European core markets.	It meets the B3R2 technical standard of the highest version of ETCS baseline 3, supports E2 and E1 operation levels, meets the local functional requirements of five European nations and the non-stop operation requirements of transnational interconnection, and boasts the world-class level.	It can be applied in the railways in five European nations (Germany, Austria, Switzerland, Hungary, Slovakia).

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
14	Development and application of intelligent subway operation and maintenance	7,030.77	1,734.70	5,647.82	Line-level integrated DCS network management, parking accuracy analysis, TACS automatic alarm switching and other functions were completed; the functions of network-level and multi-disciplinary integrated automatic work order, linkage between operation control and operation maintenance were completed, the construction of the operation and maintenance center of Kunming Metro lines was completed; the tryout was conducted in Chentai Road.	To realize the condition maintenance based on intelligent operation and maintenance system, comprehensively improve equipment reliability, prolong equipment service life, greatly improve maintenance efficiency and greatly save labor cost.	The proposed digital operation and maintenance theory of the whole life cycle of train control system, adopts technologies such as train control multi-source digital perception, multi engine intelligent analysis and diagnosis, and health management based on cloud platform, which are at domestically and internationally leading level.	It can be applied in the fields of railway and urban rail transit
15	Development of rail side target controller	7,424.27	1,730.69	7,415.12	The system was released, and applied into Shenzhen Metro Line 20. The confirmation of OC requirement in Shanghai Metro Line 3/4 was completed. The research and development of OC board for Shanghai Metro Line 3/4 was commenced.	To create rail side target controller, and adapt to each control system based on the application scenario.	As the direct control unit of rail side signal equipment, the target controller adopts the architecture of double two out of two, which has the characteristics of high safety, high reliability, high integration and intelligence, and greatly reduces the workload of installation, commissioning and maintenance. The electronic module can be flexibly applied to each signal system.	It can be used in the fields of railway and urban rail transit.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
16	Research on electromechanical integration system and equipment for rail transportation	5,130.04	2,461.59	5,003.27	Completed the research on electromechanical integration system, completed the production of ATP, ATO, STC, ATS and other equipment, obtained certification on project safety and opened for operation in Fenghuang Maglev.	To establish an electromechanical integration system for light rail transportation supporting full industrial chains with advanced technology and the intelligent and independent operation control of train as the core.	The electromechanical integration system for light rail transportation with the intelligent and independent operation control of train as the core reached the advanced level in China.	It can be applied to the medium and low speed maglev lines, mountain (rack) rail transportation, suburban light rail, urban express rail, special tourist lines and other lines.
17	Security integration platform for urban rail transportation	800.00	269.20	688.24	Completed the development of security integration platform, conducted the test on equipment connected to the security integration platform.	To form a security integration platform for urban rail transportation.	On the basis of public security resources and in line with security policies, prevention procedures and prevention activities, it developed the security system to improve the prevention and control ability, and reduce the possibility of safety threats in rail transportation areas.	It can be applied in the field of urban rail transit.
18	Research on high-speed maglev/low vacuum pipeline (tunnel) high-speed train operation control system and production of equipment	1,525.00	192.25	192.25	The research on the zonal operation control system and the cabin operation and control system has been completed, and field tests on the ultra-high-speed maglev test line in Yanggao, Datong, Shanxi have been carried out.	To establish the train control system and equipment with proprietary intellectual property rights and supporting high-speed maglev with a speed of 600km/hour and low-vacuum pipeline (tunnel) high-speed train with a speed of 1,000km/hour.	It filled the blankness in the rail transportation system with a speed of 600-1,000 km/hour, which is the first in China at an internationally leading level.	It can be applied to high-speed maglev.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
19	Research and construction of experiment platform for train control systems of overseas railways	4,004.60	1,157.43	4,004.00	Completed the construction of laboratories in Beijing and Serbia, providing guarantees to the successful opening of railways in Serbia; completed the construction of automatic test platform for ETCS-2/CTCS-3 train control systems; completed the construction of the laboratory in Thailand, greatly supporting the transformation of the signal system of railways in Thailand.	To complete the preparation of the overall technical plan on the construction of the experiment platform for train control systems of overseas railways, the construction of two laboratories for ETCS-2 train control systems of overseas railways in Beijing and Belgrade and complete the construction of the laboratory in Thailand.	For the construction of laboratories for train control systems of overseas railways, it provides a safe and reliable experimental environment with high-efficiency operation through being equipped with software and hardware met local demands and guarantees the smooth implementation of overseas projects. They have the same technical level with laboratories of major overseas projects.	It will be applied in overseas railway projects.
20	Safety simulation test software	3,550.00	1,218.62	1,218.62	Completed the construction of the development and test platform for the safety simulation test software and achieved simulation test on functional safety and information safety.	To construct the development and test platform for the safety simulation test software, support test on functional safety and information safety and further improve the safety performance of products.	It supports unified test on functional safety and information safety, supports the integrated development, test and application of functional safety and information safety in various industrial control sectors and will reach a leading level in China.	It will be applied in railways, urban transit, nuclear power and other sectors.
21	Development of new train control systems and equipment for urban (suburb) railways	428.30	104.33	104.33	Conducted integrated research on multi-mode control systems, completed the development of compatible on-board equipment, achieved automatic reversal in 3 minutes and automatic end change in 20 seconds in the CTCS2+ATO system for urban railways and successfully completed the test on unmanned automatic reversal.	To study new train control systems for urban railways with low cost, easy implementation, high compatibility, high safety and high efficiency and meet the demands in the construction of intercity railways in the Beijing-Tianjin-Hebei region, the Yangtze River Delta, the Chengdu-Chongqing Economic Circle, the Guangdong-Hong Kong-Macau Greater Bay Area and other metropolitan areas.	New train control systems for intercity railways support the integrated operation of urban transit, intercity, urban railways and national railways with a leading level in the industry.	It will be applied in urban railways, extended lines of urban transit and access to arterial railways in domestic metropolitan areas.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
22	Research of operation control and transportation system of suspended permanent magnetic trains	1,449.58	1,407.94	1,407.94	Completed the development of the system and equipment and carried out filed tests in Xingguo County.	To develop the operation control system for suspended permanent magnetic trains.	With green and low-carbon, lightweight, customized and other characteristics, it has a short adaption and development cycle and can be flexibly adapted to various rail transit and transportation systems with medium and low capacity.	It will be applied in urban transit with medium and low capacity.
23	Development of interlock equipment in Thailand	412.30	326.64	411.32	Completed the development and test on interlock equipment and projects in Thailand and obtained the phased letter of confirmation.	To complete the development of interlock equipment applicable to Thailand and obtain the SIL4 safety authentication certificate. To apply in railway projects in Thailand.	The interlock equipment in Thailand developed has outstanding operation performance with excellent electromagnetic compatibility and lightning protection performances. With a reasonable design on the structure of the application software, it is conducive to expansion and realizing its functions.	It will be applied in railway projects in Thailand.
24	Development of autonomous perception system of trains	2,338.00	789.70	789.70	Completed the structural design on the system, completed the technological research on positioning and obstacle detection and completed the development of control unit prototypes.	To achieve the perception and prevention of rail side obstacles in rail transit, offer auxiliary assistance to the safe operation of trains and provide the function of manual intervention by the dispatcher.	With laser radar-based obstacle detection devices, it detects trains ahead and identifies route signals in advance to safeguard the safe driving in rail transit. It is at the leading level in the industry.	It will be applied in urban rail transit.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
25	Development of key technology for the integrated analysis platform of the Internet of Videos	1,464.00	844.69	844.69	Completed the selection of architectures for the access and convergence, algorithm warehouse, classified governance, integration and sharing, centralized resolution and other modules for universal videos; completed the development of target detection and obstacle detection under dark light, regional demographics and other algorithms.	To develop a platform for access and convergence of universal videos on the Internet of Videos.	With the adoption of cloud computing, the Internet of Things, big data, artificial intelligence and other advanced technology, it achieves the access and convergence, classified governance, integration and sharing, centralized resolution and other functions for videos and improved the utilization efficiency of video resources.	It will be applied in smart cities and urban rail transit.
26	Research and application of the surrounding intrusion alarming system based on videos and radar in rail transit	867.00	402.28	402.28	Completed the plan and structural design on the system; completed the assembly of the model of integrated radar-camera units.	To develop a platform for the surrounding intrusion alarming system based on videos and radar in rail transit.	It conducts the upgrading of technical framework, the reshaping of the plans on intrusion detection equipment and the restructuring of the business functions and maintains a leading level in the industry.	It will be applied in the prevention of surrounding intrusion in surrounding areas of rail transit, bridges, tunnels and roadbeds.
27	LTE-M-based wireless intelligent dispatching and communication systems for urban rail transit	516.00	304.79	304.79	Completed the development of equipment for train mounted platform and fixed platform and supported the completion of the field test on the automatic reversal function of the CTCS2+ATO train control system as the carrier of communication equipment of urban railways	To develop the LTE-M-based new-generation wireless intelligent dispatching and communication systems for urban rail transit.	The LTE-M-based voice, dispatch orders, wireless train numbers and other key technologies on dispatching and communications of urban railways prepared in combination with the technical specifications on Shanghai Metro with its participation are at the leading level in the industry.	It will be applied in urban rail transit.

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No.	Project Name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
28	Research of key technology on 5G application in rail transit and development of the next-generation communication equipment	1,898.00	1,125.68	1,524.85	It completed the research on systematic technologies and the planning on standard and systems of the next-generation communications (5G-R); completed the development of the 400M wireless dispatching and communication model of digital trains and completed the field test.	To research the systematic technologies on the next-generation communications (5G-R) and key engineering technologies and the research on next-generation communication technology; to develop 400M digital dispatching and communication equipment and 5G-based railway communication equipment.	It masters exclusive key technologies on wireless communications and develops relevant railway communication equipment with leading levels in the industry.	It will be applied in railways and urban rail transit.
Total	/	132,753.29	40,038.33	96,993.97	/	/	/	/

Explanation

For all rail transit sectors such as high-speed railway, normal-speed railway, local railway, heavy-haul railway, urban rail transit, urban (suburban) railway, maglev and special tourist line, the Company analyzed the corresponding scenarios and special demands, carried out research and development activities oriented to market targets and developed advanced technologies leading the industry, such as automatic unmanned train operation, train autonomous circumambulation, coordinated transportation and management for regional passenger traffic, train traffic control automation, safe computer platform, full-electronic computer interlocking control, intelligent detection, operation and maintenance of rail transportation, rail transit simulation test, turnout switch and electromagnetic shielding. It developed control systems and fundamental equipment applicable to target scenarios with complete functions and outstanding performance, such as the new train control system based on BDS, the train control system for normal railways, the high-density automatic operation control system for ad-hoc network of heavy-haul trains, the new generation of centralized traffic control system, the intelligent passenger traffic analysis system, the train autonomous circumambulation control system, the CBTC system based on full-electronic interlocking, the intelligent light rail transit control system, the intelligent urban rail dispatching system, the intelligent diagnosis system on turnout switch, the integrated train control interlocking equipment and the full-electronic interlocking equipment. It also conducted demonstration, opening and application in domestic and overseas markets, vigorously supporting the rapid market expansion of the Company in the rail transit sector.

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5. Research and development personnel

Unit: 0'000 Yuan Currency: RMB

Basic Information

	Amount for the current period	Amount for the corresponding period of last year
Number of research and development personnel in the Company (person)	4,428	4,374
Percentage of total research and development personnel in total personnel of the Company (%)	22.53	21.56
Total remuneration for research and development personnel	103,614.48	94,458.08
Average remuneration for research and development personnel	23.40	21.60

Educational background of research and development personnel

Unit: Person

Educational background	Number (person)	Percentage (%)
Doctoral degree	67	1.51
Master's degree	1,620	36.59
Bachelor's degree	2,537	57.29
Junior college diploma	204	4.61
High school diploma or below	—	—
Total	<u>4,428</u>	<u>100.00</u>

Age structure of research and development personnel

Unit: Person

Age band	Number (person)	Percentage (%)
Below 30 (excluding 30)	1,320	29.81
30-40 (including 30 years old, excluding 40 years old)	1,964	44.36
40-50 (including 40 years old, excluding 50 years old)	868	19.60
50-60 (including 50 years old, excluding 60 years old)	276	6.23
Over 60	—	—
Total	<u>4,428</u>	<u>100.00</u>

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Reasons for material change on composition of research and development personnel and the impact on the future development of the Company

Applicable Not applicable

6. *Other explanation*

Applicable Not applicable

III. ANALYSIS OF THE CORE COMPETITIVENESS DURING THE REPORTING PERIOD

(I) Analysis of Core Competitiveness

Applicable Not applicable

1. *Leading market position*

As the main force of China's rail transit construction, the Company provides products and services for the rail transit construction of CNRG, 18 Railway Administrations, more than 40 cities and many factories and mining enterprises. The Company enjoys a good reputation all over the country and is the most trusted expert of rail transit control system. The Company provides core train control technology and equipment for more than 95% of China's high-speed railways that have been in operation; the Company occupies about 40% of the domestic market share of urban rail transit control system, and participates in the design, integration and construction projects of rail transit control system in more than 30 cities such as Beijing, Shanghai and Shenzhen. According to statistics, in 2022, among 42 metro signal control system projects for which the bid results have been disclosed, CRSC won 22 bids which accounted for over 50%, continuing to top the list, and is the leading provider of urban rail transit control system solutions in China. The ultra-high market share has also laid a solid foundation for the Company's future efforts to update, transform and operate and maintain the market.

2. *Outstanding comprehensive technological innovation strength and core technology reserves*

The Company has adhered to independent innovation with nearly 4,000 registered patents and realized the absolute independent ownership of intellectual property rights and 100% domestic production of products for the core technologies of train operation control, thus helping its new rail transportation control technologies regarding all rail transit sectors such as high-speed railways, normal-speed railways, local railways, heavy haul railways, urban rail, urban (suburban), maglev and special tourist lines, automatic unmanned train operation technology, coordinated transportation and management for regional freight, train traffic control automation technology, safe computer platform technology, fully electronic computer interlocking control technology, train control integration technology, intelligent detection, operation and maintenance technology of rail transportation, rail transportation simulation test technology and turnout switch technology hold a leading position among peers. Relying on the world-leading comprehensive research and

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development strength, the Company has developed core technologies of rail transportation control system with independent intellectual property rights and its products and services have been widely used in fields including railway and urban rail transit, which has established the Company's leading position in the industry.

As the entity responsible for general affairs of each of the Communication and Signaling Technical Sub-committee under the National Railway Transportation Electrical Equipment and System Standardization Technical Committee (全國軌道交通電氣設備與系統標準化技術委員會通信信號分技術委員會) (in relation to national standards) and the Communication and Signaling Technical Sub-committee under the Railway Industry Electrical Equipment and System Standardization Committee (in relation to industry standards, being the original entity responsible for the management of equipment standards, technical standards and product standards in relation to rail transportation control system in China), the Company has promoted the establishment of the national technical standards system and railway industry technical standards system for the rail transit communication and signaling in China, and has led the establishment of the most important, advanced and fundamental technical standards for railway and urban transit control systems in the PRC, such as CTCS and CBTC. The Company has extremely rich experience in the construction and operation of high-speed railway control systems, complex railway hub revamping experience, existing line upgrading and revamping experience, customization experience to meet transportation needs in different regions, and construction and maintenance experience for all forms of urban rail transit including urban rail, subway and maglev. In addition, the Company also has advanced research and development ("R&D"), experiment and test institutions. The completeness and scale of its laboratory facilities are in a leading position in the world.

The Company has built a high-level innovation platform and technical support capabilities, vigorously promoted innovation platform and demonstration construction, gathered innovation elements, optimized the allocation of innovation resources, and formed a leading sci-tech innovation platform and demonstration pattern, including 3 postdoctoral workstations, 4 academician workstations, 12 national and industry innovation platforms, 13 national innovation demonstrations, and more than 30 provincial and ministerial innovation platforms providing strong platform support for the realization of high-quality innovation and development of enterprises.

3. Extensive engineering project management experience

Over the years, the Company has served the construction of national railway and urban rail transit, deeply participated in the speed increase of national railway for six times, and successively participated in the construction of all major domestic high-speed railway projects. It has experience in many projects involving long mileage, high altitude, alpine region and heavy-haul trains with capacity of over 10,000 tons. Many projects have been ranked "first" in China and even the world, and the standardized management of engineering services has become the industry benchmark, which has improved the weak current process standard and image of China's rail transit, and established and maintained the Company's leading position in the industry.

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4. *One-stop service capabilities for the entire industrial chain*

The Company professionally provides integrated services covering investment and financing, design and integration, equipment manufacturing, system implementation, supporting project construction and repair and maintenance for rail transportation control system. As a company with the most comprehensive technology mix and the most system products in the domestic industry, it has 13 modern production bases all over the country, creating a complete industrial chain in the field of rail transit control. It is the only company in the world that can provide one-stop services for the entire industrial chain from investment and financing to R&D and design, equipment manufacturing, engineering services and operation and maintenance. The one-stop services can effectively reduce the construction, operation and management costs of customers and the system compatibility related risk in complex lines, and minimise the impact of renovation projects on normal operations. While adapting to common requirements, it can also provide customers with a flexible combination of different products and services based on the actual needs of customers; with the Company's internal efficient and accurate information-based management, such one-stop services can help to effectively reduce marketing cost, and lay a good foundation for tracking and carrying out maintenance, repair and upgrading business.

5. *Highly reliable and safe core services and products*

The Company establishes classified enterprise standards according to relevant international, national and industrial standards, implements strict and prudent quality and safety control measures, so as to ensure the high reliability and safety of rail transportation control system solutions and core products, and provide support for the safe and efficient operation of national rail transportation. The Company focuses on its main responsibilities and businesses, deeply analyses the business development model, establishes system management thinking, deepens system integration, improves operational efficiency and builds a whole industrial chain safety and quality control system. The Company's quality management follows the requirements of ISO9001: 2015 Standard, establishes quality control rules and system process, with quality management systems to maintain continuous improvement and meet the requirements of standards. All subordinate enterprises of the Company which engage in the fields of R&D and design, system integration and industrial manufacturing have passed the ISO/TS22163: 2017 (the upgraded standard of International Railway Industry Standard (IRIS)) certification; all subordinate enterprises of the Company engaged in the field of R&D and design have passed the maturity assessment and certification of CMMI software. The Company's rail transportation control system products meet the European EN50126 standard for railway product safety, and the Company strengthens the supervision of product safety and security, and effectively strengthens the control of new product development process and existing product change process and meets the generally accepted international quality requirements regarding safety, reliability, availability and maintenance.

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6. *Stimulating innovation and vitality and promoting development through scientific research*

The Company implements the innovation-driven development strategy and accelerates the training of innovative talents through multiple channels. The Company makes good use of existing human resources, increases the training of expert-level leading talents and key researchers, facilitates the career development of scientific and technological talents, and improves the incentive and evaluation system for result transformation to stimulate the innovation and vitality of researchers. The Company improves quality, increases efficiency, and achieves upgrade and sustainable and healthy development under the support and guidance of technology innovation. The Company unswervingly takes the road of independent innovation, truly contributing to promoting corporate transformation and upgrading.

More than 4,400 employees of the Company are engaged in technological research and development, accounting for 22.53% of the total employees, 38.1% of whom have graduate degrees or above. The excellent talent team has laid a solid foundation for the Company to develop core technologies and maintain technical advantages.

(II) Events which have a serious impact on the Company's core competitiveness, impact analysis and measures during the Reporting Period

Applicable Not applicable

IV. RISK FACTORS

(I) Risk of Making No Profits Yet

Applicable Not applicable

(II) Risk of Sharp Decline or Loss of Results

Applicable Not applicable

(III) Core Competitiveness Risk

Applicable Not applicable

The rail transportation control system industry in which the Company is engaged is still in a healthy development stage. The new-generation information technology is gradually integrated with the traditional control system. The emerging technologies and the demand for new growth of railways and urban rail may lead to the upgrades of the Company's main system equipment, and put forward new and higher requirements on the Company's scientific and technological innovation. If research on new technologies moves slowly, the development progress of new-generation system products will be affected, which is not conducive to consolidating the Company's leading position in innovation.

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Response measures: From the perspective of the industry and the long-term development needs of the Company, the Company will focus on scientific and technological issues, emerging technologies and new needs of the industry, plan major scientific research projects, deploy strategic forces, coordinate innovation resources, strengthen the management of the R&D projects of new technologies, and enhance the allocation of resources for the R&D projects of new technologies and new products, to ensure that R&D tasks are completed as planned. The Company will also strengthen the linkage between scientific and technological research and development and market operation, enhance the transformation of scientific and technological achievements, make precise market positioning, speed up the response to specific needs of users, and adjust the research and development strategy in a timely manner, to maintain the Company's leading position in scientific and technological innovation, and support the sustainable, healthy and high-quality development of the Company.

(IV) Operating risk

Applicable Not applicable

First, the Company's product market distribution is relatively concentrated, and its anti-risk ability is relatively weak, which leads to the hidden business risks; second, various factors such as the international political situation, international political emergencies, and changes in the pattern of international relations pose risks to the Company's overseas operations. In addition, based on the nature of the Company's business, liability compensation or government penalties may be involved in the design, research and development, manufacturing, installation, testing, maintenance and sales of rail transit control system products or services.

Response measures: The Company will continue to strengthen the construction of scientific and technological innovation capabilities, take the market demand as the guide, speed up the research and development of new technologies and new products and market transformation, continue to expand new fields and markets, form new growth points as soon as possible to enhance the Company's ability to resist risks; for overseas markets, the Company will strengthen the timely summary and analysis of the comprehensive information of the target country, maintain a high sensitivity to changes in the international market at all times, adjust response strategies in a timely manner to prevent and resolve overseas business risks.

(V) Financial Risk

Applicable Not applicable

The construction of certain railway, urban rail and infrastructure construction projects undertaken by the Company has the characteristics of long construction period, large investment amount, lagging settlement and lagging recovery, and some contract assets or accounts receivable have long settlement period and recovery period, which may have a negative impact on current profits.

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Response measures: The Company will establish a normalized control mechanism to strengthen its source and process control and regularly analyze and dynamically monitor contract assets and account receivables of major projects, improve its appraisal mechanism and increase the frequency of appraisal to mobilize its staff's initiative, and speed up the progress of fund settlement and recovery.

(VI) Industry Risk

Applicable Not applicable

In view of the year-on-year decline in the scale of fixed asset investment in railway, the railway industry highlighted the prevention and resolution of debt risks in the field, and tightened the implementation of railway investment planning, translating into a shift from pursuing scale and speed to controlling investment pace. During the 14th Five-Year Plan period, the NDRC will strictly control the debt risk incurred by local governments as a result of urban rail investment, raising the approval threshold for all urban rail transit projects, including large, medium and small carrying-capacity projects.

Response measures: The Company will strengthen communication with railway owners by leveraging the further improvement of the management layout and system, establish a leading brand image and reputation in the industry through benchmark projects and high-quality projects, and gradually shift the business focus from new line construction to an operation pattern that places equal emphasis on the construction of new lines and the upgrading of existing lines. At the same time, the Company will actively expand the management concepts, closely follow the urban rail construction model, give full play to the resources of the whole system, and adopt various methods such as investment-driven, joint operation, and joint venture to consolidate the existing metro market and expand the market of medium and small carrying capacity, thus forming a multi-point supporting market operation pattern in the rail transit industry.

(VII) Macro-environmental Risk

Applicable Not applicable

The convergence of multiple crises such as the energy crisis, soaring inflation and tightening debt, as well as the slowdown in global economic growth, lack of momentum and increased downward pressure are posing huge challenges to CRSC's expansion into overseas markets.

Response measures: The Company will actively explore the markets giving play to the dominant advantage brought by favourable foreign aid and overseas expansion policies of the State, obtain accurate information about the policies and dynamic trends of target countries, speed up the pace of overseas business expansion and industrial investment, strengthen efforts in international operations, actively fit into the competitive global market; optimize business structure, and innovate profit models and explore development opportunities.

(VIII) Risk Relating to Depository Receipts

Applicable Not applicable

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(IX) Other Material Risks

Applicable Not applicable

Market competition risk: There are more competitors in the railway construction and urban rail transit markets; the adjustment of the railway construction model and the change in bidding rules for railway project construction are diminishing the development space for the Company's traditional business, putting the Company under pressure from market competition.

Response measures: The Company will adhere to a market- and technology-oriented management policy, strengthen the full linkage with technological innovation, stay ahead of industry peers in terms of overall competitiveness with technological development as the foundation, insist on providing customers with a good experience covering the whole life cycle of the project with efficient and quality services, and continuously enhance the brand influence.

V. MAIN OPERATIONS DURING THE REPORTING PERIOD

In 2022, the Company fully implemented the overall requirements of the CPC Central Committee on economic development and actively contributed to the major strategy of building a country with great transport strength. The Company advanced the development with technology-driven approach, carried out the reform to stimulate vitality, and adopted multi-pronged measures to steadily carry out special actions to improve quality and efficiency of development, achieving great growth in various operating and financial indicators.

During the Reporting Period, the Company recorded revenue of RMB40.203 billion, representing a year-on-year increase of 4.81%, net profit attributable to shareholders of the parent company of RMB3.634 billion, representing a year-on-year increase of 10.96%, and net profit deducting non-recurring profit or loss attributable to shareholders of the parent company of RMB3.417 billion, representing a year-on-year increase of 9.38%.

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(I) Main Business Analysis

1. Table of analysis of changes in relevant items in the income statement and cash flow statement

Unit: Yuan Currency: RMB

Items	Amount for the current period	Amount for the corresponding period of last year	Change (%)
Revenue	40,203,207,773.29	38,358,297,108.78	4.81
Operating Cost	30,680,741,586.09	29,846,875,671.34	2.79
Selling expenses	812,111,306.78	796,771,857.42	1.93
Administrative expenses	2,289,994,474.16	2,116,982,019.27	8.17
Finance costs	-237,983,529.30	-312,381,754.25	N/A
Research and development expenses	1,689,810,596.63	1,638,494,903.20	3.13
Net cash flow generated from operating activities	2,082,161,660.88	2,768,701,491.06	-24.80
Net cash flows generated from investing activities	-150,941,966.87	-1,257,681,570.79	N/A
Net cash flows generated from financing activities	-2,418,846,499.11	-2,073,337,055.29	N/A

Particulars of material changes in business type, profit composition or source of the Company in the current period

Applicable Not applicable

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

2. Analysis of revenue and cost

✓ Applicable Not applicable

(1). Performance of main businesses by industry, product, region and sales model

Unit: Yuan Currency: RMB

Main Businesses by Segment

By segment	Operating Revenue	Operating cost	Gross profit margin (%)	Increase/decrease in revenue as compared to the last year (%)	Increase/decrease in operating cost as compared to the last year (%)	Increase/decrease in gross profit margin as compared to the last year (%)
Rail transit control system	29,408,391,368.97	21,231,816,680.78	27.80	4.73	2.99	Increased by 1.22 percentage points
Equipment manufacturing	5,575,023,023.62	3,422,790,768.16	38.60	-0.33	0.03	Decreased by 0.22 percentage point
Design and integration	9,757,309,028.26	5,659,048,227.37	42.00	1.43	-4.44	Increased by 3.56 percentage points
System implementation	14,076,059,317.09	12,149,977,685.25	13.68	9.38	7.79	Increased by 1.27 percentage points
Construction contracting	10,729,797,684.06	9,428,340,154.55	12.13	5.07	2.56	Increased by 2.16 percentage points
Others	65,018,720.26	20,584,750.76	68.34	-0.16	-45.77	Increased by 26.62 percentage points

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

Main Businesses by Terminal Market

By terminal market	Operating Revenue	Operating cost	Gross profit margin (%)	Increase/decrease in revenue as compared to the last year (%)	Increase/decrease in operating cost as compared to the last year (%)	Increase/decrease in gross profit margin as compared to the last year (%)
Railway	19,324,946,790.86	13,621,817,977.83	29.51	3.83	0.69	Increased by 2.20 percentage points
Urban transit	8,579,991,599.60	6,482,739,067.64	24.44	2.57	2.09	Increased by 0.36 percentage point
Overseas businesses	1,503,452,978.51	1,127,259,635.31	25.02	36.07	52.90	Decreased by 8.26 percentage points
Construction contracting	10,729,797,684.06	9,428,340,154.55	12.13	5.07	2.56	Increased by 2.16 percentage points
Others	65,018,720.26	20,584,750.76	68.34	-0.16	-45.77	Increased by 26.62 percentage points

Main Businesses by Region

By region	Operating Revenue	Operating cost	Gross profit margin (%)	Increase/decrease in revenue as compared to the last year (%)	Increase/decrease in operating cost as compared to the last year (%)	Increase/decrease in gross profit margin as compared to the last year (%)
China	38,699,754,794.78	29,553,481,950.78	23.63	3.88	1.52	Increased by 1.77 percentage points
Other countries and regions	1,503,452,978.51	1,127,259,635.31	25.02	36.07	52.90	Decreased by 8.26 percentage points

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

Description of performance of main businesses by segment, terminal market and region

In terms of revenue, in 2022, despite several adverse circumstances such as the overall slowdown in railway investment, the Company strived against the headwinds to achieve a year-on-year increase in the amount of newly-signed external contracts, made every effort to ensure the progress of key projects, and further promoted the special action of improving quality and efficiency, resulting in a year-on-year growth in revenue from all segments, apart from the equipment manufacturing segment which recorded a slight decline in revenue for the year.

In terms of gross profit margin, the Company vigorously promoted project-based cost management, focused on project clean-up, stepped up efforts in centralized procurement of materials, and implemented project sophistication and construction standardized management, resulting in further improvement in revenue from the projects, a year-on-year increase in gross profit margin of the design and integration, system implementation and construction contracting, and a year-on-year increase of 1.50 percentage points in the overall gross profit margin.

Revenue from overseas business for the year significantly increased by 36.07% as compared to the same period of last year, mainly because in 2022 the key projects under the “Belt & Road” Initiative such as the Jakarta-Bandung High-Speed Railway in Indonesia, the railway dual-track reconstruction in Thailand, and the subway projects in Mexico advanced in an orderly manner, and the revenue recognized increased over the previous year.

(2). Table of analysis of output and sales volume

Applicable Not applicable

Main product	Unit	Production output	Sales volume	Inventory level	Increase/decrease in production output as compared to the last year (%)	Increase/decrease in sales volume as compared to the last year (%)	Increase/decrease in inventory level as compared to the last year (%)
Track circuit equipment	Set	12,865	13,301	3,439	7.63	10.94	-11.25
Train control and chain system equipment	Set	1,952	1,963	292	-27.70	-31.60	-3.63
Signal relay	10,000 sets	57	60	4	23.91	25.00	-42.96
Turnout switch equipment	Set	15,339	14,604	1,619	-46.61	-50.82	83.14
Transponder device	Set	30,445	29,460	11,816	0.42	-2.48	9.09

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(3). *The performance of the material procurement contract and material sales contract*

Applicable Not applicable

(4). *Table of cost analysis*

Unit: RMB

By segment

Segment	Cost item	Amount for the current period	Percentage of amount for the period in total cost (%)	Amount for the corresponding period of the last year	Percentage of amount for the corresponding period of the last year in total cost (%)	Change of the amount for the current period as compared to that for the corresponding period of last year (%)	Description
Equipment manufacturing	Raw material, subcontracting costs, labor cost, etc.	3,422,790,768.16	11.16	3,421,823,804.96	11.46	0.30	
Design and integration	Raw material, subcontracting costs, labor cost, etc.	5,659,048,227.37	18.44	5,921,930,936.62	19.84	-4.44	
System implementation	Raw material, subcontracting costs, labor cost, etc.	12,149,977,685.25	39.60	11,271,853,009.22	37.77	7.79	
Construction contracting	Raw material, subcontracting costs, labor cost, etc.	9,428,340,154.55	30.73	9,193,313,039.98	30.80	2.56	
Others	Labor cost, subcontracting costs, etc.	20,584,750.76	0.07	37,954,880.56	0.13	-45.77	

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

By terminal market

Unit: RMB

Terminal market	Cost item	Amount for the current period	Percentage	Amount for the corresponding period of the last year	Percentage	Change of the amount for the current period as compared to that for the corresponding period of last year (%)	Description
			of amount for the current total cost (%)		of amount for the corresponding period of the last year in total cost (%)		
Railway	Raw material, subcontracting						
	costs, labor cost, etc.	13,621,817,977.83	44.40	13,528,133,057.03	45.33	0.69	
Urban transit	Raw material, subcontracting						
	costs, labor cost, etc.	6,482,739,067.64	21.13	6,350,229,196.43	21.28	2.09	
Construction contracting	Raw material, subcontracting						
	costs, labor cost, etc.	9,428,340,154.55	30.73	9,193,313,039.98	30.80	2.56	
Others	Labor cost, subcontracting						
	costs, etc.	20,584,750.76	0.07	37,954,880.56	0.13	-45.77	
Overseas businesses	Raw material, subcontracting						
	costs, labor cost, etc.	1,127,259,635.31	3.67	737,245,497.34	2.47	52.90	

Other explanations of cost analysis

Operating cost in 2022 was RMB30,681 million, representing an increase of 2.79% which was 2.02 percentage points lower than the increase in revenue, as compared to RMB29,847 million in the corresponding period of last year. The cost of equipment manufacturing segment was RMB3,423 million, representing an increase of 0.03% as compared to the corresponding period of last year; the cost of design and integration segment was RMB5,659 million, representing a decrease of 4.44% as compared to the corresponding period of last year; the cost of system implementation segment was RMB12,150 million, representing an increase of 7.79% as compared to the corresponding period of last year; the cost of construction contracting segment was RMB9,428 million, representing an increase of 2.56% as compared to the corresponding period of last year.

(5). *Changes in the scope of consolidation due to changes in the equity of major subsidiaries during the Reporting Period*

Applicable Not applicable

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(6). *Information about significant changes in or adjustments to the Company's business, products or services during the Reporting Period*

Applicable Not applicable

(7). *Information about main customers and main suppliers*

A. Information about main customers of the Company

Applicable Not applicable

The sales to the top five customers were RMB20,490,537,236.62, accounting for 50.97% of the annual total sales, of which sales to related parties was RMB0.

Top five customers of the Company

Applicable Not applicable

Unit: Yuan Currency: RMB

No.	Name of customer	Sales	Percentage of annual total sales (%)	Whether there is a related party Relationship with the listed company
1	Customer 1	12,738,211,856.90	31.68	No
2	Customer 2	2,703,770,022.01	6.73	No
3	Customer 3	1,753,321,931.00	4.36	No
4	Customer 4	1,671,029,042.15	4.16	No
5	Customer 5	1,624,204,384.56	4.04	No
Total	/	<u>20,490,537,236.62</u>	<u>50.97</u>	/

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

Circumstances where the sales to a single customer exceeded 50% of the total sales, there were new customers among the top 5 customers or there was heavy reliance on a few customers during the Reporting Period

Applicable Not applicable

During the year 2022, none of the Directors, their close associates or Shareholders of the Company (which to the knowledge of the directors owns more than 5% of the issued share capital of the Company) had any interests in the top five customers of the Group.

B. Information about main suppliers of the Company

Applicable Not applicable

The purchase from the top five suppliers was RMB1,457,819,514.53, accounting for 4.75% of the annual total purchase amount, of which purchase from related parties was RMB0.

Top five suppliers of the Company

Applicable Not applicable

Unit: Yuan Currency: RMB

No.	Name of supplier	Purchase amount	Percentage of annual total purchase amount (%)	Whether there is a related party relationship with listed companies
1	Supplier 1	428,340,982.41	1.40	No
2	Supplier 2	370,651,536.39	1.21	No
3	Supplier 3	277,886,726.00	0.91	No
4	Supplier 4	191,884,512.48	0.63	No
5	Supplier 5	189,055,757.25	0.62	No
Total	/	<u>1,457,819,514.53</u>	<u>4.75</u>	/

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

Circumstances where the purchases from a single supplier exceeded 50% of the total amount, there were new suppliers among the top five suppliers or there was a heavy reliance on a few suppliers during the Reporting Period

Applicable Not applicable

During the year 2022, none of Directors, their close associates or Shareholders of the Company (which to the knowledge of the directors owns more than 5% of the issued share capital of the Company) had any interests in the top five suppliers of the Group.

3. Expenses

Applicable Not applicable

The explanation on reasons for change in selling expenses: The selling expenses for the year were RMB812 million, representing an increase of 1.93% compared with last year, primarily due to the increase in sales volume.

The explanation on reasons for changes in administrative expenses: The administrative expenses for the year were RMB2,290 million, representing an increase of 8.17% compared with the same period of last year, primarily due to the increase in labor cost, depreciation expenses and safety production expenses compared with last year.

The explanation on reasons for changes in financial costs: The financial income for the year was RMB238 million, representing a decrease of RMB74 million compared with the same period of last year, primarily due to the decrease in interest income and the increase in handling fees.

The explanation on reasons for changes in research and development expenses: The research and development expenses for the year were RMB1,690 million, representing an increase of 3.13% as compared to last year, primarily due to the Company's continuous increase in research and development investment in new products in order to consolidate its leading position in the industry.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

4. Cash flow

Applicable Not applicable

Explanation on reasons for changes in net cash flow from operating activities: The net cash flow from operating activities was net inflow of RMB2,082 million, representing a decrease of RMB687 million as compared to last year, mainly due to the decrease in cash received from the sale of goods or rendering of services for the year compared with last year.

Explanation on reasons for changes in net cash flow from investing activities: The net cash flow from investing activities was net outflow of RMB151 million, while the net cash flow from investing activities was net inflow of RMB1,258 million last year, mainly due to change in time deposits with maturity over three months and the decrease in cash paid for acquisition of fixed assets, intangible assets and other long-term assets.

Explanation on reasons for changes in net cash flow from financing activities: The net cash flow from financing activities was net outflow of RMB2,419 million, and the cash flow from financing activities last year was net outflow of RMB2,073 million, mainly due to the decrease in cash received relating to other financing activities.

(II) Explanation on material changes in profit due to non-main businesses

Applicable Not applicable

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(III) Analysis of assets and liabilities

Applicable Not applicable

1. Assets-Liabilities analysis table

Unit: Yuan Currency: RMB

Item	Amount at the end of the current period	Percentage of amount at the end of the current period to the total assets (%)	Amount at the end of last period	Percentage of amount at the end of last period to the total assets (%)	Change of the amount at the end of the current period as compared to that of last period (%)	Remarks
Receivables for financing	1,048,965,771.85	0.90	2,142,993,114.00	1.97	-51.05	
Other receivables	1,579,389,304.96	1.35	1,093,595,430.95	1.00	44.42	
Long-term receivables	5,909,956,266.76	5.06	3,713,734,908.20	3.41	59.14	
Short-term borrowings	261,169,967.41	0.22	75,629,684.59	0.07	245.33	
Other payables	1,485,075,980.09	1.27	1,063,620,223.11	0.98	39.62	
Non-current liabilities due within one year	1,237,094,658.03	1.06	328,560,596.20	0.30	276.52	

Other explanations

The decrease in receivables for financing was mainly due to the reclassification of commercial acceptance bills to bills receivable.

The increase in other receivables was mainly due to the increase in advances receivable.

The increase in long-term receivables was mainly due to the increase in long-term receivables recognized according to the progress of project schedule and the collection period agreed in the contract.

The increase in short-term borrowings was mainly due to the increase in discounted bills undue.

The increase in other payables was mainly due to the increase in deposits and margins to be paid.

The increase in non-current liabilities due within one year was mainly due to the reclassification of low-interest policy borrowings of joint-stock companies to long-term borrowings due within one year.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

2. Information of overseas assets

Applicable Not applicable

3. Major assets subject to restriction by the end of the Reporting Period

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing book value
Cash and bank balances	457,150,025.99
Bills receivable	218,610,572.55
Receivables for financing	34,059,394.86
Accounts receivable	465,060,456.80
Other non-current assets	4,728,042,641.60

4. Other explanations

Applicable Not applicable

(IV) Analysis of operations information in the industry

Applicable Not applicable

Please refer to Section IV “Management Discussion and Analysis and Report of the Directors” in this annual report for details.

(V) Analysis of investment

Overall analysis of investment in external equities

Applicable Not applicable

As at the end of the Reporting Period, the long-term equity investment of the Company was RMB1,505 million, representing an increase of RMB127 million, or 9.20%, as compared to the beginning of the year. For details, please refer to “VII. Note (XVII) to Items in the Consolidated Financial Statements” of Section XI Financial Report in this report.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

1. Material equity investment

Applicable Not applicable

2. Material non-equity investment

Applicable Not applicable

3. Financial assets measured at fair value

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Changes in fair value for the period	Accumulated changes in fair value recognized in equity	Impairment accrued for the period	Other changes (increase/decrease) for the period	Closing balance
Financial assets						
1. Other equity instrument investments	1,124,819,159.20	-	-	-	-	1,124,819,159.20
Including: non-listed equity investments	1,124,819,159.20	-	-	-	-	1,124,819,159.20
2. Receivables for financing	2,142,993,114.00	-	-	-	-1,094,027,342.15	1,048,965,771.85
Subtotal	<u>3,267,812,273.20</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-1,094,027,342.15</u>	<u>2,173,784,931.05</u>

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

4. *Details about the progress of significant asset restructuring and integration during the Reporting Period*

Applicable Not applicable

(VI) Disposal of significant assets and equity interest

Applicable Not applicable

(VII) Analysis of major companies controlled and invested by the Company

Applicable Not applicable

For details, please refer to “VII. Note (XVII) to Items in the Consolidated Financial Statements” and “IX. Interests in Other Entities” of Section XI Financial Report in this report.

(VIII) Status of the structured entity controlled by the Company

Applicable Not applicable

(IX) Use of proceeds raised from H shares

The proceeds raised from H shares amounted to approximately RMB9,104 million. As of 31 December 2022, a total of RMB8,536 million of proceeds raised from H shares have been used, of which RMB2,731 million was used in long-term research and development, including the construction of the CRSC Railway Transportation Research Center and technology research projects; RMB1,821 million was used in the fixed asset investments, including the technical overhaul of CRSC Xi'xin production base, the Company's subsidiary, and Changsha Industrial Park; RMB108 million was used in general equity acquisition; RMB1,253 million was used in investment of Tianshui Tramcar project and other PPP projects related to railway transportation; and RMB2,623 million was used to supplement working capital (On 12 June 2020, the Company convened the general meeting and considered and approved the Resolution on Change in the Use of Proceeds Raised from H Shares, according to which the Company intends to change the portion of the proceeds of RMB1,713 million allocated for general domestic and overseas acquisition to general domestic and overseas purposes (supplementing working capital)). The Company confirms that, apart from RMB1,713 million allocated for general domestic and overseas acquisition, the proposed usage plan of the aforesaid proceeds is consistent with the use of proceeds as disclosed in the prospectus.

Apart from the aforesaid use of funds, as of 31 December 2022, the Company's remaining proceeds raised from H shares amounting to RMB568 million have not been used (PPP projects related to railway transportation), and are expected to be used up in the coming two years. The intended usage of the aforesaid proceeds is consistent with the use of proceeds as disclosed in the prospectus.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

VI. DISCUSSION AND ANALYSIS OVER THE FUTURE DEVELOPMENT OF THE COMPANY

(I) Industry landscape and trends

Applicable Not applicable

Internationally, there are widespread problems in terms of technical standards and product certification in overseas markets, and recognition of Chinese standards varies in different regions, which hinder Chinese standards from going global and to some extent dominate the competitive landscape of the industry. First, out of regional protection which is inevitable, overseas countries have different rail transit control systems, standards and railway management measures. Second, most overseas owners are used to European and American standards for long and still have doubts about Chinese standards. Third, there are many kinds of safety certification for products in most overseas rail transit control system markets so that most domestic products need to be re-certified before entering the market, which increases time cost. Fourth, due to increasing problems in overseas rail transit control, many countries impose stringent requirements on the construction experience and professional qualification of bidders, making market development even harder.

However, the impact of the above-mentioned factors on large international enterprises such as Siemens and Alstom, which have long been committed to the international market, is relatively small, and in general, the gradual integration of enterprises competing in the field of rail transportation control system across the globe points to a trend of dominance by the oligarchs; domestic industry peers or leading general contractors have been involved in the field of signal & communication, which will lead to a more intense competition landscape; and the intensified strategic competition between the U.S. and China has exerted a great impact on Chinese enterprises' entry into the European and American markets.

On the domestic front, first, due to the overall slowdown in railway infrastructure investment, railway enterprises must make every effort to increase their share in market segments they have operated or expand presence to other segments to take market share from other external enterprises, and only in this way can they ensure a steady increase in the overall number of projects undertaken on the market, which will inevitably lead to intensified competition. Second, with the promotion of "one company in one province" system reform by CNRG and provincial governments, provincial and municipal governments are increasing investment in high-speed railways and intercity railways, the owner unit is being reorganized on a large scale, and multiple parties compete with each other in respect of project construction and operation leadership, which will add complexity to market operation in the future. Third, large infrastructure projects biddings have begun to require overall and total package for all the professional fields, which sets higher requirements for the comprehensive strength of bidding enterprises and entails constant enhancement in the all-round industry capabilities of enterprises. Fourth, with a high value-added value, the rail transportation control system sector attracts the attention from rail transit enterprises, and the existing players are not willing to lag behind, so the market competition will become more intense in the coming period.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

From a comprehensive point of view, the overall competition pattern of the rail transit industry will not change greatly in the short term. Subject to the qualification, performance and other threshold restrictions, in the area of “Four Electric Systems” integration in passenger train-dedicated high-speed railway, CRSC will mainly compete with China Railway Electrification Bureau, China Railway Wuhan Electrification Bureau and China Railway Construction Electrification Bureau, followed by other five or six subsidiaries under CREC and CRCC. The future market competition is expected to be more complicated, which will impose higher requirement for the overall market management ability and level of the enterprises. In the field of railroad core control system, China Academy of Railway Sciences continues to develop the market under the policy support of CNRG, and enterprises such as HollySys and Jiaoda Microunion remain competitive in subdominant products, but in the foreseeable period of time, CRSC will secure its leadership on the market. In the field of urban rail control system, although some enterprises try to make a breakthrough, according to the overall market performance in recent years, the market remained dominated by the leading enterprises. It is expected that enterprises such as Traffic Control Technology and INSIGMA will continue to challenge the leading position of CRSC, and the market share of each enterprise may fluctuate to some extent.

(II) Development strategies of the Company

Applicable Not applicable

As a leading integrated rail transportation control system solution provider in the world, for the purpose of continuously consolidating and strengthening our leadership in the global market, in view of the development trend in the industry and the Company’s abundant resources, and based on the strategic orientation of “holding fast to the main responsibility, leading by innovation, highlighting core business, and synergizing with diversification,” the Company will implement the business strategy of “six cores, one body and two wings,” develop six core businesses including “signal (control) system, information communication, power electrification, general project contracting, investment and operation, and intelligent manufacturing,” give play to the advantage of the whole industrial chain integration on “design and R&D, equipment manufacturing, and engineering installation,” strengthen the operation of international and domestic markets, establish a “rail transportation + N” industrial pattern, so as to build an industry group featuring rail transportation, world-leading system technology and world-class comprehensive strength.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(III) Business plans

Applicable Not applicable

In 2023, CRSC will make continued efforts to seek progress while maintaining stability. The Company will pursue synergistic coordination in strategies, targets, factors and tasks along the high-end development route and focus on ensuring stable growth, optimizing the industrial system, making breakthrough in scientific and technological innovation, enhancing safety and quality, deepening reform, improving corporate governance and guarding against development risks, make efforts in consolidating the foundation, improving weak links and making full use of advantages, constantly strengthen, optimize, expand and cultivate its brand portfolio to drive higher-quality development. The Company will make every effort to complete all the operation targets in 2023 and put into practice the value preservation and appreciation of state-owned capital.

(IV) Others

Applicable Not applicable

VII. MATTERS THAT THE COMPANY FAILED TO DISCLOSE ACCORDING TO THE RULES AS THE RULES WERE NOT APPLICABLE OR STATE SECRETS OR TRADE SECRETS WERE INVOLVED OR FOR OTHER SPECIAL REASONS AND DESCRIPTIONS OF SUCH REASONS

Applicable Not applicable

VIII. OTHER DISCLOSURES

(I) Environmental Policies and Performance of the Company

Environmental policies and performance of the Company are set out in the section VI “Environmental and Social Responsibilities and Other Corporate Governance Matters” of this report.

Further details of the environmental policies and performance of the Company are set out in the “2022 Environmental, Social and Governance Report” published concurrently on the date of 2022 annual report of the Company.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(II) Compliance with Laws and Regulations

As the Group's main businesses are to provide specialized one-stop solution of design and integration, equipment manufacturing and system implementation services for rail transportation control systems to our customers, the Group is subject to relevant PRC policies, laws and regulations, including the Railway Law of the People's Republic of China 《中華人民共和國鐵路法》 and the Production Safety Law of the People's Republic of China 《中華人民共和國安全生產法》 and is under supervision of other government authorities. Such laws, regulations and policies mainly govern the operation and management of railway industry. In addition, all business operations of the Group are subject to the laws and regulations regarding quality, safety production, environmental protection, intellectual property and labor. Any violation of those laws and regulations may result in sanctions, including warnings, penalties and order to rectify, which may have an adverse impact on the Group's business operation and future development.

In addition, the Group is required to obtain and maintain valid permits, licenses, certificates and approvals from various governmental authorities or institutions under relevant laws and regulations for our businesses of design and integration, product manufacturing and system delivery services. The Group must comply with the restrictions and conditions imposed by various levels of governmental authorities to maintain the Group's permits, licenses, certificates and approvals. Should the Group fail to comply with any of the regulations or meet any of the conditions required for the maintenance of the Group's permits, licenses, certificates and approvals, such permits, licenses, certificates and approvals could be temporarily suspended or even revoked, or the renewal thereof, upon expiry of their original terms, may be delayed or rejected, which could materially and adversely impact our Group's business, financial condition and results of operations.

As a company incorporated in the PRC with limited liabilities and listed on Hong Kong Stock Exchange and Science and Technology Innovation Board of SSE, the Company is governed by various applicable domestic laws and regulations including Company Law, the Production Safety Law of the People's Republic of China 《中華人民共和國安全生產法》 and the Management Guideline on Comprehensive Risk of Central Enterprises 《中央企業全面風險管理指引》 promulgated by the SASAC, as well as the Listing Rules of the Hong Kong Stock Exchange and SSE and other securities regulatory rules.

The Group has implemented internal control measures to ensure its compliance with such laws and regulations. Based on a comprehensive review of the business performance of the Group, the Board is of the view that the Group has been in compliance with the requirements of relevant laws and regulations in all material respects.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(III) Performance and Distribution

The performance of the Group for the year ended 31 December 2022 and the financial position of the Group as at 31 December 2022 are set out in the section XI “Financial Report” of this report.

The implementation of cash dividend policy of the Company during the Reporting Period is set out in the section V “Corporate Governance” of this report.

(IV) Distribution Plan and Policy of Dividend

The Company’s distribution plan and policy of dividend is set out in the section V “Corporate Governance” of this report.

(V) Issued Share Capital

As of 31 December 2022, the total share capital of the Company was RMB10,589,819,000, divided into 10,589,819,000 shares with a nominal value of RMB1.00 each. Details of the change of the share capital of the Company during the Reporting Period are set out in the note VII. (LIII) of the section XI “Financial Report” in this report.

(VI) Repurchase, Sale or Redemption of Listed Securities of the Company

During the Reporting Period, neither the Company nor any of its subsidiary repurchased, sold or redeemed any of the listed securities of the Company under the Listing Rules of the Hong Kong Stock Exchange.

(VII) Property, Plant and Equipment

Details of property, plant and equipment of the Group for 2022 are set out in the note VII. (XXI) of the section XI “Financial Report” in this report.

At the end of the Reporting Period, the Group had no investment properties or properties held for development and/or sale with one or more of the percentage ratios (as defined under Rule 14.04 (9) of the Listing Rules of the Hong Kong Stock Exchange) exceeding 5%.

(VIII) Taxation

Details of the taxation of the Group for 2022 are set out in note VI of the section XI “Financial Report” in this report.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(IX) Events After the Balance Sheet Date

Details of the events after the balance sheet date of the Group are set out in the note XV of the section XI “Financial Report” in this report.

(X) Capital Reserve, Surplus Reserve and Special Reserve

Details of the capital reserve, surplus reserve and special reserve of the Group for 2022 are set out in the note VII. (LV), (LIX), (LVIII) of the section XI “Financial Report” in this report.

(XI) Distributable Reserve

The distributable reserve of the Company as of 31 December 2022 is set out in the note VII. (LX) of the section XI “Financial Report” in this report.

(XII) Staff

Staff is the key for the Group’s sustainable development. Details of the staff of the Group are set out in the section V “Corporate Governance” of this report.

(XIII) Bank and Other Borrowings

Details of the bank and other borrowings of the Group as of 31 December 2022 are set out in the note VII. (XXXII), (XLV) of the section XI “Financial Report” in this report.

(XIV) External Donations

In 2022, the Company donated a total of RMB595,000.00 to various organizations including local charities and governments of impoverished counties.

(XV) Directors, Supervisors and Senior Management

The information on the Directors, Supervisors and Senior Management of the Company is set out in the section V “Corporate Governance” of this report.

(XVI) Changes in Directors, Supervisors and Senior Management

Changes in the Directors, Supervisors and Senior Management of the Company are set out in the section V “Corporate Governance” of this report.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(XVII) Service Contracts of Directors and Supervisors

Each of the Directors and Supervisors has entered into a service contract with the Company, the principal particulars of which comprise: (1) the term is from the date of appointment and until the date of the expiration of the incumbent Board/the incumbent Supervisory Committee; and (2) it could be terminated in accordance with their respective terms.

Save as disclosed above, none of the Directors or Supervisors has entered into or intends to enter into a service contract with any member of the Group (other than contracts expiring or determinable by the relevant employer within one year without payment of compensation (other than statutory compensation)).

Save as service contracts, there were no any management and administration contracts in relation to the whole or any significant part of the business signed or existed.

(XVIII) Remuneration of Directors, Supervisors and Senior Management

Remuneration of the Directors and Supervisors are paid in the form of fees, salaries, pension-defined contribution, discretionary bonuses, housing allowances and other allowances and benefits in kind.

Details of the Directors, Supervisors and five highest paid individuals of the Company are set out in the note XII. (V) of the section XI “Financial Report” in this report.

During the Reporting Period, the remuneration scale of the Senior Management members (except for Dr. NGAI Wai Fung, one of the joint company secretaries of the Company, who serves as the director of SWCS Corporate Services Group (Hong Kong) Limited and Chief Executive Officer of the Group) whose biographical details are set out in this report is disclosed in the section V “Corporate Governance” of this report.

(XIX) Interests of Directors and Supervisors in Transactions, Arrangements or Contracts

During the Reporting Period, the Group did not participate in, directly or indirectly, concluding transactions, arrangements or contracts of significance in which any Director or the Supervisor or any entity which he or she was related to was materially interested, and related to the businesses of the Company and were subsisting during or by the end of the year.

1. *Interests of Directors in Competing Businesses*

During the Reporting Period, save as disclosed in this report, none of the Directors or any of their respective associates had any competing interests in the businesses which, directly or indirectly, competed or were likely to compete with the Company.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

2. *Directors and Supervisors Serving in Competing Businesses*

The businesses of the Group are partially competing with those of CRSC Group. The Company's executive Directors, Mr. ZHOU Zhiliang, Mr. XU Zongxiang and Mr. ZHANG Quan, devote most of their time into the management of the Company's daily operations. The information about the Directors of the Company who held positions in CRSC Group is set out in the section V "Corporate Governance" of this report.

Save as disclosed in this report, none of the Directors, Supervisors or their respective associates had any interests in the businesses which competed or were likely to compete with the Group, or had any other conflict of interests with the Group. The Company further confirms that, save as disclosed above, as at the date of this report, members of the Senior Management of the Company have not involved in the daily operations of the businesses of CRSC Group which compete with the Group's businesses.

(XX) Directors', Supervisors' and the Company's Chief Executives' Interests and Short Positions in Shares, Underlying Shares and Debentures of the Company and its Associated Corporations

As at 31 December 2022, none of the Directors, Supervisors or chief executives of the Company had any interests and/or short positions in the Shares, underlying Shares or debentures of the Company or its associated corporations (within the meaning of Part XV of the SFO) which will have to be notified to the Company and the Hong Kong Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the Securities and Futures Ordinance (the "SFO") (including interests or short positions which he is taken or deemed to have under such provisions of the SFO) or which will be required, pursuant to Section 352 of the SFO, to be entered in the register referred to therein, or will be required, pursuant to the Model Code for Securities Transactions by Directors of Listed Issuers (the "Model Code") set out in Appendix 10 to the Listing Rules of the Hong Kong Stock Exchange, to be notified to the Company and the Hong Kong Stock Exchange.

(XXI) Directors' and Supervisors' Rights to Purchase Shares or Debentures

None of the Directors or Supervisors or any of their respective associates was granted by the Company or its subsidiaries any right to purchase the shares or debentures of the Company or any other corporate body, or had exercised any such right.

(XXII) Financial, Business and Family Relationships among Directors, Supervisors and Senior Management Members

As at the date of this report, there were no financial, business or family relationships among the Directors, Supervisors and Senior Management members of the Company.

(XXIII) Directors' Insurance

As at the date of this report, the Company maintained effective directors' insurance for the Directors of the Company.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(XXIV) Interests and Short Positions of Substantial Shareholders in Shares and Underlying Shares

The shareholdings of substantial shareholders in the Company are set out in the section VIII “Changes in Shares and Particulars of Shareholders – (VI) Interests and short positions of substantial shareholders in shares and underlying shares of the Company” of this report.

(XXV) Arrangements for Share Pre-Emptive Right and Share Option Scheme

In 2022, the Company did not have any share pre-emptive right and share option scheme, as there are no specific provisions under the PRC laws or the Articles of Associations of the Company regarding share pre-emptive right.

(XXVI) Public Float

As of the date of this report, according to the information publicly available to the Company, and to the knowledge of the Directors of the Company, the Company has sufficient public float to meet the minimum requirement for public float under Rule 8.08 of the Listing Rules of the Hong Kong Stock Exchange.

(XXVII) Connected Transactions

The connected transactions of the Company are set out in the section VII “Significant Events” of this report.

(XXVIII) Related Party Transactions

The Group entered into certain transactions with the relevant parties considered to be “related parties” pursuant to applicable accounting standards during the Reporting Period. Details of the related party transactions entered into by the Group during the Reporting Period are disclosed in the note 12 to the Financial Report. Save as those disclosed in this report, the related parties transactions disclosed in the note 12 were either not considered to be connected transactions as defined by the Listing Rules of the Hong Kong Stock Exchange or be exempted from the reporting, announcement and shareholders’ approval requirements pursuant to the Listing Rules of the Hong Kong Stock Exchange, of which the matters constituting connected transactions under Chapter 14A of the Listing Rules of the Hong Kong Stock Exchange complied with the disclosure requirements under Chapter 14A of the Listing Rules of the Hong Kong Stock Exchange.

(XXIX) Non-Exempt Connected Transactions

Save as those disclosed in this report, there were no other non-exempt connected transactions as defined by the Listing Rules of the Hong Kong Stock Exchange entered into by the Company with its connected persons during the Reporting Period.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(XXX) Audit and Risk Management Committee

The Audit and Risk Management Committee of the Company has reviewed the annual results and the annual report of the Company for 2022 as well as the audited consolidated financial statements for the year ended 31 December 2022 of the Group.

(XXXI) Accounting Policies

Changes to the accounting policies of the Company are set out in the section VII “Significant Events” of this report.

(XXXII) Auditors

Pursuant to the requirements under the Circular on the Issues Relating to Accounting Firms Undertaking Audit of Final Financial Accounts of Central State-Owned Enterprises (Cai Kuai [2011] No. 24) (《關於會計師事務所承擔中央企業財務決算審計有關問題的通知》(財會[2011]24 號)) (the “Circular”) issued by the Ministry of Finance of the People’s Republic of China and the State-owned Assets Supervision and Administration Commission of the State Council, the term of audit services provided by Ernst & Young Hua Ming LLP (安永華明會計師事務所(特殊普通合夥)) and Baker Tilly China Certified Public Accountants LLP (天職國際會計師事務所(特殊普通合夥)) for the Company has reached the longest consecutive audit period specified in the Circular. The Company must change the external audit service institutions in 2022. In March 2022, the Board proposed to engage BDO China Shu Lun Pan Certified Public Accountants LLP as the external auditor of the Company for 2022 with a term of one year.

On 10 June 2022, the Company held the 2021 annual general meeting, at which the Resolution on Appointment of Auditor for 2022 was considered and approved, and decided to engage BDO China Shu Lun Pan Certified Public Accountants LLP as the financial auditor of the Company for 2022.

In 23 March 2023, the Board proposed to reappoint BDO China Shu Lun Pan Certified Public Accountants LLP as the external auditor of the Company for 2023, and the term of the appointment was proposed to be effective upon conclusion of the Company’s 2022 annual general meeting and until the conclusion of the Company’s 2023 annual general meeting. The above proposal is subject to the approval at the Company’s 2022 annual general meeting.

The Company has not changed auditor for the past three years, except for the aforementioned change of auditor at the 2021 annual general meeting on 10 June 2022.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

(XXXIII) Pension Schemes

Post-employment benefits

The post-employment benefit plans are classified into defined contribution plans and defined benefit plans. Defined contribution plans are post-employment benefit plans under which the Group pays fixed contributions into a separate fund and will have no legal or constructive obligation to pay further contributions; defined benefit plans are post-employment benefit plans other than defined contribution plans. For defined contribution plans, the Group pays contributions to basic pension insurance, enterprise annuity and unemployment insurance for the employees during the Reporting Period, while defined benefit plans are mainly supplementary retirement benefits.

1. *Basic pension insurance*

Pursuant to the relevant laws and regulations in the PRC, the Group has participated in basic pension insurance for the employees arranged by local labour and social security authorities.

The Group makes contributions to the pension insurance at the applicable rates based on the amounts stipulated by the local government organisations. The contributions are charged to the profit or loss on an accrual basis. When employees retire, the local labour and social security authorities are responsible for the payment of the basic pension benefits to the retired employees.

2. *Enterprise annuity*

In addition to these basic social pension plans, the employees of the Group joined in the Enterprise Annuity Plan of China Railway Signal & Communication Corporation Limited (the “Annuity Plan”) established by the Group according to the state enterprise annuity system. The Group contributes to the Annuity Plan based on certain percentages of the employees’ gross salaries, which are expensed in profit or loss when the contributions are made.

SECTION IV MANAGEMENT DISCUSSION AND ANALYSIS AND REPORT OF THE DIRECTORS

3. *Supplementary retirement benefits*

The Group pays supplementary retirement benefits for its employees in Mainland China who retired on or before 31 December 2012 in addition to the contributions made to statutory insurance plans. Such supplementary retirement benefits are defined benefit plans.

The Group's obligations in respect of supplementary retirement benefits are calculated by estimating the amount of obligations that the Group is committed to paying to the employees after their retirement using actuarial techniques.

At the end of each Reporting Period, such obligations are discounted with interest yield of government bonds with similar duration. The service cost and net interest from the supplementary retirement benefits are recognised in profit or loss, and the remeasurements are recognised in other comprehensive income.

Pursuant to the requirements of accounting standards, the Group carries out actuarial evaluation for its defined benefit plans and makes provision for liabilities. However, no planned asset has been established for the defined benefit plans, and there is no funding as at 31 December 2022.

By order of the Board
China Railway Signal & Communication Corporation Limited
ZHOU Zhiliang
Chairman

SECTION V CORPORATE GOVERNANCE

I. RELEVANT EXPLANATIONS ON CORPORATE GOVERNANCE

Applicable Not applicable

During the Reporting Period, the Company strictly adhered to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, firmly implemented the new development concept, thoroughly implemented the spirit of documents such as the Opinions of the State Council on Further Improving the Quality of Listed Companies, strictly complied with the laws and regulations including the Company Law, the Securities Law and the Code of Corporate Governance for Listed Companies, and the provisions of Shanghai Stock Exchange, The Stock Exchange of Hong Kong, and built a modern corporate governance structure with “the general meeting, the Board, the Supervisory Committee and senior management” as the mainstay. All governance entities performed their respective powers and functions and operated in a standardized, coordinated and effective manner, and Directors, Supervisors and senior management performed their duties diligently and faithfully in accordance with the laws, thus the corporate governance standard was improved further.

The Company has adopted the Corporate Governance Code as its corporate governance code. During the Reporting Period, the Company has complied with all applicable code provisions as set out in the Corporate Governance Code and, where applicable, adopted recommended best practices.

Whether there is any significant difference between corporate governance and laws, administrative regulations and relevant requirements of the CSRC on listed company governance; if there is a significant difference, the reasons shall be explained

Applicable Not applicable

II. EXPLANATION OF THE COMPANY ON LOSING INDEPENDENCE OR INDEPENDENT MANAGEMENT ABILITY WITH RESPECT TO BUSINESS, PERSONNEL, ASSETS, INSTITUTIONS, FINANCE, ETC. WITH ITS CONTROLLING SHAREHOLDERS

Applicable Not applicable

The controlling shareholders, actual controllers and other entities under their control are engaged in the same or similar business as the Company, as well as the impact of horizontal competition or major changes in horizontal competition on the Company, the resolution measures that have been taken, the progress of the resolution and the follow-up resolution plan

Applicable Not applicable

The controlling shareholders, actual controllers and other entities under their control are engaged in horizontal competition that has a significant adverse impact on the Company

Applicable Not applicable

SECTION V CORPORATE GOVERNANCE

III. BRIEF INTRODUCTION TO SHAREHOLDER'S GENERAL MEETINGS

Name of meeting	Time of meeting	Index of website designated for publication of the resolutions	Disclosure date of the publication of the resolutions	Resolutions
2022 First Extraordinary General Meeting	25 February 2022	www.sse.com.cn www.hkexnews.hk	25 February 2022	<ol style="list-style-type: none"> 1. The resolution on the appointment of Non-independent Directors of the fourth session of the Board of Directors of the Company was considered and approved at the meeting; 2. The resolution on the appointment of Independent Directors of the fourth session of the Board of Directors of the Company was considered and approved at the meeting; 3. The resolution on the appointment of Shareholder Representative Supervisors of the fourth session of the Supervisory Committee of the Company was considered and approved at the meeting;
2021 Annual General Meeting	10 June 2022	www.sse.com.cn www.hkexnews.hk	10 June 2022	<ol style="list-style-type: none"> 1. The resolution on Report of the Board of Directors for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 2. The resolution on Report of the Supervisory Committee for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 3. The resolution on Annual Report for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 4. The resolution on Final Account Report for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 5. The resolution on Profit Distribution Plan for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 6. The resolution on the appointment of auditors for 2022 was considered and approved at the meeting; 7. The resolution on remuneration of Directors and Supervisors of the Company for 2021 was considered and approved at the meeting; 8. The resolution on Authorization to Deal with Matters regarding the Purchase of Liability Insurance of Directors, Supervisors and Senior Management of the Company was considered and approved at the meeting; 9. The resolution on General Mandate to Issue Debt Financing Instruments was considered and approved at the meeting;
2022 Second Extraordinary General Meeting	29 August 2022	www.sse.com.cn www.hkexnews.hk	29 August 2022	<ol style="list-style-type: none"> 1. The resolution on the appointment of Mr. ZHANG Quan as an executive Director of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting;

SECTION V CORPORATE GOVERNANCE

Shareholders of preference shares with restored voting rights request convening extraordinary general meetings

Applicable Not applicable

Explanation on the General Meetings

Applicable Not applicable

1. On 25 February 2022, the Company held the 2022 first extraordinary general meeting by way of on-site meeting. For details, please refer to the Announcement on Resolutions of the 2022 First Extraordinary General Meeting of China Railway Signal & Communication Corporation Limited dated 25 February 2022.
2. On 10 June 2022, the Company held the 2021 Annual General Meeting by way of on-site meeting. For details, please refer to the Announcement on Resolutions of 2021 Annual General Meeting of China Railway Signal & Communication Corporation Limited dated 10 June 2022.
3. On 29 August 2022, the Company held the 2022 second extraordinary general meeting by way of on-site meeting. For details, please refer to the Announcement on Resolutions of the 2022 Second Extraordinary General Meeting of China Railway Signal & Communication Corporation Limited dated 29 August 2022.

For other policies and arrangements relating to investor relations, please refer to Section VI “Environmental and Social Responsibilities and Other Corporate Governance Matters – IV. Other Corporate Governance – (II) Investor Relationships and Protection” in this annual report.

IV. SHAREHOLDERS’ RIGHTS

To safeguard shareholders’ interests and rights, the Company will propose a separate resolution for each substantially separate issue at general meetings, including the election of individual Directors.

All resolutions put forward at general meetings will be voted on by poll pursuant to the Rules Governing the Listing of Securities on the Hong Kong Stock Exchange and poll results will be posted on the websites of the Company and the Hong Kong Stock Exchange after each general meeting.

Shareholders who intend to put forward their enquiries to the Board could send their enquiries to the Company’s headquarters in the PRC (at 20/F, CRSC Building A, 1 Compound, Automobile Museum South Road, Fengtai District, Beijing, PRC) or by email to ir@crsc.cn. H shareholders may contact Computershare Hong Kong Investor Services Limited, the H Share Registrar of the Company, if they have any enquiries about their shareholdings and entitlements to dividend.

SECTION V CORPORATE GOVERNANCE

1. Convening of Extraordinary General Meeting on Requisition by Shareholders

According to the Articles of Association of the Company, where shareholders request to hold an extraordinary general meeting or class meeting, the following procedures shall be followed:

- (I) Shareholders who individually or jointly hold 10% or more of the voting Shares at the proposed meeting may make a proposal to the Board on holding an extraordinary general meeting or class meeting by signing one or several written requests with same contents in the same format and define the meeting topic. The above shareholders shall guarantee that the contents of the proposal shall be in compliance with the laws, regulations and the Articles of Association of the Company. The Board shall convene such meeting as soon as possible upon receipt of the aforesaid written request. The aforesaid number of shares shall be calculated as of the close of the date on which such Shareholders request to convene the meeting in writing or, if it falls on a non-trading date, the prior trading date on which such shareholders request to convene the meeting in writing;
- (II) If the Board is unable to or fails to perform its duty of convening an extraordinary general meeting or class meeting, the Supervisory Committee shall convene and preside over such meeting in a timely manner; if the Supervisory Committee cannot convene and preside over such meeting, shareholders who individually or jointly hold more than 10% of the Company's shares for more than 90 consecutive days may independently convene and preside over such meeting.

2. Putting Forward Proposals at General Meetings

According to the Articles of Association of the Company, in the event the Company convenes a general meeting, the Board, the Supervisory Committee and shareholders individually or jointly holding more than 3% of the Company's shares are entitled to submit proposals in writing to the Company. Shareholders individually or jointly holding more than 3% of the Company's shares may submit ad hoc proposals to the convener in writing ten days prior to the general meeting. The convener shall issue a supplementary notice of the general meeting and announce the content of such ad hoc proposals within two days after receipt thereof. Except as provided above, the convener shall not amend the proposals set out in the notice of the general meeting or add any new proposals subsequent to the issue of the notice of the general meeting. The general meeting shall not carry out the voting and adopt resolutions on the proposals that are not stated in the notice of the general meeting or fail to meet the requirements under Article 76 of the Articles of Association of the Company.

SECTION V CORPORATE GOVERNANCE

3. Communication with Shareholders and Investors/Investors Relations

The Company considers effective communication with shareholders essential for enhancing investor relations and investors' understanding of the Group's business performance and strategies. The Company also fully recognises the importance of transparency and timely disclosure of corporate information, which will enable shareholders and investors to make the best investment decisions. General meetings of the Company provide a forum for face-to-face communication between the Board and the shareholders. The chairman of the Board as well as chairmen of the Nomination Committee, the Remuneration and Evaluation Committee and the Audit and Risk Management Committee or, in their absence, other members of the respective committees and, where applicable, the chairman of the independent Board committee, are available to answer questions at general meetings.

To promote effective communication, the Company establishes its website and posts latest information and updates on the Company's business operations and developments, financial information, corporate governance practices and other information for public access. The Company has reviewed the above shareholders communication policy and its implementation during the year and believed that it was adequate and effective in the protection of investors.

For other policies and arrangements relating to investor relations, please refer to Section VI "Environmental and Social Responsibilities and Other Corporate Governance Matters – IV. Other Corporate Governance – (II) Investor relationships and protection" in this annual report.

V. IMPLEMENTATION AND CHANGES OF VOTING RIGHTS DIFFERENCE ARRANGEMENT DURING THE REPORTING PERIOD

Applicable Not applicable

VI. CORPORATE GOVERNANCE OF RED-CHIP STRUCTURE

Applicable Not applicable

SECTION V CORPORATE GOVERNANCE

VII. DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

(I) The Changes in Shareholding and Remunerations of Current and Resigned Directors, Supervisors, Senior Management and Core Technicians During the Reporting Period

✓ Applicable Not applicable

Unit: share

Name	Position (note)	Gender	Age	Start date of term of office	Termination date of term of office	Shareholding at the beginning of the Reporting Period	Shareholding at the end of the Reporting Period	Changes in shareholding during the Reporting Period	Reason for change	Total before-tax remuneration obtained from the Company during the Reporting Period (RMB0'000)	Whether to receive any remuneration from any related party of the Company
ZHOU Zhiliang	Executive Director, Chairman	Male	59	January 2012	February 2025	-	-	-	-	130.07	No
XU Zongxiang	Executive Director President	Male	60	February 2020 December 2019	February 2025	-	-	-	-	118.83	No
ZHANG Quan	Executive Director	Male	52	August 2022	February 2025	-	-	-	-	14.41	No
YANG Yongsheng	Executive Director (Resigned)	Male	54	August 2018	August 2022	-	-	-	-	86.07	No
YAO Guiqing	Independent Non-executive Director	Male	67	August 2018	February 2025	-	-	-	-	10.00	No
GUO Yonghong	Non-executive Director	Male	59	March 2021	February 2025	-	-	-	-	0.00	No
YAO Cho Fai Andrew	Independent Non-executive Director	Male	57	February 2022	February 2025	-	-	-	-	12.53	No

SECTION V CORPORATE GOVERNANCE

Name	Position (note)	Gender	Age	Start date of term of office	Termination date of term of office	Shareholding at the beginning of the Reporting Period	Shareholding at the end of the Reporting Period	Changes in shareholding during the Reporting Period	Reason for change	Total before-tax remuneration obtained from the Company during the Reporting Period (RMB'000)	Whether to receive any remuneration from any related party of the Company
FU Junyuan	Independent Non-executive Director	Male	61	February 2022	February 2025	-	-	-	-	5.00	No
CHEN Jin'en	Independent Non-executive Director (Resigned)	Male	68	May 2015	February 2022	-	-	-	-	3.00	No
CHAN Ka Keung Peter	Independent Non-executive Director (Resigned)	Male	71	August 2018	February 2022	-	-	-	-	6.27	No
KONG Ning	Chairman of the Supervisory Committee	Male	58	February 2020	February 2025	-	-	-	-	59.19	No
LI Tianan	Shareholder Representative Supervisor	Female	53	February 2020	February 2025	-	-	-	-	0.00	No
YANG Yang	Employee Representative Supervisor	Female	45	February 2022	February 2025	-	-	-	-	38.13	No
LI Lianqing	Chief Accountant Secretary to the Board and Joint Company Secretary	Male	54	June 2022 July 2022	-	-	-	-	-	21.62	No

SECTION V CORPORATE GOVERNANCE

Name	Position (note)	Gender	Age	Start date of term of office	Termination date of term of office	Shareholding at the beginning of the Reporting Period	Shareholding at the end of the Reporting Period	Changes in shareholding during the Reporting Period	Reason for change	Total before-tax remuneration obtained from the Company during the Reporting Period (RMB'0'000)	Whether to receive any remuneration from any related party of the Company
HU Shaofeng	Chief Accountant (Resigned)	Male	55	July 2016	April 2022	-	-	-	-	88.91	No
	Secretary to the Board and Joint Company Secretary (Resigned)			January 2022	April 2022	-	-	-	-		
ZHAO Xiaodong	Vice President	Male	48	December 2018		-	-	-	-	121.60	No
ZHANG Zhihui	Vice President	Male	47	December 2018		-	-	-	-	121.60	No
	Chief Engineer			October 2016		-	-	-	-		
WAN Baohua	Vice President	Male	49	May 2022		-	-	-	-	28.82	No
CHEN Shikui	Chief Compliance Officer	Male	51	October 2022		-	-	-	-	7.20	No
	Supervisor (Resigned)			August 2018	February 2022	-	-	-	-	2.40	No
HUANG Weizhong	Vice President (Resigned)	Male	57	April 2013	February 2023	-	-	-	-	108.21	No
QIU Wei	Board secretary and Joint Company Secretary (Resigned)	Female	49	October 2019	January 2022	-	-	-	-	0	No
FU Gang	Director of Safety	Male	42	July 2022		-	-	-	-	131.00	No
	Supervision and Management					-	-	-	-		
	Department of China Railway Signal & Communication Corporation Limited					-	-	-	-		

SECTION V CORPORATE GOVERNANCE

Name	Position (note)	Gender	Age	Start date of term of office	Termination date of term of office	Shareholding at the beginning of the Reporting Period	Shareholding at the end of the Reporting Period	Changes in shareholding during the Reporting Period	Reason for change	Total before-tax remuneration obtained from the Company during the Reporting Period (RMB0'000)	Whether to receive any remuneration from any related party of the Company
MA Lilian	Technical consultant of CRSC Research & Design Institute Group Co., Ltd. (CRSCD)	Female	56	April 2021	April 2023	-	-	-	-	-	No
JJANG Ming	Deputy Chief Engineer of CRSC Research & Design Institute Group Co., Ltd. (CRSCD)	Male	45	February 2017	-	-	-	-	-	115.40	No
LIU Zhen	Chief Engineer of the Basic Equipment Technology Research Institute of CRSC Research & Design Institute Group Co., Ltd. (CRSCD)	Male	42	June 2020	-	-	-	-	-	138.00	No

SECTION V CORPORATE GOVERNANCE

Name	Position (note)	Gender	Age	Start date of term of office	Termination date of term of office	Shareholding at the beginning of the Reporting Period	Shareholding at the end of the Reporting Period	Changes in shareholding during the Reporting Period	Reason for change	Total before-tax remuneration obtained from the Company during the Reporting Period (RMB'000)	Whether to receive any remuneration from any related party of the Company
LUO Jing	Chairwoman of CRSC Communication & Information Group Company Ltd. (通 訊 通 信 信 息 集 團 有 限 公 司) Director of Information Center of China Railway Signal & Communication Corporation Limited	Female	44	April 2020		-	-	-	-	99.75	No
DENG Hongyuan	Director, the Deputy General Manager and Chief Engineer of CRSC Urban Rail Transit Technology Co., Ltd	Male	48	May 2018		-	-	-	-	98.80	No
JIANG Jianhua	Vice President of Technology of CASCO Signal Ltd.	Male	56	January 2011		-	-	-	-	233.87	No
CUI Ke	Chief Engineer of the Research & Design Institute of CASCO Signal Ltd.	Male	52	January 2018		-	-	-	-	165.29	No

SECTION V CORPORATE GOVERNANCE

Name	Position (note)	Gender	Age	Start date of term of office	Termination date of term of office	Shareholding at the beginning of the Reporting Period	Shareholding at the end of the Reporting Period	Changes in shareholding during the Reporting Period	Reason for change	Total before-tax remuneration obtained from the Company during the Reporting Period (RMB0'000)	Whether to receive any remuneration from any related party of the Company
LI Hongyan	Product Manager of the R&D Center of CRSC Communication & Information Group Company Ltd.	Male	44	June 2020	-	-	-	-	-	49.45	No
WANG Xiangtao	Deputy General Manager of Technology of CRSC Railway Vehicles Co., Ltd.	Male	58	May 2015	-	-	-	-	-	33.74	No
	Director and Chief Engineer of CRSC Railway Vehicles Co., Ltd.			August 2020	-	-	-	-	-	-	-
Total	/	/	/	/	/	/	/	/	/	2,049.16	/

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Notes:

1. "Total before-tax remuneration obtained from the Company during the Reporting Period" is the total before-tax remuneration (including tenure incentive income for 2019-2021, but XU Zongxiang served for less than three years during his terms of office for 2019-2021, which was 26 months) obtained from the Company by the personnel in the table during their terms of office in 2022, excluding social insurance and annuities paid by the Company for individuals;
2. Mr. ZHANG Quan served as an executive Director from August 2022;
3. Mr. YANG Yongsheng ceased to serve as an executive Director from August 2022;
4. GUO Yonghong, a non-executive Director, did not receive remuneration and benefits from the Company;
5. Mr. CHAN Ka Keung Peter and Mr. CHEN Jin'en ceased to serve as independent non-executive Directors and Mr. YAO Cho Fai Andrew and Mr. FU Junyuan served as independent non-executive Directors from February 2022;
6. Mr. LI Lianqing served as the Chief Accountant from June 2022 and served as the Board Secretary and the Joint Company Secretary from July;
7. Mr. WAN Baohua served as the Vice President from May 2022;
8. Mr. CHEN Shikui served as the Chief Compliance Officer from October 2022;
9. Mr. HUANG Weizhong ceased to serve as the Vice President from February 2023;
11. Mr. HU Shaofeng ceased to serve as the Chief Accountant, the Board Secretary and the Joint Company Secretary from April 2022;
12. Due to the difference in year, remuneration and statistical calibre for staff, the remunerations of persons in charge of the enterprises in the above table are inconsistent with those disclosed in the official website of the Company. Investors should pay attention to this.

SECTION V CORPORATE GOVERNANCE

Name	Major working experience
ZHOU Zhiliang	<p>He has been an executive Director and chairman of the Company since January 2012 and is mainly responsible for overseeing the overall work of the Board. He has been the secretary of the Party Committee of the Company since June 2017. He has served as the chairman and the secretary of the Party Committee of China Railway Signal and Communication (Group) Corporation Limited since May 2017. From January 2012 to May 2017, he served as the general manager and the deputy secretary of the Party Committee of China Railway Signal and Communication (Group) Corporation Limited. Mr. ZHOU was a vice president and a member of the Standing Committee of the Party Committee of China Railway Construction Corporation Limited (listed on the Hong Kong Stock Exchange, stock code: 1186; listed on the SSE, stock code: 601186) from October 2007 to January 2012, during which Mr. ZHOU served as the chairman of China Railway Construction Investment Group Co., Ltd. (中國鐵建投資集團有限公司) from March 2011 to January 2012. From December 2004 to October 2007, Mr. ZHOU was a deputy general manager and a member of the Standing Committee of the Party Committee of China Railway Construction Corp. (中國鐵道建築總公司). From November 2001 to December 2004, Mr. ZHOU was the director and deputy secretary of the Party Committee of MOR No.4 Survey & Design Group Co., Ltd. (鐵道部第四勘察設計院). From January 2000 to November 2001, Mr. ZHOU served as the chairman of Labor Union of MOR No.4 Survey & Design Group Co., Ltd. From November 1996 to January 2000, Mr. ZHOU served as the director at No.2 Railway Survey and Design Department (第二勘測設計處) of MOR No.4 Survey & Design Group Co., Ltd.</p>
XU Zongxiang	<p>He has served as the president and executive Director of the Company since December 2019 and February 2020, respectively. He has served as the deputy Party secretary, director and general manager of China Railway Signal and Communication (Group) Corporation Limited since November 2019. Mr. XU successively held various positions in CRRC Corporation Limited (listed on the Hong Kong Stock Exchange, stock code: 1766; listed on the SSE, stock code: 601766) from October 2012 to November 2019, including as an executive director from June 2017 to November 2019 and a standing member of the Party Committee from May 2017 to November 2019, and a vice president and a standing member of the Party Committee of CSR Corporation Limited from October 2012 to May 2015. He served as the deputy head of Zhuzhou Electric Locomotive Works, the director and general manager, director and general manager and deputy Party secretary, executive director and general manager and deputy Party secretary of CRRC Zhuzhou Locomotive Co., Ltd., a standing member of the Party Committee of CSR Group, and a deputy general manager of CRRC Group Co., Ltd.</p>

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Name	Major working experience
ZHANG Quan	<p>He has been an executive Director of the Company since August 2022 and the deputy secretary of the Party committee and an employee representative director of China Railway Signal and Communication (Group) Corporation Limited since July 2022. He served as the deputy general manager of China Tower Corporation Limited (hereinafter referred to as “China Tower”, listed on the Hong Kong Stock Exchange, stock code: 0788) from January 2020 to July 2022; Party secretary and general manager of the Shandong Branch of China Tower from September 2016 to January 2020; and the general manager of the Shandong Branch of China Tower from August 2014 to September 2016. From February 2012 to August 2014, he served as the deputy general manager and a member of the Party committee of Yunnan Branch of China United Network Communications Corporation Limited. He served as general manager and Party secretary of Linyi Branch of China United Network Communications Corporation Limited (China Unicom merged with China Netcom) from November 2008 to February 2012. He successively served as director of the network operations and maintenance department of Shandong Branch and general manager and Party secretary of Linyi Branch of China Network Communications Group Corporation from June 2006 to November 2008. He successively served as the deputy director of the planning and construction department and deputy general manager of the radio communication department of Shandong Communications Company (山東省通信公司) from October 2002 to June 2006. He served as the deputy general manager, member of the Party committee and secretary of the discipline inspection commission of Weihai Branch of Shandong Telecommunications Company (山東省電信公司) from January 2001 to October 2002.</p>
YANG Yongsheng	<p>He served as an executive Director of the Company from August 2018 to August 2022. He has been an adjunct professor of China Business Executives Academy, Dalian since June 2018. He served an extramural tutor of the Executive Education of School of Economics Peking University since November 2017. He has been the deputy secretary of the Party Committee of China Railway Signal and Communication (Group) Corporation Limited from July 2017 to July 2022 and an employee representative director of China Railway Signal and Communication (Group) Corporation Limited since November 2017. Mr. YANG was successively the working group leader, provisional secretary of the Party Committee and the Chairman of China Urban and Rural Construction Group Ltd. (中國城鄉建設集團有限公司) from April 2017 to July 2017. From February 2016 to April 2017, Mr. YANG was the secretary of the Party Committee and vice chairman of China Road & Bridge Corporation. From December 2010 to February 2016, Mr. YANG successively held several positions in China Communications Construction Company Limited (listed on the Hong Kong Stock Exchange, stock code: 1800; listed on the SSE, stock code: 601800), including serving as the deputy director of the general office, the general manager of the human resources department, the head of the organizational department of the Party Committee, the executive vice president of the management college and the executive deputy principal of the party school, etc. Mr. YANG has been the vice director of the general manager department of Sinohydro Group Ltd. from March 2010 to December 2010. From July 1988 to July 2006, Mr. YANG successively held several positions in No. 5 Bureau of Sinohydro, including serving as the principal of the staff children secondary school, the director of the education department, the director of the human resources department, the head of the organizational department of the Party Committee, the director of the system reform office, vice director and the chief economist, etc.</p>

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Name	Major working experience
YAO Guiqing	<p>He has served as an independent non-executive Director of the Company since August 2018. He served as a director of China General Technology Group Co., Ltd. (中國通用技術集團有限公司) since November 2018. He successively held several positions in China Railway from February 1990 to March 2018, including office director of the Party Committee, deputy secretary of the Party Committee of Jianchang Engineering Bureau, vice chairman of Major Bridge Engineering, vice chairman of China Railway Sixth Bureau, chairman of China Railway Ninth Bureau, and deputy secretary of the Party Committee, general manager and vice chairman of China Railway Engineering Corporation. From September 2007 to March 2018, Mr. YAO served in several positions in China Railway Group Ltd. (listed on the Hong Kong Stock Exchange, stock code: 0390; listed on the Shanghai Stock Exchange, stock code: 601390), including serving as its vice president, deputy secretary of the Party Committee, chairman of the labor union, chairman of the supervisory committee and vice chairman; and he served as its executive director from August 2010 to March 2018. From December 1971 to February 1990, Mr. YAO served as the head of the organizational department of the committee of the Communist Youth League of China and the secretary to the committee of the Communist Youth League of China in Engineering No.3 Bureau of the Ministry of Railway (中國鐵道部第三工程局).</p>
GUO Yonghong	<p>He has been a non-executive Director since March 2021. He served as special external Director of Central Enterprises since August 2020. He has been a director of Dongfeng Motor Corporation since December 2020, and a director of China Automotive Technology and Research Center Co. Ltd. since January 2021. Mr. GUO Yonghong served as the secretary of the Party Committee, chairman, and general manager of China Mobile Tietong Company Limited from March 2018 to August 2020, during which he served as the chairman and general manager of China Tietong Telecommunications Corporation from May 2018 to August 2020. From November 2015 to March 2018, he served as the chairman, general manager and a member of the Party Committee of China Mobile Group Chongqing Co., Ltd., during which he served as the secretary of the Party Committee from January 2017, and concurrently served as an executive director (from February 2018) and the general manager of Chongqing Communication Services Company (重慶通信服務公司). From March 2008 to November 2015, he served as the chairman, general manager and a member of the Party Leadership Group of China Mobile Group Hubei Co., Ltd., during which he served as the secretary of the Party Leadership Group from March 2010 and the general manager of Hubei Communication Services Company from July 2011 to November 2015. From February 2007 to March 2008, he served as a director and the chief executive officer (CEO) of CMPak Limited. From July 2006 to June 2007, he served as the chairman, secretary of the Party Leadership Group and general manager of China Mobile Group Guizhou Co., Ltd., and from November 2000 to July 2006, he served as a director (from July 2001), deputy general manager and a member of the Party Leadership Group of Hebei Mobile Communication Company.</p>

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Name	Major working experience
YAO Cho Fai Andrew	<p>He has been an independent non-executive director of the Company since February 2022. He is currently the chairman and chief executive officer of Hong Kong Shanghai Alliance Holdings Limited, as well as the member of the National People's Congress. Since 1994, he has served in several positions in Hong Kong Shanghai Alliance Holdings Limited (listed on the Hong Kong Stock Exchange, stock code: 1001), including serving as executive director, chief executive officer, and chairman, as well as the chairman of the nomination committee, a member of the remuneration committee and director of some subsidiaries of Hong Kong Shanghai Alliance Holdings Limited. Since 2004, Mr. YAO has served as independent non-executive director of Kader Holdings Company Limited (listed on the Hong Kong Stock Exchange, stock code: 0180). From 2015 to 2020, he served as independent non-executive director of Shanghai Dazhong Public Utilities (Group) Co., Ltd. (listed on the Hong Kong Stock Exchange, stock code: 1635; listed on the Shanghai Stock Exchange, stock code: 600635). Mr. Yao's public services include being a member of the 12th, 13th and 14th National People's Congress of Hong Kong, chairman of Federation of Hong Kong-Shanghai Association, vice chairman of Shanghai Federation of Industry and Commerce, a member of the council of Fudan University, and chairman of the School Council of Lingnan University in Hong Kong.</p>
FU Junyuan	<p>He has been an independent non-executive Director of the Company since February 2022 and a director of China Information and Communication Technology Group Co., Ltd. since November 2021. He served as a member of the Standing Committee of the Party Committee and chief accountant in China Poly Group Corporation Ltd. from August 2018 to September 2021. From September 1996 to September 2018, he served in several positions in China Communications Construction Group Corporation Limited, including serving as interim member of the Party committee and chief accountant in China Communications Construction Group Corporation Limited from December 2005 to August 2006. From August 2006 to November 2006, he served as interim member of the Party committee and director in China Communications Construction Group Corporation Limited, during which he served as executive director and chief accountant in China Communications Construction Company Limited. (listed on the Hong Kong Stock Exchange, stock code: 1800; listed on the Shanghai Stock Exchange, stock code: 601800) from September 2006 to August 2018. From October 1998 to December 2005, he served as chief accountant in China Harbour Engineering Company (Group), during which he served as deputy chief accountant in China Harbour Engineering Company (Group) from September 1997 to October 1998. Prior to that, Mr. FU worked for more than ten years in the Department of Finance of the Ministry of Transport and the CNAO's Transportation Audit Office.</p>

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Name	Major working experience
CHEN Jin'en	<p>He has been an independent non-executive Director from May 2015 to February 2022 and has held the position of director at China National Building Material Group Co., Ltd. from August 2016 to January 2021. He has served as a director of State Grid Corporation of China from July 2015 to June 2021. Mr. CHEN has served as the independent non-executive director of Billion Industrial Holdings Limited (listed on the Hong Kong Stock Exchange, stock code: 2299) from September 2012 to March 2013. From March 2010 to August 2013, Mr. CHEN was the secretary of the Party Committee and vice chairman of China Energy Conservation and Environmental Protection Group (中國節能環保集團公司). From 2001 to March 2010, Mr. CHEN also served several positions in China Energy Conservation and Environmental Protection Investment Co., Ltd. (中國節能環保投資公司), including serving as its secretary of the Party Committee and deputy general manager from October 2004 to March 2010, its vice chairman from September 2001 to October 2004. From November 2000 to September 2001, Mr. CHEN was the head of the working department of the supervisory committee of Central Work Committee for Enterprises (中央企業工委). From August 1998 to November 2000, Mr. CHEN was the deputy director of General Administration Office of Special Inspector of Ministry of Personnel (人事部稽查特派員總署辦公室). From July 1988 to August 1998, Mr. CHEN served as a deputy director, director and assistant supervisor of the Department of Title of Ministry of Personnel (人事部職稱司).</p>
CHAN Ka Keung Peter	<p>He has served as an independent non-executive Director of the Company from August 2018 to February 2022. Mr. CHAN served as an independent non-executive director of MMG Limited (listed on the Hong Kong Stock Exchange, stock code: 1208) since December 2019. He was the independent non-executive director of Metallurgical Corporation of China Ltd. (listed on the Stock Exchange, stock code: 1618; listed on the SSE, stock code: 601618) from November 2014 to April 2020. He was the independent non-executive director of CRRC Corporation Limited (listed on the Hong Kong Stock Exchange, stock code: 1766; listed on the SSE, stock code: 601766) from May 2015 to May 2018. Mr. CHAN served as a senior assistant of the Audit Department, manager of the Tax Department and senior manager of China Service Department in Ernst & Young Hua Ming LLP and the chief financial officer of Dranseld Group. Mr. CHAN served as a Beijing based partner, a Beijing-based managing partner of Tax and Investment Advisory Service Department and a managing partner of the NPA Transaction Advisory Service Department of Ernst & Young Hua Ming LLP from January 1994 to December 2008. He served as a member of the executive committee of Hong Kong Chamber of Commerce in China, and served as the chairman of Hong Kong Chamber of Commerce in China in 2000 and 2003.</p>

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Name	Major working experience
KONG Ning	<p>He has served as a Supervisor of the Company since February 2020 and chairman of the Supervisory Committee since March 2020. He was a vice president of the Company from July 2016 to November 2019 and a member of the Standing Committee of the Party Committee of the Company from December 2010 to November 2019. He served as the Company's chief accountant from December 2010 to July 2016 and is mainly in charge of the financial work. Mr. KONG served as a member of the Standing Committee of the Party Committee of CRSC Group from December 2010 to November 2019. He served as the chief accountant of CRSC Group from November 2004 to May 2015. He served as the accountant in the finance department of China Huanqiu Contracting & Engineering Co. Ltd. (中國寰球工程公司) and the head of finance department and the chief accountant of the HQCEC (HB) (華北規劃設計院) from August 2001 to November 2004. He served as deputy chief of financial department of Anhui Medicament Joint Venture Company (安徽省醫藥聯合經營公司) (renamed as Anhui Hua Shi Medicament Co., Ltd. (安徽華氏醫藥有限公司)) from April 1996 to August 2001.</p>

SECTION V CORPORATE GOVERNANCE

Name	Major working experience
LI Tienan	<p>She served as a Supervisor of the Company from February 2020. Since December 2022, she has served as a director of Zhongxin Energy and Chemical Technology Company Limited (中新能化科技有限公司); since February 2022, she has served as the general manager and director of Guoxin Development Investment Management Company Limited (國新發展投資管理有限公司); since February 2022, she has been the general manager of the market coordination department of China Reform Holdings Corporation Ltd. (中國國新控股有限責任公司); since December 2021, she has been the deputy head of the preparatory group of Guoxin Asset Allocation Co., Ltd.; since March 2021, she has served as a director in Zhongjin Gold Corp., Ltd.; since December 2020, she has served as the legal representative, executive director, and general manager in Guoxin Shengkang Private Equity Fund Management (Beijing) Co., Ltd. (國新盛康私募基金管理(北京)有限公司); since November 2020, she has served as the supervisor of China Green Development and Investment Group Co., Ltd. (中國綠發投資集團有限公司). She has been a director of China Northern Industry Co., Ltd. (中國北方工業有限公司) since October 2019; a supervisor of China Tower Corporation Limited (中國鐵塔股份有限公司) since July 2019, and a director of Guoxin Ronghui Equity Investment Fund Management Co., Ltd. (國新融匯股權投資基金管理有限公司) since March 2019. From September 2020 to November 2022, she served as the general legal adviser of China Reform Asset Management Co., Ltd. (中國國新資產管理有限公司). From March 2019 to December 2021, she served as deputy general manager, general manager, and director in China Reform Asset Management Co., Ltd., during which she has served as a general manager in Capital Management Division of China Reform Holdings Corporation Ltd. from April 2021 to December 2021. Ms. LI served as an external director in China Culture Development Corporation Ltd. (中國文化產業發展集團有限公司) from March 2019 to November 2021. She served as a director of China Aviation Supplies Co., Ltd. (中國航空器材有限責任公司) from July 2019 to April 2021. Ms. LI served as a general manager of the legal department of CNIC Corporation Limited (國新國際投資有限公司) from September 2014 to March 2019, during which she also served as a general manager of the legal department of CNIC Consulting Corporation Limited (國新國際投資諮詢有限公司) from February 2017 to March 2019. Ms. LI served as a deputy general manager of the legal department of China Reform Holdings Corporation Ltd. (中國國新控股有限責任公司) from June 2011 to July 2014, during which she also served as a deputy general manager of the legal department of CNIC Corporation Limited (國新國際投資有限公司) from January 2013 to September 2014. Ms. LI served as a deputy general manager of the legal department of China National Coal Group Corp. (中國中煤能源集團有限公司) from April 2011 to June 2011, a general legal counsel and a director of the legal department of China Coal & Coke Holdings Ltd. (中煤焦化控股有限責任公司) from August 2003 to April 2011, a contract director of the legal department of China National Coal Group Corp. (中國中煤能源集團有限公司) from December 2002 to August 2003, a lawyer of Jinde Law Firm from December 1999 to December 2002. and a staff of Pre-trial Division of Shenyang Public Security Bureau (瀋陽市公安局預審處) of Liaoning Province from August 1992 to December 1999.</p>

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Name	Major working experience
YANG Yang	<p>She has served as an employee representative supervisor of the Company since February 2022. From August 2022 to date, she served deputy general manager of CRSC Group Finance Limited. From 2012 to July 2022, she has successively taken up several positions in China Railway Signal & Communication Corporation Limited., including accountant, finance director, director of engineering finance department, deputy director of audit department (in charge of the work), and deputy director of risk management center. From April 2012 to September 2012, she served as a finance manager in CRSC International Company Limited. (通號國際控股有限公司). From January 2000 to March 2012, she successively served as an accountant, an assistant accountant and the head of financial management department in China Railway Signal & Communication Corporation (中國鐵路通信信號集團公司). From October 1998 to January 2000, she worked as a trainee in China Railway Signal & Communication Company (中國鐵路通信信號總公司).</p>
LI Lianqing	<p>He has served as a member of the Standing Committee of the Party Committee and chief accountant of the Company since June 2022, secretary to the Board and joint company secretary of the Company since July 2022, and a member of the Standing Committee of the Party Committee of China Railway Signal and Communication (Group) Corporation Limited since May 2022. Mr. Li served as a member of the Party Committee and chief accountant of China Academy of Machinery Science and Technology Group Co., Ltd. (中國機械科學研究總院集團有限公司) from November 2017 to May 2022 and the chief accountant of Academy of Machinery Science and Technology (機械科學研究總院) from February 2017 to November 2017. From August 2012 to February 2017, he served as the group deputy chief accountant and director of the strategic development department of China Iron & Steel Research Institute Group (中國鋼研科技集團公司). From September 2007 to August 2012, he served as the group deputy chief accountant and director of the finance department of China Iron & Steel Research Institute Group. From January 1999 to September 2007, he successively served as the deputy director of the finance and economics department, the director of the finance and economics department, the person in charge of finance, the director of the planning and finance department, the chief financial officer, the assistant to the president, and a member of the Party Committee of Advanced Technology & Materials Co., Ltd. (安泰科技股份有限公司). From December 1998 to January 1999, he served as the deputy director of the finance and economics department of Central Iron & Steel Research Institute of the Ministry of Metallurgy (冶金部鋼鐵研究總院). From September 1993 to December 1998, he served as an accountant of Beijing Metallurgical Steel Economic and Technological Development Corporation (Asset Evaluation Center of the Ministry of Metallurgical Industry) (北京冶鋼經濟技術開發總公司(冶金工業部資產評估中心)). From July 1992 to September 1993, he successively served as assistant accountant and deputy director of the state-owned assets management office of Central Iron & Steel Research Institute of the Ministry of Metallurgical Industry (冶金工業部鋼鐵研究總院).</p>

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Name	Major working experience
HU Shaofeng	<p>He served as the chief accountant and a member of the Standing Committee of the Party Committee of the Company from July 2016 to April 2022. He served as the secretary to the Board and joint company secretary of the Company from January 2022 to April 2022 and from May 2013 to October 2019. He served as a member of the Standing Committee of the Party Committee of China Railway Signal and Communication (Group) Corporation Limited from June 2016 to April 2022. From November 2016 to April 2020, he served as the director and vice chairman of Guangdong Utrust Financial Leasing Co., Ltd. (廣東粵財金融租賃股份有限公司). Mr. HU served as the director of CRSC Innovation Investment Company Ltd from August 2012 to February 2016. He served as the Company's deputy chief accountant from July 2012 to July 2016. Mr. HU served as deputy general manager, chief accountant and general counsel of China Railway Construction Heavy Industry Co., Ltd. (中國鐵建重工集團有限公司) from December 2011 to July 2012. Mr. HU served as the chief accountant and a member of the Standing Committee of the Party Committee of China Railway Track Systems Group Co., Ltd. (中鐵軌道系統集團有限公司) from May 2007 to December 2011. Mr. HU served as deputy chief accountant of the MOR No.4 Survey & Design Group Co., Ltd. (鐵道部第四勘察設計院) from February 2004 to October 2006, as the director of financial department of the China Railway No. 4 Survey & Design Group Co., Ltd. from February 2004 to April 2005, as the assistant to director and deputy director of financial department of the China Railway No. 4 Survey & Design Group Co., Ltd. from February 2002 to February 2004.</p>
ZHAO Xiaodong	<p>He has served as a vice president of the Company since January 2019. He has been a member of the Standing Committee of the Party Committee of the Company since December 2018 and a member of the Standing Committee of the Party Committee of China Railway Signal and Communication (Group) Corporation Limited since December 2018. He has also served as the chairman of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. (CRSCD), a wholly-owned subsidiary of the Company, since April 2019. From October 2016 to December 2018, he served as an assistant to the president of the Company. From September 2015 to October 2016, he served several positions in CRSCD, including serving as a general manager, as director and as deputy secretary of the Party Committee. From November 2014 to September 2015, he held the positions of the deputy general manager and director at CRSCD, who is mainly in charge of the overall work of operation management. From July 2013 to November 2014, he served several positions in CRSCD, including serving as deputy general manager, as the dean of the Ground Control Research and Design Institute, the general manager of the System Integration Center and secretary of Party General Branch. From March 2012 to July 2013, he served as the dean of the Ground Control Research and Design Institute of CRSCD. From January 2011 to March 2012, he served as a director of CRSC Research & Design Institute Station, during which period, he also served as manager of Beijing Guotie Xintong Technology Development Co., Ltd. (北京國鐵信通科技發展有限公司).</p>

SECTION V CORPORATE GOVERNANCE

Name	Major working experience
HUANG Weizhong	He served as a vice president and a member of the Standing Committee of the Party Committee of the Company from April 2013 to February 2023. From November 2012 to September 2014, he served as the chairman of CRSCD, during which period, served as its secretary of the Party Committee. From November 2010 to November 2012, he served as the director and the general manager of CRSCD. From January 2004 to November 2010, he served as the vice president of CRSC Research & Design Institute. From December 1996 to January 2004, he served as the director of City Transport and Computer Application Research Institute of CRSCD.
ZHANG Zhihui	He has served as a vice president of the Company since January 2019 and served as a member of the Standing Committee of the Party Committee of the Company since December 2018. He has been a member of the Standing Committee of the Party Committee of China Railway Signal and Communication (Group) Corporation Limited since April 2022. Mr. ZHANG has been the chief engineer of the Company since October 2016. From November 2015 to October 2016, he served as the deputy chief engineer of the Company and the chief engineer of CRSCD. From March 2012 to November 2015, he served as the chief engineer and director of CRSCD. From June 2015 to November 2015, he also served as the dean of CRSCD Electrification Design Institute. From January 2005 to March 2012, he served as the director of CRSCD Signal Station.

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Name	Major working experience
WAN Baohua	<p>He has served as a vice president of the Company since May 2022 and a member of the Standing Committee of the Party Committee of China Railway Signal and Communication (Group) Corporation Limited since April 2022. From August 2021 to date, he has served as the general manager of the operation business department (marketing department, engineering department, international cooperation department, traffic readiness office) of China Railway Signal & Communication Corporation Limited (during which: he studied in the training class of young cadres of the Party School of the Central Committee of C.P.C from September to December 2021). He served as the secretary of the party committee and chairman of the board of directors of CRSC Engineering Group Company Ltd., the general manager of Tianjin Engineering Branch of China Railway Signal & Communication Corporation Limited (中國鐵路通信信號股份有限公司天津工程分公司), and the general manager of Beijing Engineering Branch of China Railway Signal & Communication Corporation Limited(中國鐵路通信信號股份有限公司北京工程分公司) from April 2020 to September 2021. He successively served as the deputy secretary of the party committee, director, general manager, secretary of the party committee and chairman of China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (during which: he participated in the special seminar on innovation and development of central enterprises at China Executive Leadership Academy Pudong in September 2017) from March 2016 to April 2020. He successively served as the deputy director of the electrification engineering department of China Railway Signal & Communication Corporation Limited and the deputy general manager of CRSC (Zhengzhou) Electrification Bureau Co., Ltd. from October 2014 to March 2016. He served as a senior engineer of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. from August 2014 to October 2014. He successively served as the deputy general manager, a member of the party committee, senior engineer, vice chairman, general manager, deputy secretary of the party committee and executive director (legal representative) of China Railway 25th Bureau Group Corporation Electric Engineering Co., Ltd. (中鐵二十五局集團電務工程有限公司) from July 2004 to August 2014. He successively served as assistant engineer, director and deputy manager of the communication technology department of Guangzhou Railway Changsha Electric Engineering Company (廣州鐵路長沙電務工程公司) from July 1995 to July 2004.</p>

SECTION V CORPORATE GOVERNANCE

Name	Major working experience
CHEN Shikui	<p>He has served as the Chief Compliance Officer of the Company since November 2022. He served the employee representative supervisor of the Company from August 2018 to February 2022. Since July 2020, he has been the director of risk management Center of the Company. He has been the head of the legal compliance department of the Company since July 2018. He has been a director of CRSC Construction Group Co., Ltd. (通號建設集團有限公司) since August 2016. He has served as the director of CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司) from February 2016 to October 2021. He has served as a supervisor of CRSC (Zhengzhou) Electrification Bureau Co., Ltd. (通號(鄭州)電氣化局有限公司) since May 2015. From November 2015 to July 2018, Mr. CHEN worked as the deputy head of the legal affairs department of the Company. From January 2010 to November 2015, Mr. CHEN served in several positions in Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd., including deputy general counsel, head of legal archives of the enterprise development and legal affairs department and head of enterprise development and legal affairs department. From August 2013 to November 2015, he was an assistant in the legal affairs department of the Company. From July 2007 to January 2010, he served as the assistant economist and economist of the eastern China region operation & command department of China Railway 22nd Bureau Group Co., Ltd. From May 1997 to July 2007, Mr. CHEN worked in the People's Court of Heze City, Shandong Province and the People's Court of Mudan District, Heze City, Shandong Province.</p>
QIU Wei	<p>She served as the secretary to the Board and joint company secretary of the Company from October 2019 to January 2022. She has served as a special external director of the Company since October 2021. She has served as a director of China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (中國鐵路通信信號上海工程局集團有限公司) and a director of CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司) since April 2020. She has served as the director of Guogai Shuangbai Development Fund Management Co., Ltd. (國改雙百發展基金管理有限公司) since July 2019. She has been the chairwoman of Supervisory Committee of CRSC Innovation Investment Co., Ltd. (通號創新投資有限公司) since February 2016. She has been the director of the development and planning department of the Company from September 2019 to February 2020. Ms. QIU served successively as the deputy director and director of the finance department of the Company from December 2012 to September 2019. Ms. QIU successively served as the head of the development and planning department and the head of the finance department of the Company from November 2008 to December 2012. She served as the manager of the finance department of Beijing Nera Stentofon Communication Equipment Co., Ltd. (北京挪拉斯坦特芬通信設備有限公司) from April 2003 to November 2008. Ms. QIU served as the audit supervisor of the supervision and audit department and an accountant of the funds settlement centre of China Railway Signal & Communication Corporation (中國鐵路通信信號集團公司, currently known as China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司) from February 2001 to April 2003. Ms. QIU served successively as an assistant accountant of the finance department and an auditor of the audit department of China Railway Signal & Communication Company (中國鐵路通信信號總公司) from August 1995 to February 2001.</p>

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Name	Major working experience
FU Gang	<p>He has served as the Director of the Safety Supervision and Management Department of the Company since July 2022. He served the deputy secretary of the Party Committee and a director of Beijing CRSC Research & Design Institute Group Co., Ltd. (CRSCD), a wholly-owned subsidiary of the Company from April 2020 to July 2022. He has served as the deputy secretary of the Party Committee (responsible for the work of the Party Committee), a director and the deputy general manager of CRSCD from April 2020 to September 2021. From July 2018 to April 2020, he served as a director, the deputy general manager and chief engineer of CRSCD. From February 2017 to July 2018, he served as assistant to general manager of CRSCD. He served as the senior engineer of CRSCD from January 2017 to February 2017; as the secretary to the General Party Branch and dean of the Signal & Communication Design Institute of CRSCD from May 2016 to January 2017; as the dean of the Signal & Communication Design Institute and the secretary to the General Party Branch of the Signal & Communication Institute of CRSC Research & Design Institute Group Co., Ltd. from July 2015 to May 2016; as the dean of the Signal & Communication Design Institute and the secretary to the General Party Branch of the Signal & Communication Institute of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. from October 2014 to July 2015; and as engineer, deputy director and director of the Technology Management Center, deputy dean, among other roles, of the Signal & Communication Design Institute of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. from March 2011 to October 2014.</p>
MA Lilan	<p>She has served as technical consultant of CRSC Research & Design Institute Group Co., Ltd., a wholly-owned subsidiary of the Company since April 2021. She served as deputy chief engineer of CRSC Research & Design Institute Group Co., Ltd., a wholly-owned subsidiary of the Company from July 2015 to April 2021. She served as the deputy chief engineer of CRSC Research & Design Institute Group Co., Ltd. from March 2012 to July 2015, during which she also served as, among other roles, the director of the Quality Center and the chief engineer of the Signal & Communication Institute; as the deputy chief engineer and director of General Engineer Office of the CRSC Research & Design Institute from June 2009 to March 2012; She served as a senior engineer, deputy director of the General Engineer Office, director of the Technology Department and director of the General Engineer Office of CRSC Research & Design Institute among other roles from December 1997 to June 2009.</p>

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Name	Major working experience
JIANG Ming	He has served as deputy chief engineer of CRSC Research & Design Institute Group Co., Ltd., a wholly-owned subsidiary of the Company, since February 2017. Mr. JIANG served as chief engineer of Security Control Institute of CRSC Research & Design Institute Group Co., Ltd. from May 2016 to November 2018; as chief engineer of Research Institute of CRSC Research & Design Institute Group Co., Ltd. from July 2015 to May 2016; as chief engineer of Research Institute of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. from March 2012 to July 2015; he served as the dean of Research Institute of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. from December 2012 to October 2013; as engineer, senior engineer, chief engineer and among other roles of the R & D Center of CRSC Research & Design Institute from August 2007 to March 2012.
LIU Zhen	He has been the dean of the Basic Equipment Technology Research Institute of CRSC Research & Design Institute Group Co., Ltd., a wholly-owned subsidiary of the Company, since June 2020. He served as the chief engineer of the Basic Equipment Technology Research Institute of CRSC Research & Design Institute Group Co., Ltd. from June 2017 to June 2020; as the senior engineer of CRSC Research & Design Institute Group Co., Ltd. from January 2017 to June 2017; as the deputy director of the Hardware Research Institute of Security Control Institute of CRSC Research & Design Institute Group Co., Ltd. from May 2016 to January 2017; as the deputy director of the Hardware Research Institute of Research Institute of CRSC Research & Design Institute Group Co., Ltd. from January 2016 to May 2016 and as senior engineer of CRSC Research & Design Institute Group Co., Ltd. from December 2012 to January 2016.

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Name	Major working experience
LUO Jing	<p>She has served as Party secretary and chairperson of CRSC Communication & Information Group Company Ltd., a wholly-owned subsidiary of the Company since April 2020 and the director of Information Center of the Company from February 2020 to November 2022. From April 2018 to July 2020, she has been the chairman and Party branch secretary of CRSC Institute of Smart City Research & Design Co., Ltd. Ms. LUO served as the vice chairperson and the head of Party organization of CRSC Institute of Smart City Research & Design Co., Ltd., and director of Information Center and deputy director of the office of the Company from August 2016 to April 2018. From January 2016 to August 2016, she served as the deputy dean (chair) of the Smart City Engineering Research Institute (Information Center) and the deputy director of office of the Company, during which from February 2016 to August 2016, she served as a director of CRSC Communication & Information Group Company Ltd., a wholly-owned subsidiary of the Company. From January 2015 to January 2016, she served as the director of Smart City Research & Application Center of CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司智慧城市研究應用中心). From January 2014 to January 2015, she served as the deputy chief engineer of CRSC Communication & Information Group Company Ltd., and the director of Smart City Research & Application Center. From July 2013 to January 2014, she served as the deputy general manager and chief engineer of CRSC Information Industry Co., Ltd. From July 2009 to July 2013, she served successively as an assistant researcher, an associate researcher of Human Resource Development Center of Ministry of Housing and Urban-Rural Development (住房和城鄉建設部人力資源開發中心), and an associate researcher of China Academy of Urban Planning & Design among other roles.</p>

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Name	Major working experience
DENG Hongyuan	Since May 2018, he has served as a director, the deputy general manager and chief engineer of CRSC Urban Rail Transit Technology Co., Ltd., a wholly-owned subsidiary of the Company. From January 2017 to May 2018, he served as the deputy general manager and chief engineer of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. From April 2016 to January 2017, he served as the deputy chief engineer of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd., during which he also served as the deputy general manager and chief engineer of Beijing Urban Transit Technology Co., Ltd. (北京通號國鐵城市軌道技術有限公司). From October 2014 to January 2015, he was the director of the Integration Center of Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. He served successively as the deputy chief engineer, the chief engineer, the deputy branch dean, and the dean of the City Traffic Branch of Beijing National Railway Research & Design Institute of Signal & Communication (北京全路通信信號研究設計院城交分院) from September 2007 to December 2014, during which he also served as deputy general manager and deputy director of the Integration Center.
JIANG Jianhua	Since January 2011, he has served as the vice president of technology of the R&D Center of CASCO Signal Ltd., a subsidiary controlled by the Company. Since August 2019, he has served as a provisional member of the Party Committee of CASCO Signal Ltd. He has served as the vice president of technology of the Research & Design Institute of CASCO Signal Ltd. (卡斯柯信號有限公司研究設計院) since August 2015. From July 1998 to January 2011, he served successively as the deputy chief engineer and the chief engineer of CASCO Signal Ltd. From July 1988 to July 1998, he served successively as a software engineer, the deputy department manager and the department manager of the software department of CASCO Signal Ltd.
CUI Ke	Since January 2018, he has served as the chief engineer of the Research & Design Institute of CASCO Signal Ltd., a subsidiary controlled by the Company. From January 2014 to December 2017, he served as the urban rail product director of Urban Rail System Development Department of CASCO Signal Ltd.; from August 2010 to December 2013, he served as the urban rail technical director of R&D Department of CASCO Signal Ltd.; and from August 2000 to July 2010, he served as the department manager of the R&D Department of CASCO Signal Ltd.

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Name	Major working experience
LI Hongyan	Since June 2020, he has served as the product manager of R&D center of CRSC Communication & Information Group Company Ltd., a wholly-owned subsidiary of the Company. From April 2017 to June 2020, he has been the chief engineer of Security Technology Branch of CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司安防技術分公司). From July 2015 to April 2017, he served as the chief engineer of Beijing Research Institute of CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司北京研究院). From January 2014 to July 2015, he served as the deputy chief engineer of CRSC Communication & Information Group Company Ltd. From September 2013 to July 2015, he served as the dean of Beijing Research Institute of CRSC Communication & Information Group Company Ltd. From January 2010 to September 2013, he served successively as the deputy manager and manager of the Technology Development Research Department of Beijing Guotie Huachen Communication Technology Co., Ltd. (北京國鐵華晨通信技術有限公司). From June 2006 to January 2010, he served successively as an engineer of the Engineering Technology Department (工程技術部) and the manager of Research & Development Department (研究開發部) of Beijing Nera Stentofon Communication Equipment Co., Ltd.
WANG Xiangtao	Since August 2020, he has served as a director, the deputy general manager and chief engineer of CRSC Railway Vehicles Co., Ltd. Since May 2015, he has served as the deputy general manager of technology of CRSC Railway Vehicles Co., Ltd. From November 2016 to December 2020, Mr. WANG has been a director of CRSC Airbus Co., Ltd., a subsidiary invested by the Company. From May 2011 to April 2015, he served as the deputy general manager of technology of Xiangtan Electric Urban Rail Vehicle Co., Ltd. (湘電城軌車輛有限公司). From May 2009 to May 2011, he served as the deputy general manager of technology of Xiangtan Electric Urban Rail Equipment Co., Ltd. (湘電城軌裝備有限公司). From August 2007 to May 2011, he served as the institute director of the Vehicle Research Institute of Xiangtan Electric Heavy Equipment Co., Ltd. (湘電重型裝備有限公司車輛研究所), and as a supervisor of the same company. From June 2001 to August 2007, he served as the institute director of the Vehicle Research Institute of Xiangtan Electric Co., Ltd. From July 1985 to June 2001, he served as an engineer of the Technical Center of Xiangtan Electric Plant (湘潭電機廠技術中心).

The Company has adopted a code of conduct no less exacting than that as provided in the Model Code as the code of conduct for all the Directors and Supervisors trading securities of the Company (the “code of conduct”). All the Directors and Supervisors of the Company have confirmed that they have complied with the standards as stipulated by the code of conduct for the year ended 31 December 2022.

Other explanations

Applicable Not applicable

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(II) POSITIONS HELD BY CURRENT AND RESIGNED DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT DURING THE REPORTING PERIOD

1. Positions Held in Shareholder Entities

✓ Applicable □ Not applicable

Name	Name of Shareholder Entity	Position held in the Shareholder Entity	Start date of term of office	Termination date of term of office
ZHOU Zhiliang	China Railway Signal and Communication (Group) Corporation Limited	Secretary of the Party Committee and Chairman	May 2017	–
XU Zongxiang	China Railway Signal and Communication (Group) Corporation Limited	Deputy secretary of the Party Committee, Director and general manager	November 2019	–
ZHANG Quan	China Railway Signal and Communication (Group) Corporation Limited	Deputy secretary of the Party Committee and employee representative director	August 2022	–
LI Lianqing	China Railway Signal and Communication (Group) Corporation Limited	A member of the Standing Committee of the Party Committee	May 2022	–
ZHAO Xiaodong	China Railway Signal and Communication (Group) Corporation Limited	A member of the Standing Committee of the Party Committee	December 2022	–
ZHANG Zhihui	China Railway Signal and Communication (Group) Corporation Limited	A member of the Standing Committee of the Party Committee	April 2022	–
WAN Baohua	China Railway Signal and Communication (Group) Corporation Limited	A member of the Standing Committee of the Party Committee	April 2022	–
HU Shaofeng	China Railway Signal and Communication (Group) Corporation Limited	A member of the Standing Committee of the Party Committee	June 2016	April 2022
YANG Yongsheng (Resigned)	China Railway Signal and Communication (Group) Corporation Limited	Deputy secretary of the Party Committee and employee representative director	July 2017, November 2017	August 2022
Explanation on positions held in Shareholder entities	None			

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2. Positions Held in Other Entities

Applicable Not applicable

Name	Name of other entities	Positions held in other entities	Start date of term of office	Termination date of term of office
YAO Guiqing	China General Technology Group Co., Ltd. (中國通用技術集團有限公司)	Director	November 2018	October 2024
GUO Yonghong	China Reform Holdings Corporation Ltd. (中國國新控股有限責任公司)	Special external Director of Central Enterprises	August 2020	–
	Dongfeng Motor Corporation (東風汽車集團有限公司)	Director	December 2020	November 2023
	China Automotive Technology and Research Center Co. Ltd (中國汽車技術研究中心有限公司)	Director	January 2021	December 2023
YAO Cho Fai Andrew	Hong Kong Shanghai Alliance Holdings Limited (滬港聯合控股有限公司)	Chairman and chief executive officer	July 1999	–
	Kader Holdings Company Limited (開達集團有限公司)	Independent non-executive Director	September 2004	–
FU Junyuan	China Information and Communication Technology Group Co., Ltd.	Director	November 2021	October 2024
LI Tienan	China Green Development and Investment Group Co., Ltd. (中國綠發投資集團有限公司)	Supervisor	November 2020	–
	China Reform Asset Management Co., Ltd. (中國國新資產管理有限公司)	General legal adviser	September 2020	November 2022
	China Northern Industry Co., Ltd. (中國北方工業有限公司)	Director	October 2019	–
	China Tower Corporation Limited (中國鐵塔股份有限公司)	Supervisor	July 2019	–

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Name	Name of other entities	Positions held in other entities	Start date of term of office	Termination date of term of office
	Guoxin Ronghui Equity Investment Fund Management Co., Ltd. (國新融匯股權投資基金管理有限公司)	Director	March 2019	–
	Zhongjin Gold Corp., Ltd. (中金黃金股份有限公司)	Director	March 2021	–
	Guoxin Shengkang Private Equity Fund Management (Beijing) Co., Ltd. (國新盛康私募基金管理(北京)有限公司)	Legal representative, executive Director and general manager	December 2020	–
	Zhongxin Energy and Chemical Technology Company Limited (中新能化科技有限公司)	Director	December 2022	–
	Guoxin Development Investment Management Company Limited (國新發展投資管理有限公司)	General manager and Director	February 2022	–
	China Reform Holdings Corporation Ltd. (中國國新控股有限責任公司)	General manager of market coordination department	February 2022	–
YANG Yang	Guangdong Utrust Financial Leasing Co., Ltd. (廣東粵財金融租賃股份有限公司)	Director	April 2020	–
CHAN Ka Keung Peter (Resigned)	MMG Limited	Director	December 2019	
Explanation on positions held in other entities	None			

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(III) REMUNERATION OF DIRECTORS, SUPERVISORS, SENIOR MANAGEMENT AND CORE TECHNICAL PERSONNEL

Applicable Not applicable

Unit: 0'000 Yuan Currency: RMB

The decision-making procedure for the remunerations of Directors, Supervisors and senior management	The Remuneration and Evaluation Committee of the Board makes recommendations to the Board on the remunerations of Directors and Senior Management of the Company. The Board shall make decision on remuneration and awards for senior management, and the general meetings shall make decision on remuneration matters for Directors and Supervisors.
The basis for determining remunerations of Directors, Supervisors and senior management	The remunerations of the Company's Directors, Supervisors and senior management are determined in accordance with the Articles of Association of China Railway Signal & Communication Corporation Limited* and relevant rules.
Actual payment of remunerations of Directors, Supervisors and senior management	Mr. GUO Yonghong and Ms. LI Tienan did not receive remunerations from the Company. The remuneration of other Directors, Supervisors and senior management shall be paid by the Company in accordance with relevant rules.
Total actual remunerations received by all Directors, Supervisors and senior management at the end of the Reporting Period	950.52
Total actual remunerations received by core technical personnel at the end of the Reporting Period	935.28

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(IV) THE CHANGES IN THE COMPANY'S DIRECTORS, SUPERVISORS, SENIOR MANAGEMENT AND CORE TECHNICAL PERSONNEL

Applicable Not applicable

Name	Position held	Changes	Reason of changes
ZHOU Zhiliang	Executive Director and Chairman	Election	Election
XU Zongxiang	Executive Director and President	Election	Election
ZHANG Quan	Executive Director	Election	Election
YAO Guiqing	Independent Non-executive Director	Election	Election
GUO Yonghong	Non-executive Director	Election	Election
YAO Cho Fai Andrew	Independent Non-executive Director	Election	Election
FU Junyuan	Independent Non-executive Director	Election	Election
CHEN Jin'en	Independent Non-executive Director	Resignation	Expiration of term of office
CHAN Ka Keung Peter	Independent Non-executive Director	Resignation	Expiration of term of office
KONG Ning	Chairman of the Supervisory Committee	Election	Election
LI Tienan	Supervisor	Election	Election
YANG Yang	Employee Supervisor	Election	Election
CHEN Shikui	Supervisor	Resignation	Expiration of term of office
	Chief Compliance Officer	Appointment	Appointment
YANG Yongsheng	Deputy Secretary of the Party Committee and Executive Director	Resignation	Change in work arrangements
LI Lianqing	Member of the Standing Committee of the Party Committee, Chief Accountant, Board Secretary and Joint Company Secretary	Appointment	Appointment
WEI Weifeng	Joint Company Secretary	Appointment	Appointment
QIU Wei	Board Secretary and Joint Company Secretary	Resignation	Job change
NG Wing Shan	Joint Company Secretary	Resignation	Job change
HU Shaofeng	Member of the Standing Committee of the Party Committee, Chief Accountant, Board Secretary and Joint Company Secretary	Appointment, resignation	Job change
WAN Baohua	Vice president	Appointment	Appointment
HUANG Weizhong	Vice President	Resignation	Passed away from illness

(V) EXPLANATION ON PENALTIES IMPOSED BY SECURITIES REGULATORY AUTHORITIES IN THE RECENT THREE YEARS

Applicable Not applicable

(VI) OTHERS

Applicable Not applicable

SECTION V CORPORATE GOVERNANCE

VIII. BOARD OF DIRECTORS

1. Composition of the Board

As at the end of the Reporting Period, the Board consists of executive Directors, namely Mr. ZHOU Zhiliang, Mr. XU Zongxiang and Mr. ZHANG Quan, non-executive Director, namely Mr. GUO Yonghong and independent non-executive Directors, namely Mr. FU Junyuan, Mr. YAO Cho Fai Andrew and Mr. YAO Guiqing.

The Company held the 2022 first extraordinary general meeting on 25 February 2022. Upon approval by the shareholders at the Company's extraordinary general meeting, starting from 25 February 2022, (i) Mr. ZHOU Zhiliang, Mr. XU Zongxiang and Mr. YANG Yongsheng were appointed as executive Directors of the fourth session of the Board of Directors of the Company respectively; (ii) Mr. GUO Yonghong was appointed as a non-executive Director of the fourth session of the Board of Directors of the Company; and (iii) Mr. YAO Guiqing, Mr. YAO Cho Fai Andrew and Mr. FU Junyuan were appointed as independent non-executive Directors of the fourth session of the Board of Directors of the Company respectively. The Board elected Mr. ZHOU Zhiliang as the chairman of the fourth session of the Board of Directors of the Company by resolution on 25 February 2022.

Mr. YANG Yongsheng resigned as executive Director of the Company due to change in work arrangements on 8 August 2022, with effect from the same date. On 8 August 2022, the Board has considered and approved to nominate Mr. ZHANG Quan as a candidate for executive Director of the fourth session of the Board of Directors of the Company. After approval was granted by the Shareholders at the 2022 second extraordinary general meeting, Mr. ZHANG Quan has been appointed as an executive Director of the fourth session of the Board of Directors of the Company with effect from 29 August 2022.

In addition, the members of the third session of the Board of Directors of the Company Mr. CHEN Jin'en and Mr. CHAN Ka Keung Peter did not seek for re-election as Directors upon the expiry of their terms. Among them, Mr. CHEN Jin'en ceased to serve as an independent non-executive Director, the chairman of the Remuneration and Evaluation Committee, a member of the Strategy and Investment Committee, a member of the Audit and Risk Management Committee and a member of the Nomination Committee of the Company, with effect from 25 February 2022; Mr. CHAN Ka Keung Peter ceased to serve as an independent non-executive Director, the chairman of the Audit and Risk Management Committee and a member of the Remuneration and Evaluation Committee of the Company, with effect from 25 February 2022.

There is no relationship (including financial, business, family or other material/relevant relationship(s)) among the members of the Board, especially between the chairman and the president. Biographies of the Directors are set out in "VII. Directors, Supervisors and Senior Management" of this section.

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2. Independent non-executive Directors

For the year ended 31 December 2022, the Board had complied with the requirements of the Listing Rules of the Hong Kong Stock Exchange relating to the appointment of at least three independent non-executive Directors with at least one independent non-executive Director possessing appropriate professional qualifications or accounting or related financial management expertise.

The Company has appointed a sufficient number of independent non-executive Directors in compliance with Rule 3.10A of the Rules Governing the Listing of Securities on the Hong Kong Stock Exchange which requires the number of independent non-executive Directors represents at least one third of the Board.

The Company has received the annual written confirmation on independence from each of the independent non-executive Directors in accordance with Rule 3.13 of the Rules Governing the Listing of Securities on the Hong Kong Stock Exchange. The Company is of the view that all independent non-executive Directors are independent in accordance with the independence guidelines set out in the Listing Rules of the Hong Kong Stock Exchange.

3. Chairman of the Board and president

The roles, duties and responsibilities of the chairman of the Board and the president of the Company are held by different individuals and are explicitly defined in writing.

Mr. ZHOU Zhiliang serves as the chairman of Board of the Company, while Mr. XU Zongxiang acts as the president of the Company. The positions of chairman of the Board and president are held by different individuals to maintain independence as well as the balance of views and judgments.

The chairman is responsible for the management of the operations of the Board, while the president is responsible for the operations of the Company. The chairman is required to keep close communication with the president and all Directors to keep them fully informed of all substantive matters relating to the Company's business development, and is also responsible for building and maintaining a highly efficient administrative support team to support him to discharge the assigned duties in this position.

4. Nomination, appointment and removal of Directors

The procedures and processes for appointment, re-election and removal of Directors are set out in the Articles of Association. The Nomination Committee is responsible for reviewing the structure, number of members and composition of the Board, advising on any proposed changes to the Board in response to the Company's strategies, and reviewing the independence of the independent non-executive Directors.

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5. Duties of the Board

The Board shall be accountable to the general meeting. According to the requirement of the Articles of Association, duties of the Board shall include the exercise of the following functions and powers:

- (1) to convene general meetings and to report on its work to the general meeting;
- (2) to implement the resolutions of the general meeting;
- (3) to decide on the business plans and investment plans of the Company;
- (4) to formulate the annual financial budgets and final accounts of the Company;
- (5) to formulate the profit distribution plans and plans for making up losses of the Company;
- (6) to formulate plans for the increase or reduction of the registered capital of the Company;
- (7) to formulate plans for the issuance of corporate bonds, any class of Shares, warrants and other similar securities;
- (8) to formulate plans for significant acquisition by the Company, repurchase of Shares of the Company or merger, division, reorganization or dissolution of the Company and changes in the corporate form of the Company;
- (9) to decide on the provision by the Company of any external guarantee other than those to be approved by the general meeting as required by the Articles of Association;
- (10) to decide on significant acquisition or disposal within one year by the Company of assets not more than 30% of the latest audited total assets of the Company;
- (11) to decide on connected transactions other than those to be approved by the general meeting as required by laws and regulations and regulatory rules in the place where Shares of the Company are listed;
- (12) to decide on significant investment projects of the Company with the single amount not more than 30% of the latest audited net assets of the Company;
- (13) to decide on entrusted wealth management and asset mortgages or pledges with the accumulated amount not more than 30% of the latest audited net assets of the Company;
- (14) to decide on extra costs and expenses with the single amount not more than 10% of the latest audited net assets of the Company;

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- (15) to decide on plans of external donation and sponsorship of the Company with the single amount not more than RMB5 million;
- (16) to formulate amendments to the Articles of Association, the Rules of Procedure for the general meeting and the Rules of Procedure for the Board;
- (17) to engage or dismiss the Company's president and secretary to the Board; to engage or dismiss vice presidents and the chief accountant of the Company, as proposed by the president, and decide on matters relating to their remuneration, rewards and punishments;
- (18) to decide on the establishment of the Company's internal management organization;
- (19) to decide on the establishment of each special committee under the Board and to consider and approve resolutions proposed by each special committee under the Board;
- (20) to formulate the basic management systems of the Company;
- (21) to formulate development strategies, long and medium-term development plans and corporate culture development plans, and to monitor the implementation of such plans;
- (22) to decide on the Company's risk management system, including risk evaluation, financial control, internal audit and legal risk control, and to monitor the implementation of such systems;
- (23) to propose to the general meeting the appointment, removal or termination or reappointment of an accounting firm;
- (24) to listen to the work reports of the Company's president and inspect the work of the president and other Senior Management members;
- (25) to perform duties of corporate governance and to evaluate and improve the corporate governance of the Company regularly in accordance with the regulatory rules in the place where Shares of the Company are listed;
- (26) to formulate equity incentive scheme;
- (27) to manage the Company's information disclosure matters;
- (28) other duties and powers provided in laws and regulations, regulatory rules in the place where Shares of the Company are listed or specified in the Articles of Association or granted by the general meeting.

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Resolutions by the Board on the matters mentioned above shall, be passed by the affirmative vote of more than one half of all the Directors with the exception of resolutions on the matters referred to in items (6), (7), (8), (16) and (26), which shall require the affirmative vote of at least two-thirds of all the Directors for adoption. Besides the affirmative vote of more than one half of all the Directors, the affirmative vote of at least two-thirds of all the Directors present is also required when the matters referred to in item (9) are considered by the Board. The abovementioned duties and powers of the Board as well as any transaction or arrangement of the Company shall be proposed at the general meeting for approval as prescribed by the regulatory rules in the place where Shares of the Company are listed.

The duties and powers of the Board and the management have been defined in the Articles of Association. The Board is responsible for decision making on the Company's significant matters, including the approval and monitoring of all policy matters, overall strategies and budgets, internal control and risk management systems, material transactions (in particular those that may involve conflict of interests), financial information and other significant financial and operational matters.

All Directors have full and timely access to all relevant information as well as the advice and services of the company secretary, with a view to ensuring that Rules of Procedure for Board meetings and all applicable laws, rules and regulations are followed. Upon making request to the Board, a Director is generally able to seek independent professional advice in appropriate circumstances at the Company's expense.

In strict accordance with the Articles of Association and the authorization of general meetings, the Board takes and fulfils its decision-making responsibilities seriously, supervises management's implementation of the resolutions of the Board to ensure their effective implementation, and implements the resolutions of the general meetings and reports the work to general meetings.

The day-to-day management, administration and operation of the Company are delegated to the president and the Senior Management. The Board shall be responsible for the fulfilment of the following corporate governance responsibilities:

- (1) to formulate, review and make recommendations on the corporate governance policies and practices of the Company;
- (2) to review and monitor the training and continuous professional development of Directors and Senior Management;
- (3) to review and monitor the Company's policies and practices with regard to complying with laws and regulatory requirements;
- (4) to formulate, review and monitor the code of conduct and compliance manual (if any) applicable to employees and Directors;

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- (5) to review the Company's compliance with the Corporate Governance Code and disclosures made in the Corporate Governance Report (the Corporate Governance section of this report) of the annual report of the Company.

The Board and the Audit and Risk Management Committee have reviewed and approved the disclosures made in the Corporate Governance Report (the Corporate Governance section of this report). The Board has also reviewed the Company's compliance with the corporate governance policies, practices, laws and regulatory requirements, and monitored and organized the training courses designed for Directors and Senior Management.

6. Mechanism for directors to obtain independent views and opinions

The Company has the mechanism in place to ensure that independent views and opinions are available to the Board, including but not limited to reviewing from time to time that independent non-executive Directors have appropriate qualifications and professional skills and have committed sufficient time to the Group, and that the number of independent non-executive Directors has complied with the Listing Rules, and has established channels (including but not limited to questionnaires or the Board meetings) to evaluate the contributions and opinions of independent non-executive Directors. The Board has reviewed the implementation and effectiveness of the mechanism and believes that the Board is highly independent.

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IX. DETAILS OF THE BOARD MEETINGS CONVENED DURING THE REPORTING PERIOD

Name of meeting	Time of meeting	Resolutions
The 33rd Meeting of the Third Session of the Board	17 January 2022	<ol style="list-style-type: none">1. The resolution on the 14th Five-Year Plan for Development of CRSC was considered and approved at the meeting;2. The resolution on the Administrative Measures for Authorization of Decision-making Matters of the Board of Directors of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting;3. The resolution on the appointment of HU Shaofeng as the Board secretary, joint company secretary and authorized representative of the Company was considered and approved at the meeting;4. The resolution on the Information Disclosure Management Rule on Debt Financing Instruments of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting;5. The resolution on nominating candidates for non-independent Directors of the fourth session of Board of the Company was considered and approved at the meeting;6. The resolution on nominating candidates for independent Directors of the fourth session of the Board the Company was considered and approved at the meeting;7. The resolution on proposing to convene a general meeting was considered and approved at the meeting;
The 1st Meeting of the Fourth Session of the Board	25 February 2022	<ol style="list-style-type: none">1. The resolution on the appointment of ZHOU Zhiliang as the Chairman of the fourth session of the Board was considered and approved at the meeting;2. The resolution on the appointment of ZHOU Zhiliang, XU Zongxiang, YAO Guiqing, YAO Cho Fai Andrew and FU Junyuan as members of the Strategy and Investment Committee of the Board was considered and approved at the meeting;3. The resolution on the appointment of YAO Guiqing, YAO Cho Fai Andrew and FU Junyuan as members of the Remuneration and Evaluation Committee of the Board was considered and approved at the meeting;4. The resolution on the appointment of ZHOU Zhiliang, YAO Guiqing and YAO Cho Fai Andrew as members of the Nomination Committee of the Board was considered and approved at the meeting;5. The resolution on the appointment of FU Junyuan, GUO Yonghong and YAO Cho Fai Andrew as members of the Audit and Risk Management Committee of the Board was considered and approved at the meeting;6. The resolution on the appointment of XU Zongxiang, YAO Guiqing and GUO Yonghong as members of the Quality and Safety Committee of the Board was considered and approved at the meeting.

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Name of meeting	Time of meeting	Resolutions
The 2nd Meeting of the Fourth Session of the Board	25 March 2022	<ol style="list-style-type: none"> 1. The resolution on the Annual Report for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 2. The resolution on the Final Account Report for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 3. The resolution on the profit distribution plan for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 4. The resolution on the Scheme of Main Economic Indicators for 2022 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 5. The resolution on the payment of audit fees for 2021 and the plan of appointment of external auditor for 2022 was considered and approved at the meeting; 6. The resolution on the general mandate to issue debt financing instruments was considered and approved at the meeting; 7. The resolution on the Special Report on Deposit and Use of Proceeds for 2021 was considered and approved at the meeting; 8. The resolution on the Report on Internal Control Evaluation for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 9. The resolution on the Environmental, Social and Governance Report for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 10. The resolution on the Report of the Board for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 11. The resolution on the Report on the Duty Performance of the Audit and Risk Management Committee for 2021 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 12. The resolution on the remuneration/evaluation of directors and senior management of the Company for 2021 was considered and approved at the meeting; 13. The resolution on the change of the joint secretary and authorized representative of the Company was considered and approved at the meeting; 14. The resolution on proposing to convene a general meeting was considered and approved at the meeting;

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Name of meeting	Time of meeting	Resolutions
The 3rd Meeting of the Fourth Session of the Board	16 April 2022	1. The resolution on designating ZHAO Xiaodong, vice president of the Company, to act on behalf of the Board secretary was considered and approved at the meeting;
The 4th Meeting of the Fourth Session of the Board	28 April 2022	<ol style="list-style-type: none"> 1. The resolution on the First Quarter Report for 2022 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 2. The resolution on the 14th Five-Year Plan for Safety and Quality Development of CRSC was considered and approved at the meeting; 3. The resolution on Authorization to Deal with Matters regarding the Purchase of Liability Insurance of Directors, Supervisors and Senior Management of the Company was considered and approved at the meeting;
The 5th Meeting of the Fourth Session of the Board	30 May 2022	1. The resolution on the appointment of WAN Baohua as the vice president of the Company was considered and approved at the meeting;
The 6th Meeting of the Fourth Session of the Board	17 June 2022	1. The resolution on the appointment of LI Lianqing as the chief accountant of the Company was considered and approved at the meeting;
The 7th Meeting of the Fourth Session of the Board	14 July 2022	1. The resolution on the appointment of LI Lianqing as the Board secretary, joint company secretary and authorized representative of the Company was considered and approved at the meeting;
The 8th Meeting of the Fourth Session of the Board	8 August 2022	<ol style="list-style-type: none"> 1. The resolution on utilizing unused raised funds for cash management was considered and approved at the meeting; 2. The resolution on nominating ZHANG Quan as a candidate for executive Director of the fourth session of the Board of the Company was considered and approved at the meeting; 3. The resolution on proposing to convene an extraordinary general meeting was considered and approved at the meeting;

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Name of meeting	Time of meeting	Resolutions
The 9th Meeting of the Fourth Session of the Board	29 August 2022	<ol style="list-style-type: none">1. The resolution on the Interim Report for 2022 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting;2. The resolution on the 14th Five-Year Plan for Technology Development of CRSC was considered and approved at the meeting;3. The resolution on the Special Report on the Deposit and Actual Use of the Proceeds for the First Half of 2022 was considered and approved at the meeting.

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Name of meeting	Time of meeting	Resolutions
The 10th Meeting of the Fourth Session of the Board	28 October 2022	<ol style="list-style-type: none"> 1. The resolution on the Third Quarter Report for 2022 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 2. The resolution on the external guarantee plan for 2023 of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 3. The resolution on the signing of the Financial Services Framework Agreement and related party transactions between CRSC Group Finance Limited and China Railway Signal and Communication (Group) Corporation Limited was considered and approved at the meeting; 4. The resolution on the issuance of risk assessment report to CRSC Group Finance Limited by China Railway Signal & Communication Corporation Limited was considered and approved at the meeting; 5. The resolution on the Risk Disposal Plan for Development of Financial Business by CRSC Group Finance Limited was considered and approved at the meeting; 6. The resolution on the approval on the qualification of copper and aluminum futures hedging business of CRSC Cables Company Ltd. was considered and approved at the meeting; 7. The resolution on the 14th Five-Year Plan for Market Operation and Development of CRSC was considered and approved at the meeting; 8. The resolution on the 14th Five-Year Plan for Overseas Business Development of CRSC was considered and approved at the meeting; 9. The resolution on the amendment to the Compliance Management Measures of CRSC and the formulation of the Compliance Management Manual of CRSC was considered and approved at the meeting; 10. The resolution on the appointment of CHEN Shikui as the chief compliance officer of the Company;
The 11th Meeting of the Fourth Session of the Board	4 December 2022	<ol style="list-style-type: none"> 1. The resolution on the movements of the account designated for the proceeds of China Railway Signal & Communication Corporation Limited was considered and approved at the meeting;

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X. PERFORMANCE OF DUTIES OF DIRECTORS

(I) Directors' Attendance at the Board Meetings and General Meetings

Name of Director	Independent director or not	Number of attendances at the Board meeting during the Reporting Period	Attendance at the Board meeting				Number of absences	Failure to attend meetings in person for two consecutive times	Attendance at the general meetings	
			Number of attendances in person	Number of attendances by means of telecommunications	Number of attendances by proxy	Number of attendances				Number of attendances at the general meetings
ZHOU Zhiliang	No	12	12	4	0	0	No	3		
XU Zongxiang	No	12	11	4	1	0	No	3		
ZHANG Quan	No	3	3	1	0	0	No	0		
YAO Guiqing	Yes	12	12	4	0	0	No	3		
GUO Yonghong	No	12	12	4	0	0	No	3		
YAO Cho Fai Andrew	Yes	11	11	4	0	0	No	2		
FU Junyuan	Yes	11	11	4	0	0	No	2		
YANG Yongsheng	No	8	8	3	0	0	No	2		
CHEN Jin'en	Yes	1	1	0	0	0	No	1		
CHAN Ka Keung Peter	Yes	1	1	0	0	1	No	-		

The explanation of failure to attend Board meetings in person for two consecutive times

Applicable Not applicable

Number of the Board meetings held for the year	12
Including: number of meetings held onsite	0
Number of meetings held by means of telecommunications	4
Number of meetings held onsite and by means of telecommunications simultaneously	8

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(II) Objections Raised by Directors against Relevant Matters of the Company

Applicable Not applicable

(III) Others

Applicable Not applicable

During the Reporting Period, the Board focused on the continuous professional development of Directors and actively encouraged and organized Directors to participate in the trainings. In order to keep their knowledge and skills up to date as well as improve their capacities of duty performance, all members of the Board of Directors continued to learn all kinds of regulatory information and the latest regulatory requirements in their daily duties, including relevant laws and regulations and regulatory documents in relation to corporate governance and Listing Rules, meanwhile they read industry, professional books and publications. During the Reporting Period, all Directors (including Mr. ZHOU Zhiliang, Mr. XU Zongxiang, Mr. ZHANG Quan, Mr. GUO Yonghong, Mr. Yao Guiqing, Mr. YAO Cho Fai Andrew and Mr. FU Junyuan) attended the seminar on the construction of the board of directors of central enterprises and various important conferences held by the State-owned Assets Supervision and Administration Commission of the State Council, the training on regulatory services organized by the Listed Companies Association of Beijing and the relevant training organized by the SSE, etc. All Directors further understood the regulations of domestic and overseas regulatory institutions, code of conduct for the performance of duties as directors and requirements for information disclosure which A+H listed companies should follow.

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XI. THE SPECIAL COMMITTEES UNDER THE BOARD OF DIRECTORS

✓ Applicable Not applicable

The Company has established five special committees under the Board of Directors, including the Strategy and Investment Committee, the Remuneration and Evaluation Committee, the Nomination Committee, the Audit and Risk Management Committee, and the Quality and Safety Committee. Members of the Remuneration and Evaluation Committee and the Audit and Risk Management Committee were all held by external directors, who accounted for the majority of the Nomination Committee and the Quality and Safety Committee, ensuring that external directors fully express their opinions and perform their duties efficiently.

(I) Members of the Special Committees under the Board of Directors

Categories of Special Committees	Member Name
Nomination Committee	ZHOU Zhiliang, YAO Guiqing, YAO Cho Fai Andrew
Remuneration and Evaluation Committee	YAO Guiqing, YAO Cho Fai Andrew, FU Junyuan
Strategy and Investment Committee	ZHOU Zhiliang, XU Zongxiang, YAO Guiqing, YAO Cho Fai Andrew, FU Junyuan
Audit and Risk Management Committee	FU Junyuan, GUO Yonghong, YAO Cho Fai Andrew
Quality and Safety Committee	XU Zongxiang, GUO Yonghong, YAO Guiqing

(II) The Nomination Committee held four meetings during the Reporting Period

Time of meeting	Content of the meeting	Important comments and recommendations	Other performance of duties
17 January	Considered the resolution on nominating candidates for non-independent Directors of the fourth session of the Board of the Company and the resolution on nominating candidates for independent Directors of the fourth session of the Board of the Company	Agreed	
30 May	Resolution on the appointment of WAN Baohua as a vice president of the Company	Agreed	
2 June	Resolution on the appointment of the chief accountant of the Company	Agreed	
8 August	Resolution on nominating ZHANG Quan as a candidate for executive Director of the fourth session of the Board of the Company	Agreed	

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During the Reporting Period, from January 2022 to February 2022 the Nomination Committee consisted of Chairman Mr. ZHOU Zhiliang, independent non-executive Directors Mr. YAO Guiqing, Mr. CHEN Jin'en serving as members. Mr. ZHOU Zhiliang served as the chairman; from February 2022 to December 2022 the Nomination Committee consisted of Chairman Mr. ZHOU Zhiliang, independent non-executive Directors Mr. YAO Guiqing and Mr. YAO Cho Fai Andrew serving as members. Mr. ZHOU Zhiliang served as the chairman. The Nomination Committee was accountable to the Board of Directors and was mainly responsible for researching the selection criteria, procedures and methods for Directors and senior management and making recommendations; reviewing candidates for Directors and senior management, and providing review opinions and appointment recommendations to the Board of Directors; reviewing the independence of independent non-executive Directors; and making recommendations to the Board of Directors on the appointment or reappointment of Directors and senior management and the succession plans for the above-mentioned personnel. In reviewing the size and composition of the Board of Directors, identifying and nominating candidates for Directors, the Nomination Committee shall consider relevant factors to achieve the diversity of the Board of Directors members according to the business model and specific demands of the Company.

The Nomination Committee adopts the following procedures for selection and appointment of Directors and senior management members:

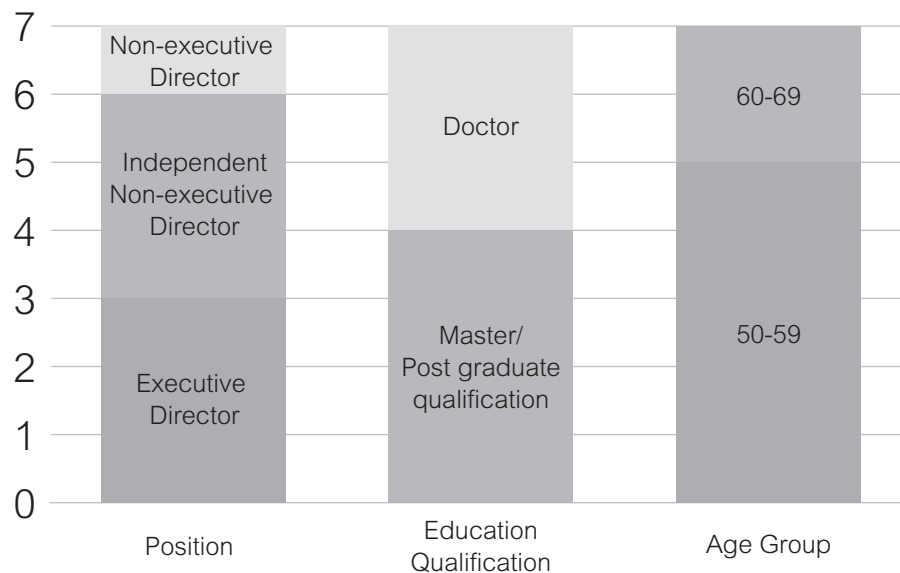
- (I) actively studying the Company's demands for new Directors and senior management members and preparing written materials;
- (II) searching for candidates for Directors and senior management members in the Company and its wholly-owned and holding (joint-stock) enterprises and the talent market;
- (III) gathering information of preliminary candidates, including occupation, education, job title, detailed work experience and all part-time jobs, and preparing written materials;
- (IV) seeking the consent of the nominees for nomination;
- (V) convening a meeting of the Nomination Committee to conduct a qualification check of the preliminary candidates based on the appointment criteria for Directors and senior management members;
- (VI) submitting to the Board its recommendations on the candidates for Directors and senior management members and relevant materials prior to the election of new Directors or the appointment of new senior management members;
- (VII) implementing other follow-up work in accordance with the decisions and feedback of the Board.

In reviewing the structure of the Board, the Nomination Committee considers Board members diversity from various aspects, including but not limited to cultural, educational background, professional experience, skills and knowledge. All appointments of Board members are based on meritocracy, and candidates are considered with due regard for the capacity, skill and experience required for the overall operation of the Board, so as to ensure the proper balance of the Board members.

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The Company understands and strongly believes that diversity among Board members is an important element in maintaining the Company's competitive advantages and fostering the Company's sustainability. The Company considers the diversity of Board members from many aspects when determining the composition of the Board of Directors, including but not limited to gender, age, cultural and educational background, race, professional experience, skills, knowledge, and service period. As the Nomination Committee makes recommendations or suggestions to the Board of Directors on the appointment of new Directors of the Company, it will fully take into account the benefits of diversity of Board members. Meanwhile, the Company considers the above factors based on its own business model and specific needs from time to time, and will ultimately come to a decision based on the strengths of the candidates and the contributions they can provide to the Board of Directors.

The table below shows the diversity position/overview of the Board of Directors of the Company as at the date of this report.



Currently, the Company's Directors are all male, and we understand the particular importance of gender diversity, so we will strive to improve the gender diversity of the Board. In selecting and recommending suitable candidates for Board membership, the Company will take the opportunity to increase the proportion of female members in the Board and enhance gender diversity in accordance with shareholders' expectations and recommendation. The Company expects to identify suitable candidates to appoint at least one female director by 31 December 2024, and plans to promote gender diversity in the recruitment of staff at mid to senior level so that the Company will have more female senior management and potential successors to Board members.

In the process of reviewing the composition of the Board of Directors, the Nomination Committee evaluated the skills and experience of each Director and their relevance to the Company's business, and arrived at a conclusion that the existing structure of the Company's Board of Directors is reasonable and their talent, experience, and professional knowledge are balanced and meet the Company's business needs.

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During the Reporting Period, records of attendance of the members at the meeting of the Nomination Committee are set out as follows:

Name of Director	Number of meetings required to attend	Number of meetings actually attended	Number of meetings not attended
ZHOU Zhiliang	2	2	0
YAO Guiqing	2	2	0
CHEN Jin'en	1	1	0
YAO Cho Fai Andrew	1	1	0

Note:

- Mr. CHEN Jin'en ceased to serve as a member of the Nomination Committee of the Company with effect from 25 February 2022. As resolved by the Board on 25 February 2022, Mr. ZHOU Zhiliang was appointed as the chairman of the Nomination Committee, and Mr. YAO Guiqing and Mr. YAO Cho Fai Andrew were appointed as members of the Nomination Committee, respectively. For details, please refer to the announcement dated 25 February 2022 published by the Company on the HKExnews website (www.hkexnews.hk) of the Hong Kong Stock Exchange.

(III) The Remuneration and Evaluation Committee held one meeting during the Reporting Period

Time of meeting	Content of the meeting	Important comments and recommendations	Other performance of duties
13 December	Listened to the report on the remuneration of the corporate officers for 2021 of CRSC and the tenure incentive income for 2019-2021.	Agreed	

During the Reporting Period, from January 2022 to February 2022 the Remuneration and Evaluation Committee consisted of independent non-executive Directors Mr. CHEN Jin'en, Mr. CHAN Ka Keung Peter, Mr. YAO Guiqing serving as members. Mr. CHEN Jin'en served as the chairman; from February 2022 to December 2022 the Remuneration and Evaluation Committee consisted of independent non-executive Directors Mr. YAO Guiqing, Mr. FU Junyuan, Mr. YAO Cho Fai Andrew serving as members. Mr. YAO Guiqing served as the chairman. The Remuneration and Evaluation Committee was mainly responsible for formulating and assessing the evaluation standards of the Company's directors and senior management; formulating and reviewing the remuneration policies and plans of the Company's directors and senior management, and making recommendations to the Board of Directors; and reviewing and implementing the terms of the Executive Directors' Service Contracts and making recommendations to the Board of Directors. During the Reporting Period, the Remuneration and Evaluation Committee of the Board of Directors strictly complied with the Company's Working Rules for the Remuneration and Evaluation Committee of the Board of Directors and other system requirements, and performed the duties of the committee independently and objectively.

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During the Reporting Period, records of attendance of the members at the meeting of the Remuneration and Evaluation Committee are set out as follows:

Name of Director	Number of meetings required to attend	Number of meetings actually attended	Number of meetings not attended
CHEN Jin'en	0	0	0
CHAN Ka Keung Peter	0	0	0
YAO Guiqing	1	1	0
FU Junyuan	1	1	0
YAO Cho Fai Andrew	1	1	0

Note:

Mr. CHEN Jin'en ceased to serve as the chairman of the Remuneration and Evaluation Committee of the Company with effect from 25 February 2022, and Mr. CHAN Ka Keung Peter ceased to serve as a member of the Remuneration and Evaluation Committee of the Company with effect from 25 February 2022. As resolved by the Board on 25 February 2022, Mr. YAO Guiqing was appointed as the chairman of the Remuneration and Evaluation Committee, and Mr. YAO Cho Fai Andrew and Mr. FU Junyuan were appointed as members of the Remuneration and Evaluation Committee, respectively. For details, please refer to the announcement dated 25 February 2022 published by the Company on the HKExnews website (www.hkexnews.hk) of the Hong Kong Stock Exchange.

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(IV) The Strategy and Investment Committee held one meeting during the Reporting Period

Time of meeting	Content of meeting	Important comments and recommendations	Other information on performance of duties
17 January	Researched on the 14th Five-Year Plan for Development	Agreed	

During the Reporting Period, from January 2022 to February 2022 the Strategy and Investment Committee consisted of executive Directors Mr. ZHOU Zhiliang, Mr. XU Zongxiang, Mr. YANG Yongsheng, independent non-executive Directors Mr. CHEN Jin'en and Mr. YAO Guiqing serving as members. Mr. ZHOU Zhiliang served as the chairman; from February 2022 to December 2022 the Strategy and Investment Committee consisted of executive Directors Mr. ZHOU Zhiliang, Mr. XU Zongxiang, independent non-executive Directors Mr. YAO Guiqing, Mr. YAO Cho Fai Andrew and Mr. FU Junyuan serving as members. Mr. ZHOU Zhiliang served as the chairman. The Strategy and Investment Committee was accountable to the Board of Directors, mainly responsible for researching the Company's development strategy and planning, and making recommendations on major investments, major investment and financing, major capital operations, asset management projects, and other major issues affecting the Company's development.

During the Reporting Period, records of attendance of the members at the meeting of the Strategy and Investment Committee are set out as follows:

Name of Director	Number of meetings required to attend	Number of meetings actually attended	Number of meetings not attended
ZHOU Zhiliang	1	1	0
XU Zongxiang	1	1	0
YANG Yongsheng	1	1	0
CHEN Jin'en	1	1	0
YAO Guiqing	1	1	0
YAO Cho Fai Andrew	0	0	0
FU Junyuan	0	0	0

Note:

Mr. YANG Yongsheng ceased to serve as a member of the Strategy and Investment Committee of the Company with effect from 25 February 2022, and Mr. CHEN Jin'en ceased to serve as a member of the Strategy and Investment Committee of the Company with effect from 25 February 2022. As resolved by the Board on 25 February 2022, Mr. ZHOU Zhiliang was appointed as the chairman of the Strategy and Investment Committee, and Mr. XU Zongxiang, Mr. YAO Guiqing, Mr. YAO Cho Fai Andrew and Mr. FU Junyuan were appointed as members of the Strategy and Investment Committee, respectively. For details, please refer to the announcement dated 25 February 2022 published by the Company on the HKExnews website (www.hkexnews.hk) of the Hong Kong Stock Exchange.

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(V) The Audit and Risk Management Committee held four meetings during the Reporting Period

Time of meeting	Content of the meeting	Important comments and recommendations	Other performance of duties
21 March 2022	Reviewed the 2021 annual audit report and internal control audit report of Ernst & Young Hua Ming LLP on China Railway Signal & Communication Corporation Limited, considered the resolution on the Payment of Audit Fees for 2021 and Plan for Appointment of External Auditor for 2022	They agreed with the above motion	They listened to the statement on the annual critical tasks of the Legal Compliance Department and Audit Department
26 April 2022	Considered the resolutions on the First Quarter Report for 2022 of China Railway Signal & Communication Corporation Limited, the Major Risk Monitoring Report for the first quarter of 2022 of CRSC, the Internal Audit Report for 2021 and Internal Audit Plan for 2022 of China Railway Signal & Communication Corporation Limited and the Quality Assessment Report on Internal Audit Work for 2021 of China Railway Signal & Communication Corporation Limited	They agreed with the above motion	They listened to the statement on the critical tasks for the first quarter of 2022 of the Legal Compliance Department and Audit Department.
25 August 2022	Considered the resolution on the Results of BDO China SHU LUN PAN Certified Public Accountants LLP's 2022 Interim Review on China Railway Signal & Communication Corporation Limited	They agreed with the above motion	They listened to the statement on the critical tasks for the first half of 2022 of the Legal Compliance Department and Audit Department.
26 October 2022	Considered the resolutions on the Third Quarter Report for 2022 of China Railway Signal & Communication Corporation Limited, the Approval on the Qualification of Copper and Aluminum Futures Hedging Business of CRSC Cables Company Ltd., the Risk Management, Compliance Management and Legal Management Work for the Third Quarter of 2022 of China Railway Signal & Communication Corporation Limited, and the Implementation Plan for the Accountability of Illegal Operation and Investment for 2022 of China Railway Signal & Communication Corporation Limited	They agreed with the above motion	They listened to the statement on the critical tasks for the third quarter of 2022 of the Legal Compliance Department and Audit Department.

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During the Reporting Period, from January 2022 to February 2022 the Audit and Risk Management Committee consisted of independent non-executive Directors Mr. CHAN Ka Keung Peter, Mr. CHEN Jin'en, non-executive Director Mr. GUO Yonghong serving as members. In particular, Mr. CHAN Ka Keung Peter, who has rich knowledge and experience in accounting, served as the chairman; from February 2022 to December 2022 the Audit and Risk Management Committee consisted of independent non-executive Directors Mr. FU Junyuan, Mr. YAO Cho Fai Andrew, non-executive Director Mr. GUO Yonghong serving as members. In particular, Mr. FU Junyuan, who has rich knowledge and experience in accounting, served as the chairman. The Audit and Risk Management Committee was mainly responsible for proposing the selection and replacement of the Company's external audit firm; supervising the Company's internal audit system; the communication, supervision and verification of the Company's internal audit; reviewing the financial information and its disclosure; reviewing risk management and internal systems; reviewing the Company's risk management strategies and solutions; risk control, management, supervision and evaluation of major decisions, major events, and important business processes. During the Reporting Period, the Audit and Risk Management Committee strictly complied with the requirements of the Company's Working Rules for the Audit and Risk Management Committee of the Board of Directors and the Working Rules for the Annual Report of the Audit and Risk Management Committee of the Board of Directors and other system requirements, performed the duties of the committee independently and objectively, and actively carried out work centering on auditing and supervision, financial monitoring, internal control system construction and comprehensive risk management. It considered several proposals on financial reports such as the periodic reports of the Company, carefully studied the contents of the proposals, and repeatedly checked and studied the financial information disclosed in the reports and financial statements of the Company. They regularly listened to the reports of the Risk Control Center (Legal Compliance Department and Audit Department) on major risk assessment, major risk monitoring, major risk events, corporate compliance management, corporate system building, internal control evaluation, internal audit work quality assessment, internal audit work, and execution of internal audit.

During the Reporting Period, the Audit and Risk Management Committee has reviewed the annual results of the Company for the year ended 31 December 2021, the unaudited interim results of the Company for the six months ended 30 June 2022 and the quarterly results of the Company for the three months ended 31 March 2022 and for the nine months ended 30 September 2022.

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The Audit and Risk Management Committee has discussed the accounting policies and practices adopted by the Company, internal control and financial reporting matters with the senior management of the Company, and has reviewed the effectiveness of the accounting policies and practices adopted by the Group, financial control, the risk management and internal control system and the internal audit function of the Group for 4 times, and considers that the Group's risk management and internal control system and the operation of the internal audit department remain effective. Meanwhile, the Audit and Risk Management Committee had 5 meetings with external auditors. The Audit and Risk Management Committee has also reviewed the compliance of the Company with the Corporate Governance Code and the Corporate Governance Report (the Corporate Governance section of this report) of the Company. The Audit and Risk Management Committee has also listened to the special report on major risk assessment and major risk measures of the Company in 2022, conducted special audit in this regard and proposed dynamic tracking of the implementation of major risk control measures, to ensure the efficiency and effectiveness of risk control measures.

During the Reporting Period, records of attendance of the members at the meeting of the Audit and Risk Management Committee are set out as follows:

Name of Director	Number of meetings required to attend	Number of meetings actually attended	Number of meetings not attended
CHAN Ka Keung Peter	0	0	0
CHEN Jin'en	0	0	0
GUO Yonghong	4	4	0
FU Junyuan	4	4	0
YAO Cho Fai Andrew	4	4	0

Note:

Mr. CHEN Jin'en ceased to serve as a member of the Audit and Risk Management Committee of the Company with effect from 25 February 2022, and Mr. CHAN Ka Keung Peter ceased to serve as the chairman of the Audit and Risk Management Committee of the Company with effect from 25 February 2022. As resolved by the Board on 25 February 2022, Mr. FU Junyuan was appointed as the chairman of the Audit and Risk Management Committee, and Mr. GUO Yonghong and Mr. YAO Cho Fai Andrew were appointed as members of the Audit and Risk Management Committee, respectively. For details, please refer to the announcement dated 25 February 2022 published by the Company on the HKExnews website (www.hkexnews.hk) of the Hong Kong Stock Exchange.

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(VI) The Quality and Safety Committee held three meetings during the Reporting Period

Time of meeting	Content of meeting	Important comments and recommendations	Other performance of duties
24 March	Communicated the Urgent Notice of the SASAC on Thoroughly Implementing the Guidelines of General Secretary Xi Jinping's Important Instructions and Rapidly Carrying out the Large-scale Investigation and Rectification of Hidden Safety Hazards, and discussed how CRSC could carry out the large-scale investigation and rectification of hidden safety hazards	Agreed	
26 April	Resolution on the 14th Five-Year Plan for Safety and Quality Development of CRSC	Agreed	
26 December	Summary of safety and quality work for 2022 and safety and quality work arrangement for 2023 of CRSC	Agreed	

As at the end of the Reporting Period, the Quality and Safety Committee consists of executive Director Mr. XU Zongxiang, non-executive Director Mr. GUO Yonghong and independent non-executive Director Mr. YAO Guiqing serving as members. Mr. XU Zongxiang serves as chairman. The Quality and Safety Committee was accountable to the Board of Directors and was mainly responsible for researching the Company's major quality and safety decisions, researching the Company's long-term quality and safety mechanism construction, and reviewing the Company's annual key work on quality and safety.

During the Reporting Period, records of attendance of the members at the meeting of the Quality and Safety Committee are set out as follows:

Name of Director	Number of meetings required to attend	Number of meetings actually attended	Number of meetings not attended
XU Zongxiang	3	3	0
GUO Yonghong	3	3	0
YAO Guiqing	3	3	0

Note:

- As resolved by the Board on 25 February 2022, Mr. XU Zongxiang was appointed as the chairman of the Quality and Safety Committee, and Mr. YAO Guiqing and Mr. GUO Yonghong were appointed as members of the Quality and Safety Committee, respectively. For details, please refer to the announcement dated 25 February 2022 published by the Company on the HKExnews website (www.hkexnews.hk) of the Hong Kong Stock Exchange.

(VII) The details of objections

Applicable Not applicable

SECTION V CORPORATE GOVERNANCE

XII. SUPERVISORY COMMITTEE

As of the end of the Reporting Period, the Supervisory Committee of the Company consists of 3 members, namely Mr. KONG Ning, Ms. LI Tienan and Ms. YANG Yang and Mr. KONG Ning served as the chairman.

On 25 February 2022, the Company convened the first extraordinary general meeting for 2022. Upon the approval of the Shareholders at the extraordinary general meeting, Mr. KONG Ning and Ms. LI Tienan were appointed as shareholder representative Supervisors of the fourth session of the Supervisory Committee of the Company from 25 February 2022, forming the fourth session of the Supervisory Committee of the Company, together with Ms. YANG Yang, the employee representative supervisor elected at the plenary meeting of the employee representative meeting of the Company held on 23 February 2022. The Supervisory Committee resolved to elect Mr. KONG Ning as the chairman of the fourth session of the Supervisory Committee of the Company on 25 February 2022. Mr. CHEN Shikui would cease to serve as an employee representative supervisor of the Company, with effect from 25 February 2022.

The Supervisory Committee is made up of representatives of the Shareholders and an appropriate proportion of representatives of the Company's staff. The actual proportion shall be stipulated in the Articles of Association of the Company, provided that the proportion of representatives of the Company's staff shall not be less than one-third.

Representatives of the Company's staff at the Supervisory Committee shall be democratically elected by the Company's staff at the staff representative assembly, general staff meeting or otherwise. A Supervisor shall serve a term of three years, and may seek re-election upon expiry of the said term. A Supervisor shall continue to perform his or her duties in accordance with the laws, administrative regulations and the Company's Articles of Association until a duly re-elected Supervisor takes office, if re-election is not conducted in a timely manner upon the expiry of his or her term of office or if the resignation of Supervisors results in the number of Supervisors being less than the quorum.

The Supervisory Committee shall be accountable to the general meeting and may exercise the following powers:

- (1) to review the Company's financial position;
- (2) to supervise the Directors, president and other senior management in their performance of their duties of the Company and to propose the removal of Directors and senior management who have violated laws, regulations, the Articles of Association or resolutions of general meetings;
- (3) when the acts of a Director, president and other senior management are detrimental to the Company's interests, to require him/her to correct such acts;

SECTION V CORPORATE GOVERNANCE

- (4) to propose the convening of extraordinary general meetings and to convene and preside over general meetings when the Board fails to perform the duty of convening and presiding over general meetings according to laws;
- (5) to put forward proposals to general meetings;
- (6) to review and issue written review comments on the periodic reports of the Company prepared by the Board;
- (7) to initiate proceedings against Directors and the senior management in accordance with relevant laws;
- (8) to initiate investigations into any irregularities identified in the operation of the Company and, where necessary, to engage professional institutions, such as an accounting firm and a law firm, to assist its work;
- (9) other powers authorized by the Articles of Association or general meeting.

During the Reporting Period, Supervisory Committee had monitored Directors and managers' performance of functions and lawful operation of the Company, reviewed periodical reports of the Company prepared by the Board, reviewed the financial statements of the Company and conducted daily supervision and paid close attention to possible risks that may occur during the Company's operation.

XIII. EXPLANATION OF THE SUPERVISORY COMMITTEE ON DISCOVERY OF THE COMPANY'S RISKS

Applicable Not applicable

The Supervisory Committee had no objection to the supervision matters during the Reporting Period.

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XIV. EMPLOYEES OF THE PARENT COMPANY AND MAJOR SUBSIDIARIES AS OF THE END OF REPORTING PERIOD

(I) Employee

Number of in-service employees of the parent company	124
Number of in-service employees of major subsidiaries	19,525
Total number of in-service employees	19,649
Number of resigned and retired employees with expenses borne by the parent company and major subsidiaries	–

Professional composition

Category	Number
Production personnel	5,005
Sales personnel	1,160
Technical personnel	8,541
Financial personnel	664
Administrative personnel	2,538
Other	1,741
Total	19,649

Educational background

Category	Number (person)
Doctoral candidate	79
Master degree candidate	2,744
Bachelor's degree	11,049
College degree	3,587
High school degree and below	2,190
Total	19,649

The Board emphasizes on diversity (including gender diversity) at all levels of the Group. As at 31 December 2022, the Company managed to attract female talent and maintained the employee gender ratio of about 3:1 (male: female) in 2022, which was in line with the Group's employee diversity policy. The Group will take into account several factors in recruiting employees, including but not limited to gender, age, cultural and educational background, qualifications, race, professional experience, skills, knowledge and service period and the Group will ensure its staff team's gender diversity.

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(II) Remuneration Policy

Applicable Not applicable

In accordance with various policies and guidelines of the state in relation to income distribution and considering the requirements of modern enterprise system, the Company has been continuously improving the remuneration management system and established a salary determination and normal increment mechanism which is basically adapted to the labor market and linked with the enterprise benefits and labour productivity. The Company gives full play to the incentive and constraint functions that remuneration distribution may serve to attract and retain the core talents of the Company, and focuses on the cultivation and reward of scientific and technological talents and technical talents.

In terms of total remuneration adjustment, the Company strictly follows the archival management measures of total remuneration, and adheres to the basic principle of efficiency-based wages, i.e., the enterprises with high efficiency and benefit set high wage levels, which reflects the fairness of distribution, at the same time, support of standalone measures of total remuneration was provided to the team undertaking key core technology research projects to stimulate the enthusiasm of scientific research personnel; in terms of management of the remuneration of responsible persons, the remuneration of responsible persons are linked with the operating performance and the management of the Company, which has good guiding and supporting effects on achieving the operation and management objectives; in terms of the remuneration management of employees of the Company, the Company established a salary system based on basic wages and performance-based bonus, to reflect the job value orientation and work achievement orientation of internal income distribution, effectively enhance the working positivity of employees and improve the vitality of enterprises.

The remuneration policy of Directors and Supervisors of the Company is as follows:

1. The remuneration and benefit standards for executive Directors: total pre-tax remunerations (including basic salaries and performance-based salaries) + social insurances (“insurances and housing provident fund” paid by the Company for individuals) + annuity (supplementary pension insurance paid by the Company for individuals).
2. Total pre-tax remunerations for independent non-executive Directors consist of basic remunerations, allowances for attending Board meetings, allowances for attending meetings of special committees under the Board, of which basic pre-tax annual remunerations for Directors of special committees and other independent non-executive Directors are RMB100,000 and RMB80,000, respectively; and pre-tax allowances for attending Board meetings and meetings of special committees are RMB3,000/time and RMB2,000/time, respectively.
3. The remuneration standards for an independent non-executive Director served by a person-in-charge of a central enterprise leaving his current post, including leaders of state-owned enterprises, state-owned financial enterprises and other units and their internal institutions and subsidiaries, shall be implemented in accordance with the Notice on Salary Allowances for External Directors Served by Persons-in-charge of Central Enterprises Leaving Their Current Posts (Guo Zi [2016] No. 531) (《關於退出現職的中央企業負責人擔任外部董事發放工資補貼有關事項的通知》(國資[2016]531 號)) and Notice on Adjusting the Work Allowances Standards for Retired Persons in Charge of Central Enterprises as Outside Directors (Guoziting Kao Fen [2020] No. 187) (《關於調整退出現職的中央企業負責人擔任外部董事工作補貼標準的通知》(國資廳考分[2020]187號)). The pre-tax work allowance is pre-paid at RMB5,000/month per person. When the annual performance evaluation result is determined, it will be cleared and cashed according to the corresponding standards. If the annual performance evaluation result is excellent, the pre-tax work allowance standard is RMB100,000/year; if the evaluation result is good, the pre-tax work allowance standard is RMB80,000/year; and if the evaluation result is basically competent or below, the pre-tax work allowance standard is RMB60,000/year, and no meeting allowance in any form is received.
4. The remuneration and benefit standards for Supervisors: total pre-tax remunerations (including post-based salaries and performance-based salaries) + social insurances (“insurances and housing provident fund” paid by the Company for individuals) + annuity (supplementary pension insurance paid by the Company for individuals)

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(III) Training Plan

Applicable Not applicable

In 2022, according to training management measures of CRSC, the Company prepared the 2022 Annual Training Plan of the Company based on employees' needs. To ensure the implementation of training plan, the Company cultivated talents by adopting the online and offline method, followed and supervised the implementation of training plan, and evaluated the training effect. In light of actual situation, each subsidiary organized the trainings for whole year. The training content included the work procedure of business, relevant specialized knowledge and business skills. All departments of the headquarters have carried out trainings according to the plan to strengthen the business training of the Group and the trainings on management ability and professional ability of the headquarters staff, and enhance the management and control ability of the Group.

In 2022, 85.29% of the Company's male employees participated in employee training, and 82.19% of female employees participated in employee training, with an average training time of over 20 hours.

(IV) Labor Outsourcing

Applicable Not applicable

Total number of working hours of outsourced labor	57 million hours
Total remuneration paid to outsourced labor	RMB1,861.47 million

XV. PROFIT DISTRIBUTION PLAN OR RESERVES-TO-EQUITY TRANSFER PLAN

(I) Formulation, implementation or adjustment of cash dividend policy

Applicable Not applicable

1. Formulation of cash dividend policy

While maintaining its sustained and steady development, the Company attaches great importance to the reasonable return on investment of shareholders. According to the relevant regulations of the CSRC, the Articles of Association have clearly stipulated the review procedures for cash dividend and profit distribution. The Company's profit distribution complies with the provisions of the Articles of Association. The dividend standards and ratios are explicit and clear, and the relevant decision-making mechanism and procedures are complete.

2. Implementation of cash dividend policy during the Reporting Period

On 10 June 2022, the 2021 annual general meeting of the Company reviewed and approved the profit distribution plan for 2021. Calculated based on the total share capital of 10,589,819,000 shares (after the listing and issue of A Shares of the Company), cash dividends of RMB1.7 (tax inclusive) per ten shares were distributed, which had been completed.

SECTION V CORPORATE GOVERNANCE

3. Explanation of profit distribution plan for 2022

The Company held the 12th meeting of the fourth session of the Board on 23 March 2023. The meeting reviewed and approved the Annual Profit Distribution Plan for 2022 with 7 affirmative votes, 0 dissenting vote and 0 vote abstaining from voting, and agreed to submit the profit distribution plan to the Company's 2022 annual general meeting for review. The plan decides that a cash dividend of RMB1.7 (tax inclusive) will be paid to all shareholders for every ten shares, of which domestic shareholders will be paid in RMB and H shareholders will be paid in Hong Kong dollars. The exchange rate of Hong Kong dollars will be calculated in accordance with the average forex closing price published by the People's Bank of China for the three working days before the day when the dividend distribution announcement is made. As of 31 December 2022, the total share capital of the Company was 10,589,819,000 shares. Based on this calculation, the total cash dividend to be distributed is RMB1,800,270,000, accounting for 49.54% of net profit attributable to shareholders of listed companies in the 2022 consolidated statement of the Company. The independent Directors of the Company performed their duties diligently, carefully reviewed the proposal on the cash dividend policy and issued independent opinions.

If the above profit distribution plan is reviewed and approved by the Company's general meeting, the cash dividends are expected to be distributed on or before 31 August 2023. When the specific time is determined for convening the general meeting, the Company will separately announce further details including the closure of the registration of members of the H shares and the expected cash dividend payment date, if updated, in respect of the relevant cash dividend distribution. The time arrangement such as the record date and the cash payment date for Shanghai-Hong Kong Stock Connect and Shenzhen-Hong Kong Stock Connect investors is in line with that for H shareholders of the Company.

(II) Special explanation of cash dividend policy

Applicable Not applicable

Whether the policy complies with the Articles of Association or requirements of the resolutions of the general meeting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Whether the criteria and proportion of dividends are specific and clear	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Whether relevant decision-making procedures and mechanisms are complete	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Whether independent directors have performed their duties and given play to their due roles	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Whether minority shareholders have adequate opportunities to express their opinions and demands, and whether their legitimate rights and interests have been adequately protected	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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(III) Provided that the Company has made profits and the parent company's profits distributable to shareholders are positive, but no plan for distribution of profits by cash has been proposed during the Reporting Period, the Company shall disclose in details the reasons therefore and use and plan of usage of the undistributed profit

Applicable Not applicable

(IV) Profit distribution or reserves-to-equity transfer for the Reporting Period

Applicable Not applicable

Unit: Yuan Currency: RMB

Number of bonus shares to be distributed for every ten shares (share)	–
Amount to be distributed for every ten shares (RMB) (tax inclusive)	1.7
Number of shares to be converted into share capital for every ten shares (share)	–
Amount of cash dividend (tax inclusive)	1,800,269,230.00
Net profit attributable to ordinary shareholders of the listed company in the consolidated financial statement during the year of distribution	3,633,606,010.05
Percentage of the net profit attributable to ordinary shareholders of the listed company in the consolidated financial statement (%)	49.54
Amount of repurchase of shares under cash offer included in cash dividend	–
Total amount of dividend (tax inclusive)	1,800,269,230.00
Total amount of dividend as a percentage of the net profit attributable to ordinary shareholders of the listed company in the consolidated financial statement (%)	49.54

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XVI. INFORMATION ABOUT THE COMPANY'S SHARE INCENTIVE PLAN, EMPLOYEE STOCK OWNERSHIP PLAN OR OTHER EMPLOYEE INCENTIVE MEASURES AND THEIR IMPACTS

(I) General information of Share Incentive Plan

Applicable Not applicable

(II) Relevant incentive events disclosed in the temporary announcements and with no progress or change in subsequent implementation

Applicable Not applicable

Other explanations

Applicable Not applicable

Employee stock ownership plan

Applicable Not applicable

Other incentive measures

Applicable Not applicable

(III) The equity incentives granted to the Directors, senior management and core technicians during the Reporting Period

1. Stock option

Applicable Not applicable

2. The first type of restricted stocks

Applicable Not applicable

3. The second type of restricted stocks

Applicable Not applicable

(IV) Establishment and implementation of evaluation and incentive mechanisms for senior management during the Reporting Period

Applicable Not applicable

SECTION V CORPORATE GOVERNANCE

XVII. RISK MANAGEMENT AND INTERNAL CONTROL

(I) Accountability and Audit

Directors acknowledge their responsibility for preparing the consolidated financial statements of the Company for the year ended 31 December 2022. The Directors consider that the Group has adequate resources to continue in business for the foreseeable future and are not aware of material uncertainties that may cast significant doubt on the Company's ability to continue as a going concern.

(II) Risk Management and Internal Control Systems

1. Risk management and internal control management responsibilities

The Board of the Company is responsible for determining the overall risk management objectives, risk tolerance, major risk management solutions and internal control construction implementation plans of the Company and is accountable to the general meeting for the effectiveness of overall risk management and internal control. The management of the Company is responsible for organizing, establishing and improving the Company's overall risk management and internal control system. The legal compliance department of the Company is responsible for the construction and overall operation of the overall risk management and internal control system as well as the organization, coordination and centralized management of overall risk management and internal control. The audit department of the Company is responsible for evaluating the effectiveness of overall risk management and internal control, and conducting internal control audit and supervision. Such risk management and internal control management are designed to manage rather than eliminating the risk of failure to meet business objectives and to only provide a reasonable, but not absolute, assurance that there will be no material misrepresentations or losses.

2. Risk management and internal control management systems and procedures

The Company has formulated the Measures for the Administration of Overall Risk Management and Internal Control of the Company and the Measures for the Administration of Risk Evaluation of the Company. In accordance with the regulations, the legal compliance department of the Company conducts a comprehensive risk evaluation on the whole system of the Company at the beginning of each year to examine the effectiveness of overall risk management and control in the previous year and identify the major risks that will be faced in the next year and the countermeasures taken by it. The audit department of the Company conducts an internal control assessment at the beginning of each year to assess the effectiveness of internal control of the whole system for the previous year, identify any internal control defects and implement the rectification of internal control defects. The legal compliance department and audit department of the Company report to the Audit and Risk Management Committee on risk management and internal control, including but not limited to the effectiveness and defects of internal control of the Company, overall risk evaluation results and management and control measures.

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3. Non-compliance report policy and procedure

The discipline inspection and supervision department of the Company is responsible for accepting reports on corrupt practices of internal staff of the Company, the violation of the Company's rules and regulations, the dereliction of duty or malfeasance, etc., and carrying out investigation and handling in accordance with the Interim Provisions on Handling the Violation of Discipline and Noncompliance by Staff of the Company. Employees, customers, suppliers and other stakeholders of the Company can obtain the report telephone number from the official website of CRSC. Specifically, in accordance with the Implementation Measures for Handling Complaints about Tender and Bidding of the Company, it takes the lead in forming an investigation team to conduct investigations into complaints about the tender and bidding of equipment and materials of CRSC and their handling, and makes decisions on handling and gives replies, etc. according to law pursuant to permissions.

4. Key business risks and internal control

In accordance with the requirements of the Guidelines for Overall Risk Management of Central Enterprises of SASAC, the Company implements risk management in the operation of all its businesses and effectively manages and controls its business activities through the internal control system and the internal control process. In accordance with the Measures for the Administration of Rules and Regulations of Stock Company, the legal compliance department of the Company is responsible for the construction and improvement of the internal control system and evaluating and improving the effectiveness, operability and system coordination of the Company's internal rules and regulations each year. In accordance with the Interim Measures for Investment Management of Stock Company, the Interim Measures for Investment Management of Capital Operation Projects of Stock Company and other regulations, the relevant business departments of the Company conduct special risk evaluations on important management activities such as investment and generate special risk evaluation reports as an important basis for decision making.

SECTION V CORPORATE GOVERNANCE

5. Overall situation of risk management and internal control for 2022

In 2022, the legal compliance department and the audit department of the Company organized all functional departments and enterprises of all levels to conduct overall risk evaluations, internal control assessments, rationalize internal control system and procedure, and continue to improve the internal control system, conduct investigations on special risk, track the implementation of major risk control measures, and give risk warning at the beginning of the year in accordance with the regulations and the requirements of the Board of Directors and management of the Company and organized special risk evaluations on and took countermeasures against each major project in order to improve the Company's overall risk management and internal control management system and ensure that the Company's risks are controllable, the internal control system and procedure continue to be effective and internal control measures are effectively implemented. For the year ended 31 December 2022, the Board has reviewed the risk management and internal control system of the Company and its subsidiaries through the legal compliance department and the audit department, and considers that the system is still effective and sufficient.

Meanwhile, the Audit and Risk Management Committee has reviewed the effectiveness of the Group's risk management and internal control systems, covering annual material risks and response measures, financial monitoring, internal control and risk management system. The Audit and Risk Management Committee has also considered the adequacy of the Group's resources, employee qualifications and experience in respect of accounting and financial reporting functions, and has reported the relevant matters to the Board. No significant defect in internal control was identified in relevant review.

6. Handling and releasing inside information

In accordance with the Company's information disclosure management regulation, the Company has defined the scope of inside information and relevant staff, established a sensitive information submission and release approval mechanism and reviewed the content of the list on a regular basis so as to quickly identify and promptly report any material which may constitute inside information. When receiving any material which may constitute inside information, the information disclosure management department will immediately evaluate the information and monitor the information before the release of the information to ensure that only a small number of those who need to know the information receive such information and ensure that these persons are well aware of their confidentiality responsibility. If such material is judged to be inside information, the information disclosure management department will coordinate the release of inside information as soon as possible through the electronic publication system operated by the Stock Exchange.

SECTION V CORPORATE GOVERNANCE

XVIII. CONSTRUCTION AND IMPLEMENTATION OF INTERNAL CONTROL SYSTEM DURING THE REPORTING PERIOD

Applicable Not applicable

In 2022, CRSC continuously managed the whole life cycle of the internal control system, conducted reviews and evaluations on the internal control system, formulated an annual system construction plan, conducted regular tracking on the progress of system establishment, revision and abolition and comprehensively promoted the construction of systems. It refined the establishment of the internal control system and carried out investigations on the whole system. For the establishment, revision and abolition of rules and systems of the Company as well as changes in external laws and regulations and other regulatory requirements, it fully reviewed and optimized internal control procedures, amended and released the Overall Risk Management and Internal Control Management Manual. It systematically established special systems on compliance management, formulated and released compliance management systems on basic management, employee behaviors, job responsibility and other aspects, and signed letters of undertaking on compliance with all employees, further consolidating the foundations for the compliance management of the Company. CRSC continuously strengthened the operation and implementation of systems and facilitated the modern governance system and capability of the Company.

Explanation of any significant defects in internal control during the Reporting Period

Applicable Not applicable

XIX. MANAGEMENT AND CONTROL OVER SUBSIDIARIES DURING THE REPORTING PERIOD

Applicable Not applicable

By improving the system construction, reforming the management organization and optimizing the working mechanisms, the Company strengthened the responsibilities of the management organization, smoothed the management procedures and conducted all-round management and control of subsidiaries' production and operation, finance and assets, staff and organizations as well as risk prevention and control. At present, the management and control mechanism for subsidiaries is running in an orderly and steady manner. By guiding the construction of the board of directors of subsidiaries, the Company optimized the governance mechanism, improved the corporate governance and drew on the functions of the Board of Directors in "developing strategies, making decisions and preventing risks", further amplifying the role and value of the Board of Directors.

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In addition, by building the decision-making on major events, appointment and dismissal of important cadres, investment decisions on major projects, and use of large amounts of funds (“Three Importance and One Large”) and operation supervision system, investment project approval decision-making system, safety and quality information system, data collection system for three-year action plan for reform, contract information system, accountability information system and other information systems, the Company obtained information of subsidiaries in time, and regularly carried out major risks tracking and monitoring to achieve dynamic management and control of subsidiaries. In the next step, the Company will further strengthen information construction, strengthen the control of subsidiaries through scientific and technological means and better serve, guide and support the deep reform, production, operation and risk prevention of subsidiaries.

XX. RELEVANT INFORMATION ABOUT AUDIT REPORT ON INTERNAL CONTROL

Applicable Not applicable

The Report on Internal Control Evaluation for 2022 (《2022 年度內部控制評價報告》) and the Audit Report for 2022 of BDO China SHU LUN PAN Certified Public Accountants LLP on the Internal Control of China Railway Signal & Communication Corporation Limited (《立信會計師事務所(特殊普通合夥)關於中國鐵路通信信號股份有限公司 2022 年度內部控制審計報告》) have been disclosed on the designated websites of the Shanghai Stock Exchange(www.sse.com.cn) and the Stock Exchange (www.hkexnews.hk) and the official website of the Company (www.crsc.com.cn) together with this report.

Whether to disclose the audit report of internal control: Yes

Opinion type of internal control audit report: Standard report without reserved opinions

XXI. SELF-EXAMINATION AND RECTIFICATION OF LISTED COMPANY GOVERNANCE SPECIAL ACTIONS

With reference to the Special Self-examination List of Corporate Governance for Listed Companies, the Company carefully reviewed and inspected the setting of corporate organizations, the establishment of system, the operation and decision-making of organizations, controlling shareholders, actual controllers and related parties, the internal control management, the information disclosure, the circumstances of investors and other aspects. It set rectification targets, made elaborate arrangements and promptly made rectifications in an organized way. All problems were fully rectified. During the Reporting Period, in combination of the targets on the three-year action of the state-owned enterprise reform, the Company further improved the corporate governance system, refined the governance structure, strengthened regulated operations, enhanced the governance efficiency and promoted the high-quality corporate development, facilitating the completion of the three-year action of the state-owned enterprise reform with high quality.

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XXII. JOINT COMPANY SECRETARIES

From 15 July 2022 to the date of this report, Mr. LI Lianqing and Mr. WEI Weifeng have been the joint company secretaries of the Company. Mr. WEI Weifeng serves as a director and the group chief executive officer of SWCS Corporate Services Group (Hong Kong) Limited (a professional corporate service provider), and his main contact person in the Company is Mr. LI. Mr. LI and Mr. WEI undertook no less than 15 hours of relevant professional training for the year ended 31 December 2022.

With effect from 16 April 2022, Mr. HU Shaofeng resigned as one of the Joint Company Secretaries of the Company due to change in his job arrangement. With effect from 25 March 2022, Ms. NG Wing Shan resigned as one of the Joint Company Secretaries of the Company, and Mr. WEI Weifeng replaced her as the joint company secretary of the Company. On 17 January 2022, Ms. QIU Wei resigned as one of the joint company secretaries of the Company due to job change, and Mr. HU Shaofeng became a joint company secretary of the Company.

XXIII. AUDITOR'S REMUNERATION AND MATTERS RELATING TO THE AUDITOR

The particulars of the Company's auditors are set out in Section VII "Significant Events" in the annual report.

XXIV. OTHERS

Applicable Not applicable

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

I. STATEMENT ABOUT ESG FROM THE BOARD OF DIRECTORS

The Company's Board of Directors has always attached great importance to the ESG work, started from top-level design, integrated ESG into corporate management, and established a closed loop of ESG risk investigation, control, monitor and improvement. The Company has a department dedicated to the day-to-day ESG management and preparation of ESG report. The 2022 ESG report is the 10th ESG report of the Company, which describes the management philosophy, highlight practices and annual results of the Company's work on environmental, social and governance in 2022. For more details, please refer to the 2022 ESG report disclosed with this report.

II. ENVIRONMENTAL INFORMATION

Whether mechanisms related to environmental protection have been established	Yes
Amount of investment in environmental protection during the Reporting Period (unit: RMB0' 000)	1,849.31

(I) Whether it falls in the category of key pollutant-discharging units determined by environmental protection departments

Yes No

1. Construction and operation of pollution prevention and control facilities

Applicable Not applicable

The Company enhances management on the operation of environmental and energy-saving equipment and facilities. For the VOC treatment facilities for electronic board cards, industrial manufacturing entities maintain purification devices based on the requirements of operation specifications and regularly change filters to ensure the stable operation of equipment and facilities.

2. Environmental impact assessment and other administrative licenses in relation to environmental protection of construction projects

Applicable Not applicable

The Company conducts the "three simultaneous" work on the environmental protection of new, rebuilt and expanded projects. It carried out three simultaneous assessment on the environmental protection of the production line of intelligent power supply equipment for environmental gas from the railway construction of the CRSC, the intelligent and digital transformation of the lead-free manufacturing of Shanghai Railway Communication and the Science and Technology Mansion of CRSC Electrification Bureau, fully practicing the green manufacturing concept of "saving energy, cutting down consumption, reducing pollution and improving efficiency" and controlling pollution in the feasibility study stage.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

3. Emergency plan for contingent environmental incidents

Applicable Not applicable

The Company formulated the Measures for Reporting, Investigation and Handling of Environmental Emergencies of the CRSC, which defined and classified environmental emergencies, specified organizations and responsibilities, clarified the reporting, investigation, handling and accountability of contingent environmental incidents and standardized the emergency management of such incidents.

4. Environmental self-monitoring program

Applicable Not applicable

The Company conducts environmental monitoring in compliance with regulations and ensured the standard emission of pollutants. Relevant enterprises of the CRSC completed the inspections on wastewater, exhaust gas and noises at boundary based on the inspection cycle to ensure emissions in compliance with national and local emission standards. Shenyang Railway Signal Co., Ltd., Jiaozuo Railway Cable Co., Ltd. and other relevant enterprises enhanced tour inspections and maintenance on the online monitoring system of local ecological and environmental management departments for discharging terminals to ensure standard emissions.

5. Other environmental information to be disclosed

Applicable Not applicable

(II) Administrative penalty for environmental problems during the Reporting Period

None

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

(III) Information on energy consumption and emissions

Applicable Not applicable

The Company adheres to the guidance of Xi Jinping's ecological civilization thought, thoroughly implemented the requirement of the Party Central Committee, the State Council and SASAC on the work of carbon peak and carbon neutrality, actively fulfills the development philosophy of "Green mountains and clear water are invaluable assets" (綠水青山就是金山銀山), advocates resource and energy conservation, promotes innovation of green and low-carbon technology, minimize emissions of waste water, waste gas and waste materials, builds green and low-carbon cycling development system, reduce environmental pollution by various measures, forms a green development style and lifestyle, and empowers high-quality development with green and low-carbon. In 2022, the Company accelerated the elimination of high-energy-consuming and high-pollution processing equipment, accelerated the demonstration, application and promotion of new energy-saving and low-carbon technologies, processes and products, implemented green manufacturing, and improved the level of energy conservation and resources recycling. CRSC also implemented clean and efficient use of fossil energy, strictly and reasonably controlled coal consumption, promoted the transformation of coal power to a supporting and regulatory power resource, strictly controlled new coal power projects, continuously eliminated backward coal power productivity, and actively and orderly promoted substitution of coal and transformation of coal cleaning.

1. Greenhouse gas emissions

Applicable Not applicable

The Company puts energy-saving resources in the first place, improves utilization efficiency, actively implements transformation and upgrading of green and low-carbon, continuously reduces energy and resource consumption and carbon emissions per unit of production, and reduces carbon dioxide from the source. CRSC fully plays the main role of enterprise innovation, strengthens technological innovation and institutional innovation, enhances the supply ability of high-quality and green products and services, accelerates the application and promotion of key green and low-carbon technology and products. In 2022, CRSC standardized the regulation, measurement, statistical caliber and calculation method of its subsidiaries on carbon dioxide and other greenhouse gas and incorporated the carbon dioxide from the production of the full industrial chains of engineering construction enterprises, design, R&D and assembly enterprises and other non-industrial enterprises into the scope of statistics, including carbon dioxide emissions from the combustion of fossil fuels, purchased power and heat. In 2022, the emissions of carbon dioxide reached 74,039 tons and the emission density was 0.0186 ton/RMB10,000.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

2. Energy and resources consumption

Applicable Not applicable

2020-2022 Annual Energy and Resources Consumption of CRSC

Energy Type	Electric Power MWh	Liquefied Gas m ³	Gasoline ton	Diesel ton	Thermo million kJ	Natural Gas m ³
2020	80,719.1	87,154.2	3,848.1	1,037.2	122,483.6	2,230,187.0
2021	109,700.0	74,883.0	3,800.0	1,606.3	86,601.8	2,952,281.6
2022	84,040.2	23,536.4	4,267.5	2,620.3	47,964.4	2,082,460.0

2020-2022 Annual Energy and Resources Consumption of CRSC

Energy Type	Water Consumption ton	Water Consumption Intensity ton/RMB' 0,000	Combined Energy Consumption tons of standard coal	Combined Energy Consumption Intensity standard coal/RMB' 0,000
2020	1,093,600	0.27	41,130	0.01
2021	938,003	0.24	25,955	0.01
2022	887,390	0.22	24,830	0.01

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

3. Waste and pollutant emissions

Applicable Not applicable

2020-2022 Annual General Waste Emissions of CRSC

Type of General Waste	Manufacturing					Engineering Construction		Office Premises			Bulbs
	Wood ton	Plastic ton	Metal ton	Carton ton	Others ton	Disposal Volume of Construction Waste ton	Waste Paper kg	Waste Lamp unit	Electronic Waste unit	Toner Cartridges and other printing supplies unit	
2020	107.2	330.7	1,355.9	99.0	133.5	6,040.6	49,292.5	6,660	617	5,113	889
2021	104.5	320.3	692.9	100.7	133.2	28,753.3	35,405.6	2,867	1,109	4,834	1,366
2022	139.9	221.4	934.8	63.3	159.1	17,542.0	33,498.1	10,074	1,078	7,279	1,474

Company environmental protection management system and other information

Applicable Not applicable

CRSC has attached great importance to the work on energy conservation and environmental protection, and constantly improved relevant systems. Through irregular monitoring, tests and inspections, the current systems, such as CRSC Energy Conservation and Eco-environmental Protection Management Measures, Notice of CRSC on Strengthening the Management of Energy Conservation and Emission Reduction and Measures of CRSC for Reporting, Investigation and Handling of Environmental Emergencies, were under strict and effective implementation, ensuring that the Company meets the standards on environmental protection and safety.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

(IV) Measures taken to reduce carbon emissions during the Reporting Period and their effectiveness

Adopted carbon reduction measures or not	Yes
Emissions of CO ₂ equivalent reduced (unit: tons)	2,763.78
Types of carbon reduction measures (such as use of clean energy in power generation, adoption of carbon reduction technology in production and R&D and production of new products conducive to carbon reduction)	The Company explored the new energy structure and actively introduced photovoltaic projects. CRSC Xi'an, a subsidiary of CRSC Xi'an Industry Group and CRSC Tianjin Railway Signal Co., Ltd. established photovoltaic inspection teams and fully inspected distributed roof photovoltaic technologies. While simultaneously achieving power supply with the State Grid, they expanded the proportion of the use of green power, reduced the purchase of thermal power and boosted the promotion and use of green power. The Report on the Demand and Feasibility of Distributed Photovoltaic Power Generation Projects of the two companies has passed review at professional meetings.

Specific explanation

Applicable Not applicable

The Company actively followed the spirit of the Opinions of CPC Central Committee and State Council on the Complete and Accurate Implementation of the New Development Philosophy to Work Well on Carbon Peak and Carbon Neutrality (《中共中央國務院關於完整準確全面貫徹新發展理念做好碳達峰碳中和工作的意見》), and SASAC's Guidance on Promoting Central Enterprises' High-quality Development and Working Well on Carbon Peak and Carbon Neutrality (Guo Zi Fa Ke Chuang [2021] No. 93) 《關於推進中央企業高質量發展做好碳達峰碳中和工作的指導意見》(國資發科創[2021] 93 號)), set up a work leading group and a work group for the implementation of "Dual Carbon", and clarified responsibilities and personnel. CRSC formulated and issued the Action Plan for Carbon Peak of CRSC (CRSC Huan Jing [2022] No. 372) 《中國通號碳達峰行動方案》(中國通號環境[2022]372 號)), which mainly includes general requirement, objectives and strategies, eleven key tasks, nine key projects and six guarantee measures.

CRSC convened a video meeting on promoting the work on carbon peak and carbon neutrality to deeply implement Xi Jinping's thought on ecological civilization and significant decisions and deployments of the CPC Central Committee, the State Council and the SASAC on ecological conservation. A total of 124 specific leaders, safety directors, department heads and supervisors of all subsidiaries attended the meeting. The meeting proposed requirements and deployments on eleven aspects to promote the work on "carbon peak and carbon neutrality".

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

(V) New technologies, new products and new services in reduction of carbon emission

Applicable Not applicable

By improving the R&D design, scientific research management and process optimization, the Company has strengthened the collaborative development of scientific research, improved R&D efficiency and reduced energy consumption of scientific research. The new interconnected system of CRSC CASCO promoted energy saving and reduction of carbon emission. It focused on the research and development of the dynamic coupling and uncoupling functions of the TRANAVI system in interconnected trains under fully automatic operation to achieve resources sharing among trains on different lines, realize dynamic deployment and flexible dispatching on the capacity of lines, improve the load rate of trains, reduce the annual mileage of trains and achieve energy saving and reduction in carbon emission while meeting passengers' travelling demands. The big data management system on intelligent industries of CRSC Tianjin Railway Signal Co., Ltd. was preliminarily established. It can conduct real-time monitoring on the abnormal temperature, current overload, overvoltage and under voltage in electrical lines and monitoring on power, and achieve monitoring on the energy consumption and power safety of major power transformation and distribution facilities and electric equipment in the park.

Engineering enterprises actively carried out the development and promotion of green and low-carbon technologies. CRSC Engineering Bureau Group Construction Engineering Co., Ltd. conducted the development on the Hard and Soft Installment of Roof Solar Photovoltaic Brackets, the Study on Flat Roof Photovoltaic Construction Technology and other scientific research topics in 2022. CRSC Construction Group displayed the advantages of prefabricated buildings in saving resources and conducted reasonable disassembly and assembly of templates with BIM technology and improved the recycling rate. Through the reasonable disassembly of PC components, it achieved the standardization of components and saved the wastage of templates and turnover fees. The development and promotion of green and low-carbon technology improved the process, reduced the cost, enhanced the quality of projects and reduced the emission of construction waste. It also boosted recycling efforts and facilitated green construction.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

(VI) Information beneficial to ecological protection, pollution prevention, and fulfilling environmental responsibility

Applicable Not applicable

R&D and system integration entities integrated the concept of green and low-carbon development into all links and continued to increase the introduction of design ideas and integration concepts of energy conservation and environmental protection. In terms of selecting materials and equipment, energy conservation and environment-friendly technical solutions were preferred, low-energy components and equipment configurations were adopted to ensure energy conservation and low carbon from the source.

Industrial manufacturing entities accelerated the pace of enterprise upgrading and promoted green development. The BRSC of CRSCD, CRSC Xi'an, a subsidiary of CRSC Xi'an Industry Group, actively carried out the establishment of green credit systems. BRSC was awarded the title of "Four-Star Green Credit Enterprise" in July. CRSC Xi'an initiated the establishment of qualifications for the appraisal on "green plants" in April. It constantly improved energy saving and consumption reduction, green processes and the control of sewage, exhaust and solid waste and explored new approaches for emissions reduction through eliminating outdated equipment, adopting advanced and applicable clean production processes and technologies and high-efficiency terminal treatment equipment and promoting the optimization of the energy structure, achieving the green development of plants. In October, it obtained the certification on provincial green plants and passed the publicity of national green plants by the MIIT. The BRSC of CRSCD completed the renovation of 182 lights in the electronic processing center and warehouses for finished products. It replaced the original metal halide lamps with a power of 400W/each with LED light with a power of 100W/each, saving approximately 240,000kWh of electricity in 2022. CRSC Tianjin Railway Signal Co., Ltd. invested a total of RMB91,300 in the replacement of 756 lamps into LED lights. It replaced old air-conditioners with high energy consumption and purchased 14 air-conditioners with Class 1 energy efficiency label, which is featured with low energy consumption, achieving substantive effects in energy saving and consumption reduction.

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Engineering construction enterprises actively practiced green construction. They gave priority to the use of national and industry-recommended energy-saving, high-efficiency and environment-friendly construction equipment, and selected the energy-saving construction equipment with inverter technology; optimized construction organization to maximize mechanical energy consumption and reduce carbon emissions; implemented a quota material collection system to eliminate waste of materials. The Application of BIM Technology in the Construction Stage of the Construction of the Eastern Square of Pingdingshan West Station of Zhengzhou-Chongqing High-speed Railway and Ancillary Infrastructure and the Application of BIM Technology in the EPC of Technological and Cultural Industrial Projects of Taihang Data Lake in High – and New-tech Area of Changzhi City of CRSC Engineering Bureau Group Urban Construction Engineering Co., Ltd. were awarded the gold award and the silver award at the 3rd “Zhijian Cup” International Smart Construction Innovation Awards, respectively. CRSC Electrification Bureau installed dust monitoring and excessive dust warning systems (for the monitoring of PM2.5, PM10 and noises) at construction sites and strictly abided by local management and control policies on environmental protection, demonstrating the undertakings of a central enterprise in creating a beautiful ecology and environment.

CRSC organized publicity activities on the Environment Day on 5 June, the week for national publicity of energy conservation and the National Low-carbon Day in the whole system with over 33,523 participants. Over 500 leaders and business supervisors at various levels registered for the trainings on carbon peak and carbon neutrality organized by the SASAC. It greatly improved the environmental awareness of all employees and enhanced their professional capabilities and management skills.

III. SOCIAL RESPONSIBILITY WORK

(I) Social contribution of the main business and key indicators of the industry

During the Reporting Period, the Company continued to further cultivate the rail transportation control system, accelerated the implementation of key core technology research and development, further consolidated and increased the market share of rail transportation control system, and continuously promoted the enterprise to achieve high-quality development. In 2022, we ensured the opening and operation of 1,200km of high-speed railway projects such as Hangzhou-Shaoxing-Taizhou High-speed Railway, Huanggang-Huangmei High-speed Railway, Yinchuan-Lanzhou High-speed Railway, Hubei section of Zhengzhou-Chongqing High-speed Railway, Henan section of Zhengzhou-Jinan High-speed Railway and Huzhou-Hangzhou High-speed Railway; ensured the smooth delivery of the newly constructed Hetian-Ruoqiang Railway, Dabao section of the newly constructed Dali-Ruilu Railway, the renovation of Qinghai-Tibet Railway from Golmud to Lhasa section and the renovation and expansion of Zhuzhou Station; ensured the opening and operation of 23 urban rail transit projects including Hangzhou Airport Line, Changsha Subway Line 6 and Shenzhen Metro Lines 12 and 16, totaling 610km were put into operation.

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(II) Types and contributions of charitable activities

Type	Amounts	Explanation
External donations		
Including: Funds (RMB0'000)	-	
Goods converted into money (RMB0'000)	-	-
Commonweal projects		
Including: funds (RMB0'000)	23.50	Donations to cultural and sports causes for supporting the development of scientific, education and personnel development and funding poor children's schooling
Number of people rescued (persons)	-	the actual number of people it helps is unable to be account due to the channels
Rural revitalization		
Including: funds (RMB0'000)	36.00	Donations to areas receiving targeted assistance for rural revitalization
Goods converted into money (RMB0'000)	-	-
Number of people assisted in employment (persons)	-	The number of employees actually helped by the Company is unable to be accounted due to the channels

1. Details of public charitable activities

Applicable Not applicable

While creating economic benefits, the Company always insists on giving back to society, actively participates in public charitable activities and voluntary service actions, to help the society develop harmoniously with practical efforts.

Providing strong guarantees to key programs. During the year, the Company completed tasks on guaranteeing rail transportation for the 20th National Congress of the CPC, the Winter Olympics and the Paralympic Winter Games, the celebration of the 25th Anniversary of Hong Kong's Return to the Motherland and the Shanghai CIIE. It dispatched two outstanding technical experts to provide technical supports to the Winter Olympic villages, the Analeptic Inspection Center and the National Speed Skating Oval. The Youth Volunteer Service Team of the Repairing and Maintenance Project Department for Shanghai Metro, the Iron Army Youth Volunteer Service Team of the Renovation of Shuozhou-Huanghua Railway from 3-Display Automatic Blocking to 4-Display Automatic Blocking and other frontline organizations kept alert on preventing disasters. They fought against Typhoon Meihua and floods. Their outstanding performance was reported by china.com.cn, chinadaily.com.cn and other media.

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Offering warmth through voluntary services. The volunteer service teams carried out voluntary service activities at Shenyang Science Centrum. They guided tourists to get tickets and maintained the order to ensure operational safety. They displayed funny experiments to children, interpreted scientific knowledge, advocated youngsters to learn science and cultivated their interest, laying the seed for China's scientific progress in the future. Employees of CRSC Electrification Bureau visited the voluntary trees planting base in Zhengzhou and carried out the voluntary trees planting activity themed “planting evergreen trees of corporate development and building a harmonious and beautiful homeland together”, injecting CRSC's booming strength into the building of a beautiful China.

Demonstrating undertakings through voluntary services. Cadres and employees actively participated in epidemic prevention and control in communities. They responded to the calls of local governments and fully devoted to voluntary services in epidemic prevention and control. Shanghai Engineering Bureau Group, a subsidiary of the Company, carried out the activities of “practicing the spirit of Lei Feng and carrying forward new conduct of the era.” It conducted disinfection and cleaning in local parks, surrounding communities, commercial areas and other public places and distributed epidemic prevention items and publicized knowledge on epidemic prevention in parks, metro stations and other public places, fully demonstrating the undertakings of a central enterprise.

2. Details on consolidating and expanding the achievements of shaking off poverty and rural revitalization

Applicable Not applicable

The Company focused on new conditions and new demands in rural revitalization and carried out targeted assistance in Sheqi in Henan for 19 consecutive years to develop the “Sheqi model” in rural revitalization. It established a leading group on targeted assistance, deployed the work on targeted assistance for the year, released the annual work plan and boosted inspections and supervisions to improve the long-term effectiveness of assistance. It improved the mechanisms on “endogenous development” and “exogenous assistance”, established a three-dimensional assistance system and promoted the overall revitalization of Sheqi with targeted efforts.

Focusing on industrial revitalization. The Company introduced Henan Ruiken Agricultural Development Co., Ltd., the phase-II project of Henan Jinfangyuan Pharmaceuticals on TCM decoction pieces and the manufacturing of warehousing equipment of Henan Junfa to construct infrastructure for tobacco and vegetable seedling, blueberry plantation, chicken raising, shii-take and TCM materials processing, which promoted employment and increased farmers' incomes.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

Focusing on talent revitalization. The Company developed human resources in rural areas. It organized special training classes on grass-roots cadres in rural areas, the rectification in villages with slovenly cadres and training classes for leaders and technicians in rural entrepreneurship and prosperity to systematically train grass-roots cadres in rural areas and leaders and agricultural technicians in rural revitalization.

Focusing on cultural revitalization. The Company renovates Martyr Cemetery of Taihe Town and the Ninth Red Army Martyr Cemetery in Wangluzhuang, Yandiengang, repaired and built the Third Red Army Martyr Memorial Plaza and jointly built the Party History Museum of Raoliang Town to promote rural revitalization with “red force”.

The Company focused on ecological revitalization. It purchased 6,000 red magnolias and Chinese roses in the construction of a demonstration site of forest-like villages, the improvement of the living environment and the construction of the “CRSC Cultural and Ecological Village in Yuanlao Village, Zhuji Town.” It installed pollution treatment facilities, built new village roads and cultural parks and renovated 2 ponds in Liuji Village, Taihe Town, effectively improving the production and life of local residents.

It focused on organizational revitalization. Party committees of its subsidiaries in Henan entered into an agreement on joint Party building with the Party branch of poverty-stricken villages in Sheqi County. They continuously carried out paired assistance on consolidating foundations for Party building, assisting in institutional establishment and public and group activities.

Maintaining key support. The Company continued to support the artificial flower industry. So far, it has developed a scale with “over 100 upstream and downstream enterprises with an annual output of over RMB300 million and over 2,000 people engaged in manual processing”, promoted the establishment of the Sheqi Artificial Flowers Association, assisted the upgrading and renovation of artificial flowers processing workshops in Haozhai Town and attracted over 50 families with low incomes to work in enterprises. It assisted the establishment of artificial flowers processing workshops in Lidian Town and employed a maximum of over 100 workers with a maximum monthly revenue of over RMB5,000.

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Advancing assistance through consumption. Relying on the e-commerce platform for assistance through consumption by central enterprises, the Company actively participated in the activities of the “Week for Supporting and Vitalizing Agriculture through Consumption by Central Enterprises” and ranked the 56th among central enterprises in terms of the total amount of agricultural products purchased from areas lifted out of poverty. It also selected shops with outstanding assistance results and included them into the special hall for Sheqi County in the e-commerce platform for assistance through consumption by central enterprises, which expanded the sales channels of local processing enterprises and agricultural cooperatives. Huang Yuanfang, who assumed the temporary post of deputy county chief, served as a “livestreaming host”, cooperated with large livestreaming booths and sold agricultural products of over RMB5.71 million.

Focusing on technological assistance. The Company advanced the strategy on agricultural revitalization with technology. It provided assistance for the group companies to establish special funds on agricultural revitalization with technology and plans to invest RMB3.50 million into the fund on a rolling basis to support technological and innovative enterprises in Sheqi and display functions of leading, orientation and demonstration.

(III) Information about the protection of equity of shareholders and creditors

The Company attached great attention to the protection of the equity of shareholders and creditors, actively performed its duties as a listed company, faithfully undertook its responsibilities as a national pillar and displayed its role as a central government-owned enterprise. The Company actively safeguards all legitimate interests of shareholders. The Company attaches importance to the return to shareholders and strictly implements the profit distribution in accordance with the relevant provisions of the CSRC and the SSE. On 10 June 2022, the 2021 annual general meeting was held to review and approve the Resolution on Profit Distribution Plan for 2021. It is recommended to distribute the cash dividend of RMB1.70 (tax inclusive) per 10 shares, and the cash dividend distributed amounted to approximately RMB1.8 billion, ranking the top of listed companies in the same industry with the same size. The Company attaches great importance to the right of shareholders to participate in the corporate governance and guarantees the rights of investors to participate in the general meeting of shareholders. To facilitate small and medium-sized investors to participate in corporate governance, the general meeting of the Company is generally convened in a relatively fixed time and office through the combination of on-site and online means. In addition, the chairman, president and other major leaders of the Company will directly respond to investors’ concerns face-to-face through setting up a shareholders’ question and answer session in general meeting. The Company pays great attention to information disclosure. Oriented to the demands of shareholders, the Company comprehensively strengthened two-way communications with shareholders, and disclosed important information of the Company in a true, accurate, complete, timely, fair, brief and clear manner, so as to ensure their right to know. The Company faithfully safeguards all legitimate rights and interests of all creditors. Through signing contracts and making regular payments, the Company actively cleans up the debts owed to creditors, especially the private enterprises to prevent overdue, delayed and no payment and fully ensure the payment of migrant workers’ wages. In addition, strictly complying with the requirements of bond issuance, the Company will timely repay the financing principal and interest on schedule to ensure the legal interests of bond holders.

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(IV) Information about the protection of the interests of employees

In 2022, the Company and its subsidiaries continued to strengthen democratic management to safeguard the legitimate interests of employees. The first session of the 2nd Workers Congress of the CRSC was convened, which considered and amended the enterprise annuity plan and the report on investigation and treatment of hidden significant accidents, listened to and considered the report on proposals and the performance of collective contracts and considered and approved resolutions of three special committees of the Workers Congress and the meeting. All subsidiaries convened the workers congress in standardized manners. It reviewed and approved the convening of the workers congress by 10 subsidiaries, including the CRSC Research & Design Institute Group, and promoted the voting on important resolutions by way of secret ballot at the workers congress. It realized employees' participation in and monitoring on major decision-making on the operation of enterprises from the source. It implemented the systems on employee representative directors and employee representative supervisors according to laws and completed the re-election of employee representative supervisors of the Company and the by-election of employee representative directors within the session of the Group based on democratic procedures.

The Company carefully performed collective contracts. With reference to core clauses on working hours, leaves and holidays of laborers, labor remuneration, safety production, occupational health, education and trainings, insurance and welfare, social security (assistance), life guarantees, management of labor models and advanced individuals, employee disciplines and protection of female employees' interests, it conducted examinations and on-site sample inspections on the performance of the collective contract for 2022, completed the investigation and research on the draft of the Collective Contract of the CRSC for 2023-2025 and vigorously guaranteed employees' legitimate rights and interests. The Company actively promoted to improve collective negotiation and its subsidiaries have established collective contracts and collective negotiation systems. In 2022, three subsidiaries, including the CRSC Communication & Information Group, signed new collective contracts while other subsidiaries were still under the term of contracts. Eight subsidiaries, including CRSCD, entered into agreements on salaries and improved the coordination mechanisms on labor relations and benefits. All these fully guaranteed the information right, participation right, expression right and the supervision right of employees and played an active role in building harmonious labor relations.

The Company further advanced market-based employment, continuously standardized the employment management of enterprises and reasonably allocated labors to establish harmonious labor relations. Following the principles of equality, willingness and consensus through negotiations, the Company signed labor contracts with employees in a timely manner. The signing and renewal rate of labor contracts reached 100%. Major issues concerning the tangible benefits of employees have been submitted to the workers congress for approval or collective negotiation before implementation. It improved work safety and health systems and the working environment and carried out pilots on the life quality of employees to safeguard the work safety and the physical and mental health of employees. The Company improved the mechanisms on assisting employees with difficulties, cared about the physical and mental health of cadres and employees and conducted education and trainings as well as activities on the employee cultural festival, which created a united, harmonious, serious, joyful and positive atmosphere and further enhanced the establishment of harmonious labor relations.

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Employee stock ownership

Number of employees with stock ownership (person)	N/A
Proportion of employees with stock ownership in total number of employees of the Company (%)	N/A
Number of shares held by employees (10,000 shares)	N/A
Proportion of shares held by employees in total share capital (%)	N/A

(V) Information about the protection of the interests of suppliers, customers and consumer

The Company has been insisting on continuously improving product quality and service level, ensuring the delivery of qualified projects and high-quality projects. The Company has been paying great attention to long-term win-win cooperation with suppliers and customers. Based on the principle of mutual benefit and reciprocity and joint development, the Company has established a friendly long-term cooperative relationship with suppliers and customers, and strives to guarantee the legal interests of suppliers, customers and consumers.

The Company has constantly conducted in-depth marketing, effectively understood customers, quickly responded to customer demands, constantly improved customer satisfaction and loyalty. The Company has also comprehensively collected relevant statistics from Ministry of Transportation, State Railway Administration, CNRG and CAM, learnt the industry overview and developments of rail transit industry in a timely manner, identified the current operation status and development process of CRSC in the field of rail transit, and further regurgitated the market.

The Company always safeguarded the interests of suppliers, customers and consumers. The Company shall strictly manage the performance of the contract, make payment to the suppliers timely, so as not to bring financial pressure to the suppliers. The Company shall also strictly perform the confidentiality agreement with the supplier, and not disclose the technical and commercial secrets of the supplier to any third party. The Company actively cultivates excellent suppliers with long-term cooperation in the industry chain, helps suppliers to improve their technology, enhance their quality control capacity. Base on credit rating, the Company has established a list of qualified suppliers, regularly published the “blacklist” of suppliers, provided high-quality products and services for suppliers and customers, ensuring the healthy and sustainable development of the Company.

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The Company speeded up the promotion of engineering innovation, comprehensively promoted the high-quality engineering construction. The Company comprehensively carried out intelligent construction, BIM technology and informatization to expand the application, construction and maintenance of integrated construction, factory preassembly, etc. in the construction of four railroad projects, namely Yuxi-Mohan, Lhasa-Nyingchi, Lianyungang-Xuzhou, Ganzhou-Shenzhen, and strived to improve the utilization rate and efficiency of engineering innovation resources, and made the technology and concept mastered achievements, systematic and platform.

The Company insists on stable and reliable product safety and quality. The Company established a perfect standardized management system for engineering construction, quality, environment and occupational health and safety management system in accordance with the requirements of relevant national and industry laws and regulations and management standards, and provided the necessary resources to ensure the effective operation of the relevant management system. The Company strictly controlled over the construction of business lines and dangerous projects, while establishing traceability control requirements for the delivered engineering products by using technologies such as QR codes, and traceability could be realized for the material equipment, construction and inspection personnel, and technical parameters of engineering projects. In 2022, the Company underwent various supervision and inspection by the National Railway Administration, CNRG, the Ministry of Housing and Urban-Rural Development, the Ministry of Emergency Management and other superior supervision and management departments, and third-party certification units, without any illegal violations, material safety production accidents or material malpractices.

The Company constantly created a “customer-focused” service concept. Relying on the strong R&D and manufacturing integration advantages and advanced production processing and quality control capabilities, the Company fully satisfied customers’ customized needs and provided them with high-quality products on schedule, established a localized service center and a 24-hour response mechanism for customer information feedback, and served our customers with the whole life cycle concept, providing them with a series of service contents such as on-site maintenance, return to the factory for monitoring and repair, equipment inspection, product training, and emergency protection.

The Company insisted on doing a good job of emergency response to deal with emergencies. In the face of force majeure disasters such as pandemics, earthquakes and rainstorms, we actively assisted users in repairing and maintaining on-site equipment to ensure the smooth flow of rail traffic and fulfill our social responsibility.

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(VI) Product safety and security

With the commitments on respecting life and safeguarding safety, CRSC abided by laws and regulations, standards and specifications and provided customers with safe and reliable systems, technologies and services. For products concerning core safety, the Company enhanced product safety control based on EN50126, EN50128 and EN50129, European safety management standards for railway products. In 2022, the Company strengthened the safety certification of safety products and completed 161 product safety certifications. It improved safety product change control, supervised enterprises to focus on safety function changes to strengthen process control. It enhanced the tracking and remediation of problems and hidden dangers and intensified the “dual zero” management to improve product safety, reliability and safety and quality control capabilities.

(VII) Other commitments of social responsibility

Applicable Not applicable

Guaranteeing the safety of rail transit. On 4 June 2022, the D2809 passenger train from Guiyang North to Guangzhou South hit a mudslide near the Rongjiang Station of the Guiyang-Guangzhou High-speed Railway and the 7th and 8th coaches of the train derailed. The project department of CRSC Engineering Group, which was participating in the construction of the new snow melting project at railway junctions for 3 stations, including Mafutian station, immediately set up a relief and rescue team and a vanguard of Party members after receiving the rescue notice and carried out rescue on the field. Despite limited construction conditions at night, complicated construction environment, cross operations and other various adverse factors, the vanguard of Party members displayed the model and leading role and cooperated with local governments and railway departments in the rescue, winning precious time for the resumption of the line. After 12 hours of struggling, the line was resumed and the Rongjiang Station of the Guiyang-Guangzhou High-speed Railway resumed operation.

Fulfilling the responsibilities as a central enterprise. A 6.8-magnitude earthquake hit Luding county in Ganzi Tibetan autonomous prefecture, Sichuan province, at 12:52 on 5 September 2022, causing serious casualties and property losses. After the earthquake, the Party committee of the CRSC resolutely implemented the decisions and deployment of the CPC Central Committee and the State Council on earthquake relief, earnestly implemented relevant requirements of the SASAC of the State Council and supported the quake relief and reconstruction after the earthquake in the quake-hit areas.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

IV. OTHER CORPORATE GOVERNANCE

(I) Party's building

Applicable Not applicable

The Company successfully completed the recommendation and nomination of candidates for delegates to the 20th National Congress of the CPC in the Central Government-Led Enterprise System (in Beijing). As a representative of outstanding industrial workers, Ms. Ke Xiaobin was elected as a delegate to the 20th National Congress of the CPC. The Company kept integrating the Party's leading into corporate governance and continuously refined the decision-making system for "Three Importances and One Large" (i.e. decisions on important issues, important personnel appointment and dismissal and important project investment as well as use of large-amount funds) and the list of significant operation and management matters for research and discussion by the Party committee in advance. It intensified the effective linkage between the Party building assessment and the production and operation performance assessment, carried out on-site appraisal, evaluation on Party building and expanded visits on 14 secondary enterprises and promoted more accurate and practical appraisal on Party building. It reinforced the foundation of strengthening enterprises with cadres and talents and always considered political standards as the "primary standards", which was fully recognized and praised by the SASAC. It promoted the deep integration of Party building with businesses and conducted "boosting vitality, creating outstanding results and promoting growth" themed activities in the whole system and explored the management with standards on the points of Party members and the star level of Party branches. It organized featured practice and talent demonstration activities on "1 July" and 4 excellent cases were selected as outstanding innovation cases of SOEs on Party building of the year. The Company comprehensively consolidated the prevention and control of the epidemic. 300 commandos of Party member and 707 pioneer positions were set up by Party organizations at all levels and over 29,000 employees were motivated and participated in preventing the epidemic and stabilizing production. It facilitated the deepening and expanding of comprehensive and strict Party self-governance, held meetings on honest Party governance and anti-corruption work and alarming and education meetings and arranged employees to watch the first self-produced alarming and education video. The Company obtained the grade A appraisal in the annual tour inspections on enterprises under the administration of the SASAC for two consecutive years. Its study and discussion results were included into the "Tour Inspection Work of the SASAC" and its outstanding cases were included into the "Cases of Tour Inspections on Central Enterprises." It adhered to the leading role of Party Building in team and project construction. The CCYL Committee of Shenyang Railway Signal Co., Ltd. under CRSC (Xi'an) Rail Transit Industry Group Co., Ltd. was awarded the "National May 4th Red Flag Youth League Committee" and the "Advance Unit in Trade Unions and Finance at the Group Level" by China Railway.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

(II) Investor relationships and protection

Type	Number	Related information
<i>Convening the results presentation meetings</i>	3	The Company held 1 results presentation meeting after the disclosure of the 2021 Annual Report; held 1 results presentation meeting through participating in the “Special Activities for Companies Based in North China at the 2022 Half-year Collective Results Presentation Meeting” after the disclosure of the 2022 Interim Report; held 2022 Q3 results presentation meeting online after the disclosure of the Q3 results.
<i>Carrying out investor relationships management activities through new media</i>	–	The Company replied investors’ recent concerns or doubts through the SSE e-Interaction platform in time to help investors better understand, recognize and trust the Company. The Company set up the WeChat Official Account to present recent news of the Company, demonstrate the Company through more channels and better transmit the voice of the Company, allowing investors to enter the Company more conveniently and deeply understand the Company.
<i>Setting up an investor relationships column on the official website</i>	✓Yes <input type="checkbox"/> No	The Company’s official website has an investor relationships column, through which investors can view the Company’s online announcements and contact the Board Office of the Company.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

Details of investor relationship management and protection

Applicable Not applicable

The Company attached great importance to investor relationship management and protection. The Company always adheres to the principle of fair disclosure and makes disclosure on the Shanghai Stock Exchange and the Hong Kong Stock Exchange simultaneously since its listing. Given the different regulatory requirements between the two places, the Company disclosed information in accordance with the more stringent regulatory requirements. It conducted information disclosure in compliance with laws and regulations, guaranteed the quality of information disclosure, promoted investors to understand and recognize the Company and established the image of respecting investors. To further enhance investors' understanding of the Company, reduce information asymmetry to the maximum extent and better demonstrate the Company's strength to investors, the Company organized results presentation meetings in a timely manner after the disclosure of regular reports. To facilitate small and medium-sized investors to better participate in activities and improve the efficiency of communications, the Company carried out online activities and communicated and interacted with domestic and overseas investors on issues such as industry trends, development strategies, production and operation, financial conditions, dividend distribution, risks and difficulties and other general concerns of investors through channels such as live streaming, telephone questions and text interaction. It allowed investors to better understand the Company, recognize the corporate culture and trust the corporate development, thereby realizing the value of the capital market and safeguarding shareholders' rights and interests.

Information about other ways of engagements with investors

Applicable Not applicable

The Company carries out investors' relations management through various channels. We keep in touch with institutional investors and small and medium-sized investors through various forms such as the Company's investors' hotline, investors' email and SSE e-Interaction, regularly accept the consultation of investors, analysts and media, answer the routine consultation telephone of investors in time, and ensure that the questions on the SSE e-Interaction platform are answered on time.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

(III) Transparency of information disclosure

Applicable Not applicable

The Company effectively fulfilled the information disclosure obligations as a public company, strictly complied with the published and implemented relevant information reporting and disclosure systems of the CSRC, the SSE, the Stock Exchange and the Company. It focused on high-quality information disclosure principles, specified the responsibilities of information disclosure subjects and solidified the reporting and disclosure procedures on internal significant information and guaranteed investors' timely and equally access to key information disclosed by the Company. In addition, on the basis of the established information disclosure in accordance with laws and regulations, the Company further enhanced the transparency of its information disclosure through voluntary disclosure, social responsibility report, etc., so that investors could understand the Company's situation more deeply, share the achievements of the Company's development and realize value investment.

(IV) Intellectual property and information security protection

Applicable Not applicable

In accordance with the Patent Law of the PRC, the Copyright Law of the PRC, the Standards for the Management of Corporate Intellectual Property Rights and other relevant laws and regulations, the Company formulated intellectual property management measures and system documents and supervised the implementation, continued to create, manage, protect and apply intellectual property rights, and respected the intellectual property rights of others while protecting our own intellectual property rights from infringement. The Company urged affiliated enterprises to formulate measures on intellectual property rights incentives and remuneration, and established corresponding management mechanisms such as intellectual property rights risk identification mechanism, early warning mechanism and intellectual property rights protection work system. The Company actively laid out overseas patents, and strengthened the analysis of patent risk warning for major overseas projects to continuously reduce intellectual property risks. In parallel with the development of scientific research, the Company continued to improve and implement the intellectual property management system.

SECTION VI ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES AND OTHER CORPORATE GOVERNANCE MATTERS

The Company deeply implemented General Secretary Xi Jinping's important statement on safeguarding cybersecurity, seriously implemented the Cybersecurity Law, the Data Security Law, the Personal Information Protection Law, the Regulations on Protection of Security of Critical Information Infrastructure and other laws and regulations, and released the CRSC Implementation Measures for Cybersecurity Responsibility System to specify and implement the cybersecurity responsibility of the Company and its subsidiaries. The Company actively organized and arranged for employees to participate in professional training on cybersecurity capability, carried out cybersecurity attack and defense drills and focused on enhancing and improving all employees' cybersecurity awareness and professional technical level, which provided technical guarantees and talent reserve for the cybersecurity and stable information-based operation and maintenance of enterprises and effectively improved the Company's overall cybersecurity. The Company deeply conducted hierarchical protection, rating and filing, provided subsidiaries with tutoring on hierarchical protection policies and technical standards and carried out normalized hierarchical protection, rating and filing to continuously consolidate the results of the original rating and filing. It advanced the promotion and deepening of the construction of Internet access convergence and regulatory platforms; enhanced inspections on data security risks, carried out data classification and grading; and implemented management and control measures on the safety of supply chains and improved the awareness on the prevention of safety risks. During important periods such as the "Winter Olympics", the "National Day" and the "20th National Congress of the CPC", the Company strengthened the special work mechanism for information reporting, raised awareness, maintained proper vigilance, strengthened duty, ensured smooth communication, and made emergency disposal.

(V) Institutional investors' participation in corporate governance

Applicable Not applicable

The Company attached great importance to the opinions and suggestions of institutional investors and supported more institutional investors to participate in corporate governance. Through regular institutional investors conference calls, the Company explained their doubts and concerns, and actively solicited and listened to their opinions and suggestions on the Company's development strategies, production and operation, financial conditions, dividend distributions, employee incentives and other key matters generally concerned in the capital market and arranged relevant departments to study and discuss in order to view, handle and solve problems from more perspectives and truly allow investors' voices to be heard by the Company. Through diversified corporate governance, the Company further refined its governance structure, improved the governance level, boosted the governance effectiveness, significantly enhanced its core competitiveness and market investment value, and contributed to its high-quality development.

(VI) Other corporate governance

Applicable Not applicable

SECTION VII SIGNIFICANT EVENTS

I. THE PERFORMANCE OF UNDERTAKINGS

- (I) Undertakings during or carried forward to the Reporting Period by the Company's actual controller, shareholders, related parties, acquirers and the Company and other relevant parties providing undertakings

✓ Applicable Not applicable

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Restricted shares	CFSC Group	The CFSC Group has made the following undertakings in respect of shares lock-up: (1) If the CFSC Group, within 36 months from the date when the CFSC's A shares upon initial public offering are listed on the Shanghai Stock Exchange, holds the CFSC's A shares, it shall not transfer or entrust others to manage the CFSC's domestic shares directly or indirectly held by it prior to the issuance, nor shall CFSC 'repurchase such shares. (2) If the closing price of CFSC's stocks for 20 consecutive trading days (except for all-day suspension of CFSC's stocks) is lower than the issue price of this offering within six months after the listing of CFSC, or the closing price at the end of six months after listing (if the day is not a trading day, it is the first trading day after that day) is lower than the issue price of this offering, the lock-up period of CFSC's A shares held by CFSC Group will be automatically extended for six months after the expiration of the above lock-up period. The issue price refers to the issue price of this offering of CFSC. If CFSC, after being listed, performs the ex-dividend and ex-right for reasons such as profit distribution, capital reserves to increase share capital, additional issuance, placement etc., it shall do so in accordance with the relevant provisions of the Shanghai Stock Exchange. (3) If CFSC Group violates the above undertakings, it will assume all legal liabilities arising therefrom. (4) If relevant laws, regulations and regulatory documents or other securities regulatory authorities such as China Securities Regulatory Commission and Shanghai Stock Exchange have other requirements for the lock-up period of shares, CFSC Group agrees to adjust the lock-up period of CFSC's shares held by it accordingly.	Time of undertakings: 15 April 2019; term: within 36 months from the date of the listing of CFSC's A shares	Yes	Yes	-	-
Undertakings associated with the initial public offering	Profit distribution	CFSC	CFSC has made the following undertakings in respect of profit distribution policies: The Company will distribute profits to shareholders in strict accordance with the profit distribution policies stipulated by relevant laws and regulations, the Articles of Association of China Railway Signal & Communication Corporation Limited, and Dividend Distribution Plan within the Three Years after the Initial Public Offering and Listing of A Shares of CFSC (2019-2021), and strictly implement the review procedures for the profit distribution plan. If the violation of the above undertakings causes losses to the investors, the Company shall be liable to the investors according to law.	Time of undertakings: 15 April 2019; term: long-term effective	No	Yes	-	-

SECTION VII SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Non-competition undertakings	CRSC Group	CRSC Group have made the following undertakings in respect of the non-competition undertakings: (1) as of the date of the issuance of letter of undertakings, CRSC Group and the holding enterprises of CRSC Group (excluding CRSC and its holding enterprises, same hereinafter) have not engaged in or participated in the businesses or activities that constitute or may constitute a direct or indirect competitive relationship with the principal business currently engaged in by CRSC and its holding enterprises in any form domestically or abroad; (2) CRSC Group and its holding enterprises do not, currently or in the future, solely or jointly with others, directly or indirectly, in any form (including but not limited to investment, merger and acquisition, associates, joint ventures, cooperation, partnership, contracting or leasing operation, purchase of shares of listed companies or equity participation) domestically or abroad engage in or participate in, or assist to engage in or participate in any businesses or activities which compete or is likely to compete with the principal business engaged currently or in the future by CRSC and its holding enterprises; (3) If CRSC Group or its holding enterprises find any new business opportunities which directly or indirectly compete or is likely to compete with the principal business of CRSC and its holding enterprises, they will immediately notify CRSC in writing and try their best to procure that these business opportunities are first provided to CRSC and its holding enterprises on reasonable and fair terms and conditions; (4) if CRSC and its holding enterprises waive the above new business opportunities and CRSC Group or its holding enterprises engage in these competitive businesses, CRSC and its holding enterprises have the right to acquire any equity, assets and other interests in the abovementioned competitive business from CRSC Group or its holding enterprises at one or multiple times at any time, or choose to entrust operation, lease or contract to operate the assets or business of the above-mentioned competitive business in accordance with the PRC laws and regulations; (5) if CRSC Group or its holding enterprises intend(s) to transfer, sell, lease, license or otherwise transfer or permit to use the asset and business which competes or is likely to compete, directly or indirectly, with the principal business of CRSC and its holding enterprises, CRSC Group and its holding enterprises will provide priority transfer rights to CRSC and its holding enterprises; (6) CRSC Group will indemnify CRSC and its holding enterprises against all actual losses, damages and expenses suffered/occurred for CRSC Group or its holding enterprises' breach of any terms in the letter of undertaking; (7) the letter of undertakings takes effect from the date of issuance and is terminated upon the occurrence of the following circumstances (whichever is earlier): CRSC Group is no longer the controlling shareholder of CRSC; CRSC terminates its listing (except for the temporary suspension of trading of CRSC's stock for any reason	Time of undertakings: 15 April 2019; term: the letter of undertakings takes effect from the date of issuance and is terminated upon the occurrence of the following circumstances (whichever is earlier); CRSC Group is no longer the controlling shareholder of CRSC; CRSC terminates its listing (except for the temporary suspension of trading of CRSC's stock for any reason	Yes	Yes	-	-

SECTION VII SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails	
							to be performed timely, please explain the specific reasons for the failure	if the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Related Party Transactions	CRSC Group	CRSC Group has made the following undertakings in respect of regulating Related Party Transactions: (1) CRSC Group and its holding enterprises (excluding CRSC and its holding enterprises, same hereinafter) will try their best to minimize the Related Party Transactions with CRSC and its holding enterprises; (2) for the Related Party Transactions related with operating activities of CRSC that are not avoidable, CRSC Group and its holding enterprises will perform the decision-making procedures of Related Party Transactions to ensure fair pricing and timely fulfill information disclosure obligations in strict compliance with the relevant laws and regulations and regulatory documents as well as the relevant requirements in CRSC's internal system related with Related Party Transactions; (3) CRSC Group will not take advantage of its position as a controlling shareholder to seek any favorable conditions or benefits over independent third parties for CRSC Group and its holding enterprises from CRSC and its holding enterprises in business operation and other business; (4) CRSC Group will indemnify CRSC and its holding enterprises against all actual losses, damages and expenses suffered/incurred for CRSC Group and its holding enterprises' violation of above-mentioned undertakings; (5) the above-mentioned undertakings remain effective when CRSC Group has the control right over CRSC and cannot be changed or cancelled.	Time of undertakings: 15 April 2019; term: the letter of undertakings takes effect from the date of issuance and is terminated upon the occurrence of the following circumstances (whichever is earlier): CRSC Group is no longer the controlling shareholder of CRSC; CRSC terminates its listing (except for the suspension of trading of CRSC's stock for any reason)	Yes	Yes	-	-
	Restricted shares	CRSC Group	CRSC Group has made undertakings to extend the lock-up period of domestic shares held by CRSC upon its initial public offering by 6 months to 21 January 2023. During the extended lock-up period, CRSC Group shall not transfer or entrust others to manage the CRSC's A shares (6,604,426,424 shares) held by it, nor shall CRSC repurchase such shares.	Time of undertakings: 15 April 2019; term: till 21 January 2023	Yes	Yes	-	-

SECTION VII SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Others	CRSC	CRSC has made the following undertakings in respect of restraints on failure to comply with relevant public undertakings: (1) if the relevant undertakings made publicly by the Company in the prospectus have already contained the restraints, such restraints specified in those undertakings shall prevail; if the Company breaches those undertakings, the Company agrees to adopt the restraints already specified in those undertakings. (2) if the Company fails to perform its undertakings, confirms that it is unable to perform or fails to perform as scheduled, its undertakings (except for the objective reasons beyond the control of the Company such as changes in relevant laws and regulations and policies, natural disasters and other force majeure), the Company will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC; 2) make supplementary or substitute undertakings to the Company and its shareholders to protect the rights and interests of the Company and its shareholders as much as possible; 3) if the public investors suffer losses due to their reliance on the undertakings of the Company in transactions, the Company will compensate them in the way and amount determined by the securities regulatory authorities or judicial authorities. (3) in the event that the Company fails to perform its undertakings, confirms that it is unable to perform or fails to perform as scheduled, its undertakings due to objective reasons beyond the control of the Company such as changes in relevant laws and regulations and policies, natural disasters and other force majeure, the Company will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC; 2) make supplementary or substitute undertakings to the Company and its shareholders to protect the rights and interests of the Company and its shareholders as much as possible.	Time of undertakings: 15 April 2018; term: long-term effective	No	Yes	-	-

SECTION VII SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Others	CRSC Group	CRSC Group has made the following undertakings in respect of restraints on failure to comply with relevant public undertakings: (1) CRSC Group will strictly implement the public undertakings made by CRSC Group in the prospectus for this issue and actively accept public supervision; (2) if CRSC Group fails to fulfill its undertakings, confirms that it is unable to perform or fails to perform as scheduled, its undertakings (except for the objective reasons beyond the control of the Company such as changes in relevant laws and regulations and policies, natural disasters and other force majeure), CRSC Group will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC; 2) make supplementary or substitute undertakings to CRSC and its shareholders to protect the rights and interests of CRSC and its shareholders as much as possible; 3) in case of any gains (if any) due to the failure to perform the relevant undertakings, the gains shall be owned by CRSC; 4) if the public investors suffer losses due to their reliance on the undertakings of CRSC Group in transactions, CRSC Group will compensate them in the way and amount determined by the securities regulatory authorities or judicial authorities. (3) in the event that CRSC Group fails to perform its undertakings, confirms that it is unable to perform or fails to perform as scheduled its undertakings due to objective reasons beyond the control of CRSC Group such as changes in relevant laws and regulations and policies, natural disasters and other force majeure, CRSC Group will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC; 2) make supplementary or substitute undertakings to CRSC and its shareholders to protect the rights and interests of CRSC and its shareholders as much as possible.	Time of undertakings: 15 April 2019; term: long-term effective	No	Yes	-	-

SECTION VII SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Others	The Company's Directors, Supervisors and senior management	The Company's Directors, Supervisors and senior management have made the following undertakings in respect of restraints on failure to comply with relevant public undertakings: (1) I will strictly perform the public undertakings made in the prospectus for this issue and actively accept public supervision. (2) If I fail to perform my undertakings, confirm that I am unable to perform or fail to perform as scheduled, my undertakings (except for the objective reasons beyond my control such as changes in relevant laws and regulations and policies, natural disasters and other force majeure), I will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSFC. 2) make supplementary or substitute undertakings to CRSC and its shareholders to protect the rights and interests of CRSC and its shareholders as much as possible. 3) in case of any gains (if any) due to the failure to perform the relevant undertakings, the gains shall be owned by CRSC. 4) if the public investors suffer losses due to their reliance on my undertakings in transactions, I will compensate them in the way and amount determined by the securities regulatory authorities or judicial authorities; if I receive the salary from CRSC, I agree that CRSC can stop paying the salary to me and use it directly to perform my unfulfilled undertakings or to compensate for the loss caused to CRSC and its shareholders by my unfulfilled undertakings. (3) in the event that I fail to perform my undertakings, confirm that I am unable to perform or fail to perform as scheduled, my undertakings due to objective reasons beyond my control such as changes in relevant laws and regulations and policies, natural disasters and other force majeure, I will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSFC. 2) make supplementary or substitute undertakings to CRSC and its shareholders to protect the rights and interests of CRSC and its shareholders as much as possible.	Time of undertakings: 15 April 2015; term: long-term effective	No	Yes	-	-
Other undertakings	Others	CRSC	The Company undertook to the Hong Kong Stock Exchange that the Company would not use the proceeds from the global offering, as well as any other funds raised through the Hong Kong Stock Exchange, to finance or assist any activities or business, directly or indirectly, (i) relating to or with the target of any sanction, or relating to, with, or in any countries subject to sanctions administered by the U.S., the E.U., Hong Kong, Australia or the U.N. authorities, or (ii) relating to CRSC International, one of the Company's subsidiaries, considering the amount of its annual revenue related to projects in Iran during the Track Record Period. In addition, the Company also undertook to the Hong Kong Stock Exchange that the Company would not undertake any sanctionable transactions that would expose the relevant persons or us to risk of being sanctioned.	Time of undertakings: 28 July 2015; term: long-term effective	No	Yes	-	-

SECTION VII SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Other undertakings	Non-competition undertaking	CRSC Group	On 20 July 2015, CRSC Group issued to us a letter of non-competition undertakings, which is effective in the Relevant Period (as defined in the H share prospectus). Pursuant to the letter of non-competition undertakings, CRSC Group has confirmed that, as at the date of the letter of non-competition undertakings, CRSC Group has not engaged in or participated in any form of business activities which, directly or indirectly, compete with the Company's principal businesses. For further details of the letter of non-competition undertakings, please refer to the H share prospectus of the Company	Time of undertakings: 20 July 2015; term: the letter of undertakings takes effect from the date of issuance and is terminated upon the occurrence of the following circumstances (whichever is earlier): CRSC Group is no longer the controlling shareholder of CRSC; CRSC terminates its listing (except for the suspension of trading of CRSC's stock for any reason)	Yes	Yes	-	-

(II) If the Company has made profit forecasts for its assets or projects and the Reporting Period is still in the profit forecast period, explanation made by the Company in regard to whether the assets or projects have reached the profit forecasts and the reasons thereof

Reached Not reached Not applicable

(III) Performance of result-related undertakings and the impact on test of goodwill impairment

Applicable Not applicable

SECTION VII SIGNIFICANT EVENTS

II. APPROPRIATION OF FUNDS BY CONTROLLING SHAREHOLDERS AND OTHER RELATED PARTIES FOR PURPOSES OTHER THAN FOR BUSINESS DURING THE REPORTING PERIOD

Applicable Not applicable

III. GUARANTEES IN VIOLATION OF REGULATIONS

Applicable Not applicable

IV. EXPLANATION OF THE BOARD ON ISSUANCE OF A “NON-STANDARD AUDITING REPORT” BY ACCOUNTING FIRMS

Applicable Not applicable

V. THE COMPANY’S ANALYSIS AND EXPLANATION ON THE REASONS FOR AND IMPACTS OF CHANGES OF ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES OR CORRECTION OF SIGNIFICANT ACCOUNTING ERRORS

(I) The Company’s analysis and explanation on the reasons for and impacts of changes of accounting policies and accounting estimates

Applicable Not applicable

For details, please refer to Section XI Financial Report – V.(XXXVI) Changes in significant accounting policies and estimates.

(II) The Company’s analysis and explanation on the reasons for and impacts of corrections of significant accounting errors

Applicable Not applicable

(III) Communication with the former accounting firm

Applicable Not applicable

(IV) Other explanations

Applicable Not applicable

SECTION VII SIGNIFICANT EVENTS

VI. APPOINTMENT AND REMOVAL OF ACCOUNTING FIRM

Unit: 0'000 Yuan Currency: RMB

Appointed currently

Name of the domestic accounting firm	BDO China SHU LUN PAN Certified Public Accountants LLP
Remuneration of the domestic accounting firm (review of annual report)	498
Service year limit of the domestic accounting firm	1 year
Name of certified public accountant of the domestic accounting firm	GUO Jian, WANG Xiaoyan
Service year limit of certified public accountant of the domestic accounting firm	1 year

	Name	Remuneration
Internal control audit accounting firm	BDO China SHU LUN PAN Certified Public Accountants LLP	30
Sponsor	China International Capital Corporation Limited	–

Explanation on appointment and removal of accounting firms

Applicable Not applicable

The Company engaged Ernst & Young Hua Ming LLP (安永華明會計師事務所(特殊普通合夥)) and Baker Tilly China Certified Public Accountants LLP (天職國際會計師事務所(特殊普通合夥)) as its domestic auditors in 2020 and 2021. On 10 June 2022, after consideration and approval by the Company's general meeting, it was agreed to appoint BDO China SHU LUN PAN Certified Public Accountants LLP as the auditor for the interim review, annual audit of financial statements and internal control of 2022 for a term of one year, with a total audit fee of RMB6.36 million, including internal control audit fees of RMB300,000.

Except as disclosed above, there were no other changes in the Company's auditors in the past three years (including the Reporting Period).

Explanation on change in the accounting firms during the auditing period

Applicable Not applicable

SECTION VII SIGNIFICANT EVENTS

VII. EXPOSURE TO DELISTING

(I) The reasons for warning of delisting

Applicable Not applicable

(II) The countermeasures to be adopted by the Company

Applicable Not applicable

(III) Exposure to termination of listing and reasons therefor

Applicable Not applicable

VIII. EVENTS REGARDING BANKRUPTCY AND RESTRUCTURING

Applicable Not applicable

IX. MATERIAL LITIGATION AND ARBITRATION

The Company was involved in material litigation or arbitration in the year.

The Company was not involved in material litigation or arbitration in the year.

X. PUNISHMENTS AND RECTIFICATIONS INVOLVED BY THE LISTED COMPANY, ITS DIRECTORS, SUPERVISORS, SENIOR MANAGEMENT, CONTROLLING SHAREHOLDER AND ACTUAL CONTROLLER FOR VIOLATION OF LAWS AND REGULATIONS

Applicable Not applicable

XI. EXPLANATION ON CREDIBILITY OF THE COMPANY AND ITS CONTROLLING SHAREHOLDER AND ACTUAL CONTROLLER DURING THE REPORTING PERIOD

Applicable Not applicable

SECTION VII SIGNIFICANT EVENTS

XII. MATERIAL RELATED PARTY TRANSACTIONS

(I) The related party transactions in relation to the ordinary operations

1. Events disclosed in the temporary announcements and with no progress or change in subsequent implementation

Applicable Not applicable

2. Events disclosed in the temporary announcements but with progress or change in subsequent implementation

Applicable Not applicable

3. Events not disclosed in temporary announcements

Applicable Not applicable

(II) Related party transactions arising from acquisition or disposal of assets or equity interests

1. Events disclosed in the temporary announcements and with no progress or change in subsequent implementation

Applicable Not applicable

2. Events disclosed in the temporary announcements but with progress or change in subsequent implementation

Applicable Not applicable

3. Events not disclosed in the temporary announcements

Applicable Not applicable

4. Where an agreement on performance is involved, the performance achievements during the Reporting Period shall be disclosed

Applicable Not applicable

SECTION VII SIGNIFICANT EVENTS

(III) Significant related party transactions on the joint external investment

1. Events disclosed in the temporary announcements and with no progress or change in subsequent implementation
 Applicable Not applicable
2. Events disclosed in the temporary announcements but with progress or change in subsequent implementation
 Applicable Not applicable
3. Events not disclosed in temporary announcements
 Applicable Not applicable

(IV) Claims and liabilities between related parties

1. Events disclosed in the temporary announcements and with no progress or change in subsequent implementation
 Applicable Not applicable
2. Events disclosed in the temporary announcements but with progress or change in subsequent implementation
 Applicable Not applicable
3. Events not disclosed in temporary announcements
 Applicable Not applicable

(V) Financial business between the Company and the related financial company or between the financial company controlled by the Company and the related parties

Applicable Not applicable

1. Deposit business

Applicable Not applicable

Unit: Yuan Currency: RMB

Related party	Related party relationship	Maximum daily limit of deposits	Interest rate range of deposit	Opening balance	Amount incurred during the period		Closing balance
					Total deposited amount during the period	Total withdrawal amount during the period	
China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司) and its subsidiaries	The controlling shareholder of the Company and its subsidiaries	6,000,000,000	0.35%-2.31%	-	-	-	-
Total	/	/	/	-	-	-	-

SECTION VII SIGNIFICANT EVENTS

2. Loan business

Applicable Not applicable

Unit: Yuan Currency: RMB

Related party	Related party relationship	Loan limit	Interest rate range of loan	Opening balance	Amount incurred during the period		Closing balance
					Total loan amount during the period	Total repayment amount during the period	
China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司) and its subsidiaries	The controlling shareholder of the Company and its subsidiaries	100,000,000	3.75%-4.75%	-	-	-	-
Total	/	/	/	-	-	-	-

3. Credit or other financial business

Applicable Not applicable

Unit: Yuan Currency: RMB

Related party	Related party relationship	Type of business	Total amount	Actual amount incurred
China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司) and its subsidiaries	The controlling shareholder of the Company and its subsidiaries	Other financial services (including but not limited to the provision of advisory, agency, settlement, transfer, settlement and sale of foreign exchange, investment, letter of credit, online banking, entrusted loan, underwriting, etc.)	10,000,000	-

For the details of the Financial Services Framework Agreement, please refer to “Non-exempt continuing connected transactions” in the subsection headed “(VI) Others” below.

(VI) Others

Applicable Not applicable

1. EXEMPT CONTINUING CONNECTED TRANSACTIONS

The following continuing connected transactions of the Group have been entered into on normal commercial terms. Pursuant to Chapter 14A of the Listing Rules of the Hong Kong Stock Exchange, such continuing connected transactions are exempt from the requirements of reporting, annual review, announcement and approval by independent shareholders under Chapter 14A of the Listing Rules of the Hong Kong Stock Exchange.

Domain Name Usage Licensing Agreement between CRSC Group and the Company

Connected Transaction Party	Connected Relationship	Category of Connected Transaction	Contents of Connected Transaction	Pricing principle for connected transactions
CRSC Group	Controlling shareholder	Obtaining license to use domain name	Obtaining license to use domain name “crsc.cn”, “crsc.com.cn” and “crsc.中國”	Free

SECTION VII SIGNIFICANT EVENTS

Description of connected transactions: The aforesaid transaction represented the performance of the Domain Name Usage Licensing Agreement entered into between the Company and CRSC Group on 19 July 2015 during the Reporting Period. The agreement is valid for ten years and the transaction is within the decision-making authority of the Board of Directors of the Company and is reviewed and approved by the Board. Meanwhile, the transaction shall be exempted from the requirements of reporting, annual review, announcement and independent shareholders' approval as it conforms to the minimum exemption level required by the Listing Rules of the Hong Kong Stock Exchange.

Investment Service Agreement between CRSC CASCO and ALSTOM IC

Connected Transaction Party	Connected Relationship	Category of Connected Transaction	Contents of Connected Transaction	Pricing principle for connected transactions
ALSTOM IC	Substantial shareholder of a non-wholly-owned subsidiary	Receiving services	Receiving supportive services	Pricing through Agreement

Description of connected transaction: The aforesaid transaction represented the performance of the Service Agreement entered into by CRSC CASCO (a non-wholly-owned subsidiary of the Company) and ALSTOM IC on 27 April 2015 during the Reporting Period. The agreement is valid during the operation period of CRSC CASCO. The transaction and the aggregate transaction amount involved is within the decision-making authority of the Board of Directors of the Company and is considered and approved by the Board. Meanwhile, the transaction also meets the minimum level of exemption required under the Listing Rules of the Hong Kong Stock Exchange and is exempt from the requirements of reporting, annual review, announcement and approval by independent shareholders.

U888 Technology Transfer Framework Agreement between CRSC CASCO and ALSTOM Transport S.A.

Connected Transaction Party	Connected Relationship	Category of Connected Transaction	Contents of Connected Transaction	Pricing principle for connected transactions
ALSTOM Transport S.A.	A company indirectly controlled by the substantial shareholder of a non-wholly-owned subsidiary	Licensed technology usage	Accepting the transfer of U888-related technology for the application of URBALIS888 solutions and manufacture and sales of UNIVIC and 2003Platform	Pricing through negotiation

Description of connected transaction: The aforesaid transaction represented the performance of the U888 Technology Transfer Framework Agreement entered into between CRSC CASCO (a non-wholly-owned subsidiary of the Company) and ALSTOM Transport S.A. on 10 September 2008 during the Reporting Period. The Agreement is valid until 4 March 2023. The transaction and the aggregate transaction amount involved is within the decision-making authority of the Board of Directors of the Company and is deliberated and approved by the Board of Directors. Meanwhile, the transaction shall be exempted from the requirements of reporting, annual review, announcement and independent shareholders' approval as it conforms to the minimum exemption level required by the Listing Rules of the Hong Kong Stock Exchange.

SECTION VII SIGNIFICANT EVENTS

2. NON-EXEMPT CONTINUING CONNECTED TRANSACTIONS

The following continuing connected transactions of the Group have been entered into on normal commercial terms. Pursuant to Chapter 14A of the Hong Kong Listing Rules, such continuing connected transactions are subject to the requirements of reporting, annual review, announcement and (as the case may be) independent shareholders' approval under Chapter 14A of the Listing Rules.

Purchases and Sales Framework Agreement between the Company and CRSC Group

The Company entered into the New CRSC Group Purchases and Sales Framework Agreement with CRSC Group on 25 March 2020 (after trading hours). The New CRSC Corporation Group Purchases and Sales Framework Agreement shall be effective from 1 January 2020 to 31 December 2022 for a term of three years.

Principal terms:

- (1) Pricing policy (see below);
- (2) Except for public tender, both parties must confirm the demand plan for the next year or the demand adjustment plan of the current year on a stipulated date of each year;
- (3) The Group and CRSC Group and/or its associates must enter into specific agreements to stipulate specific terms and conditions, including specific content of products, quality standards and payment methods, in respect of the relevant products under the New CRSC Corporation Group Purchases and Sales Framework Agreement; and
- (4) The New CRSC Corporation Group Purchases and Sales Framework Agreement shall be effective from 1 January 2020 to 31 December 2022, and may be renewed with mutual consent after negotiation.

SECTION VII SIGNIFICANT EVENTS

Pricing policy:

The pricing of the products purchased by the Group from CRSC Group and/or its associates under the New CRSC Corporation Group Purchases and Sales Framework Agreement will be determined based on a cost-plus method by adding reasonable profit, with reference to average level in the industry, over reasonable costs including purchasing costs of materials, labour costs, manufacturing costs, management costs, transportation and packaging costs incurred. The net profit margin ranges from approximately 10% to 15%. To ensure that the pricing of the products provided by CRSC Group will be no less favourable than those offered to our Group by independent third parties, our Group will collect and review quotes offered by at least two other independent third parties for products of the same type or similar quality for comparison.

The pricing of products provided by the Group to CRSC Group and/or its associates under the New CRSC Corporation Group Purchases and Sales Framework Agreement will be by reference to and subject to the contractual terms agreed between CRSC Group and/or its associates and the contractual party of the overseas project. CRSC Group will purchase products from the Group at the price agreed between itself and the contractual party of the overseas project and supply the same to the contractual party of the overseas project without making any profit. The overseas project is expected to be completed in 2022.

As at the date on which the New CRSC Corporation Group Purchases and Sales Framework Agreement was signed, CRSC Group holds 62.37% of the issued share capital of the Company and is the controlling shareholder of the Company. Therefore, CRSC Group is a connected person of the Company. CRSC Group and its associates constitute connected persons of the Group according to the requirements under Chapter 14A of the Listing Rules. Accordingly, the continuing transactions carried out between the Group and CRSC Group and/or its associates under the New CRSC Corporation Group Purchases and Sales Framework Agreement constitute the continuing connected transactions of the Company under Chapter 14A of the Listing Rules.

SECTION VII SIGNIFICANT EVENTS

Unit: 0'000 Yuan Currency: RMB

Connected Transaction Party	Connected Relationship	Category of Connected Transaction	Contents of Connected Transaction	Pricing Principle for Connected Transactions	Amount of Connected Transactions	Connected Transaction Caps
CRSC Group	Controlling Shareholder(s)	Selling goods	Selling, among others, raw materials, excipients, accessories, components and parts, packaging materials, semi-finished products, finished products, commodities and related products	Determined on the basis of market price and by reference to the price agreed between the contractual parties of the Overseas Project	76.88	2,000.00
CRSC Group	Controlling Shareholder(s)	Purchasing goods	Purchasing, among others, raw materials, excipients, accessories, components and parts, packaging materials, semi-finished products, finished products, commodities and related products	Determined on the basis of market price, together with costs and various factors	3,638.61	14,000.00

Description of connected transaction: The aforesaid transaction was the performance of the new purchases and sales framework agreement entered into between the Company and CRSC Group on 25 March 2020 during the Reporting Period. The agreement is valid for three years. The transaction and the total transaction amount involved were within the decision-making authority of the Board of Directors of the Company and have been considered and approved by the same. In the meantime, the transaction satisfied the partial waiver level under the Hong Kong Listing Rules and was exempted from the approval by independent shareholders.

General Services Framework Agreement between CRSC Group and the Company

The Company entered into the New General Services Framework Agreement with CRSC Group on 25 March 2020 (after trading hours). The New General Services Framework Agreement shall be effective from 1 January 2020 to 31 December 2022 for a term of three years.

SECTION VII SIGNIFICANT EVENTS

Principal terms:

- (1) Pricing policy (see below):
- (2) Except for public tender, both parties must confirm the demand schedule for the next year or the demand adjustment schedule of the current year on a stipulated date each year;
- (3) The Group and CRSC Group and/or its associates must enter into specific agreements to stipulate specific terms and conditions, including specific scope of ancillary services, service methods and payment methods, in respect of the relevant products under the New General Services Framework Agreement; and
- (4) The New General Services Framework Agreement shall be effective from 1 January 2020 to 31 December 2022 and may be renewed with mutual consent after negotiation.

Pricing policy:

The logistics service fees provided by CRSC Group and/or its associates will be determined on the basis of service costs without making any profit in order to ensure that the service fees are fair and reasonable or more favourable to the Group than that obtained from an independent third party.

As at the date on which the New General Services Framework Agreement was signed, CRSC Group holds 62.37% of the issued share capital of the Company and is the controlling shareholder of the Company. Therefore, CRSC Group is a connected person of the Company. CRSC Group and its associates constitute connected persons of the Group according to the requirements under Chapter 14A of the Listing Rules. Accordingly, the continuing transactions carried out between the Group and CRSC Group and/or its associates under the New General Services Framework Agreement constitute the continuing connected transactions of the Company under Chapter 14A of the Listing Rules.

SECTION VII SIGNIFICANT EVENTS

Unit: 0' 000 Yuan Currency: RMB

Connected Transactions Counterparties	Connected Party Relationship	Category of Connected Transactions	Contents of Connected Transaction	Pricing Principles for Connected Transactions	Amount of Connected Transactions	Connected Transaction Caps
CRSC Group	Controlling shareholder(s)	Receiving services	General services including logistics services	Determined on the basis of service costs	890.92	5,000.00

Description of connected transaction: The aforesaid transactions was the performance of the New General Services Framework Agreement entered into between the Company and CRSC Group on 25 March 2020 during the Reporting Period. The agreement is valid for three years. The transaction and the total transaction amount involved were within the decision-making authority of the Board of Directors of the Company and have been considered and approved by the same. In the meantime, the transaction satisfied the partial waiver level under the Hong Kong Listing Rules and was exempted from the approval by independent shareholders.

Construction Contracting Framework Agreement between the Company and CRSC Group

The Company entered into the New Construction Contracting Framework Agreement with CRSC Group on 25 March 2020 (after trading hours). The New Construction Contracting Framework Agreement shall be effective from 1 January 2020 to 31 December 2022 for a term of three years.

Principal terms:

- (1) Pricing policy (see below);
- (2) Except for public tender, both parties must confirm the service demand schedule for the next year or the service demand adjustment schedule of the current year on a stipulated date of each year;
- (3) The Group and CRSC Group and/or its associates must enter into specific agreements to stipulate specific terms and conditions, including specific scope of engineering construction and ancillary services, service methods and payment methods, in respect of the engineering construction and ancillary services under the New Construction Contracting Framework Agreement; and
- (4) The New Construction Contracting Framework Agreement shall be effective from 1 January 2020 to 31 December 2022 and may be renewed with mutual consent after negotiation.

SECTION VII SIGNIFICANT EVENTS

Pricing policy:

Pursuant to the New Construction Contracting Framework Agreement, the service fees for providing engineering construction and ancillary services to CRSC Group and/or its associates will be determined after arm's length negotiations with CRSC Group and/or its associates with reference to following major factors: (1) availability and cost of raw materials and equipment and machinery, labor, and subcontractors; (2) local guidance prices for the various raw materials and other construction costs provided by the Housing and Urban-Rural Development Bureaus; (3) project progress plans, complexity and scale of the construction project, and the potential adjustment of the scope of work; (4) the geographical location and environmental conditions of the project; and (5) for competitive bidding, assessment and analysis of the relevant functional departments of the Group based on relevant information of the competitors and specific project demand and the impact of the project on the Company's macro strategy. In order to ensure that the service fees charged by the Group for the provision of engineering contracting services are fair and reasonable and in line with the prevailing market prices, the Group will keep abreast of the current market rates and market conditions, and review the pricing through an independent third-party consulting agency. In addition, the Group will also refer to the fees previously charged for providing similar engineering contracting services to independent third-party customers.

As at the date on which the New Construction Contracting Framework Agreement was signed, CRSC Group holds 62.37% of the issued share capital of the Company and is the controlling shareholder of the Company. Therefore, CRSC Group is a connected person of the Company. CRSC Group and its associates constitute connected persons of the Group according to the requirements under Chapter 14A of the Listing Rules. Accordingly, the continuing transactions carried out between the Group and CRSC Group and/or its associates under the New Construction Contracting Framework Agreement constitute the continuing connected transactions of the Company under Chapter 14A of the Listing Rules.

SECTION VII SIGNIFICANT EVENTS

Unit: 0'000 Yuan Currency: RMB

Connected Transactions Counterparties	Connected Party Relationship	Category of Connected Transactions	Contents of Connected Transaction	Pricing Principles for Connected Transactions	Amount of Connected Transactions	Connected Transaction Caps
CRSC Group	Controlling shareholder(s)	Providing Services	Providing, among others, project construction and ancillary services, including but not limited to project design and general contracting of construction	Third-party construction cost consulting agency reviews the charged fee in light of the market conditions and refer to the fees for providing services to third-party	12,791.08	55,000.00

Description of connected transaction: The aforesaid transactions was the performance of the construction contracting framework agreement entered into between the Company and CRSC Group on 25 March 2020 during the Reporting Period. The agreement is valid for three years. The transaction and the total transaction amount involved were within the decision-making authority of the Board of Directors of the Company and have been considered and approved by the same. In the meantime, the transaction satisfied the partial waiver level under the Hong Kong Listing Rules and was exempted from the approval by independent shareholders.

Financial Services Framework Agreement between Finance Company and CRSC Group

CRSC Group Finance Limited (通號集團財務有限公司, "Finance Company"), a subsidiary of the Company, entered into the Financial Services Framework Agreement with CRSC Group on 28 October 2022 (after trading hours). The Financial Services Framework Agreement is effective from 28 October 2022 to 30 June 2023.

SECTION VII SIGNIFICANT EVENTS

Principal terms:

- (1) Finance Company provides deposit services to CRSC Group in the form of demand deposits, time deposits, call deposits, agreement deposits, etc. If Finance Company fails to repay the deposit to CRSC Group in full and on time, CRSC Group has the right to terminate the agreement and offset the deposit payable by Finance Company to CRSC Group against the loans made by CRSC Group to Finance Company in accordance with the laws and regulations of China;
- (2) Finance Company provides credit services to CRSC Group, including loans, bill discounting, buyer's credit, accounts receivable factoring, various types of guarantees, acceptance of bills, etc. If CRSC Group fails to repay Finance Company in full and on time for the debts arising from the abovementioned credit services business, Finance Company has the right to terminate the Agreement and offset the debts due to Finance Company by CRSC Group against CRSC Group's deposits with Finance Company in accordance with the laws and regulations of China; and
- (3) Finance Company provides other financial services to CRSC Group (including but not limited to the provision of advisory, agency, settlement, transfer, settlement and sale of foreign exchange, investment, letter of credit, online banking, entrusted loan, underwriting, etc.) and charges CRSC Group for the services. Subject to compliance with the Agreement, the parties shall enter into specific agreements for the provision of the relevant specific financial services to agree on the specific terms of the transaction.

Pricing policy:

- (1) For deposit services, the interest rate for deposits offered by Finance Company to CRSC Group shall be determined with reference to the benchmark interest rate for the same period promulgated by the People's Bank of China for the same type of deposits, and shall not be higher than the interest rate for the same period determined by banking financial institutions in the PRC for the same type of deposits taken by CRSC Group or equivalent third parties;
- (2) For credit services, the interest rate or fee rate for the credit service provided by Finance Company to CRSC Group shall be determined with reference to the benchmark interest rate or fee rate for the same period promulgated by the People's Bank of China for the same type of business, and shall be no less than the interest rate or fee rate for the same period determined by banking financial institutions in the PRC for the same type of credit business to CRSC Group or equivalent third parties; and

SECTION VII SIGNIFICANT EVENTS

- (3) For other financial services, the service fees charged by Finance Company to CRSC Group shall comply with the relevant regulations of the People's Bank of China or the China Banking and Insurance Regulatory Commission where such standards have been stipulated for the relevant types of services, and shall be determined with reference to the fees charged by major commercial banks in the PRC for similar financial services.

As at the date on which the Financial Services Framework Agreement was signed, (i) Finance Company is a subsidiary of the Company as the Company holds 95% of the equity interest in Finance Company; and (ii) CRSC Group is a connected person of the Company as CRSC Group holds 62.69% of the issued share capital of the Company and is the controlling shareholder of the Company. Therefore, the continuing transactions under the Financial Services Framework Agreement between Finance Company and CRSC Group constitute continuing connected transactions of the Company under Chapter 14A of the Listing Rules.

For the deposit services under the Financial Services Framework Agreement, as it constitutes financial assistance provided by connected persons for the benefits of the Group, and such deposit services are entered into on normal or better commercial terms and it is not secured by the assets of the Group, the continuing connected transactions for deposit services under the Financial Services Framework Agreement are exempt from reporting, annual review, announcement and independent shareholders' approval requirements under Chapter 14A of the Listing Rules pursuant to Rule 14A.90 of the Listing Rules.

For the credit services under the Financial Services Framework Agreement, calculated in accordance with the Listing Rules, as the highest applicable percentage ratio of the proposed annual caps is higher than 0.1% but lower than 5%, the continuing connected transactions for the credit services under the Financial Services Framework Agreement are therefore subject to the reporting, annual review and announcement requirements under Chapter 14A of the Listing Rules but are exempt from the independent shareholders' approval requirement.

SECTION VII SIGNIFICANT EVENTS

For other financial services under the Financial Services Framework Agreement, calculated in accordance with the Listing Rules, as each of the applicable percentage ratio of the proposed annual caps is lower than or is expected to be lower than the minimum exemption level required by Rule 14A.76(1) of the Listing Rules, the continuing connected transactions for other financial services under the Financial Services Framework Agreement are exempt from the reporting, annual review, announcement and independent shareholders' approval requirements under Chapter 14A of the Listing Rules.

Unit: 0'000 Yuan Currency: RMB

Connected Transactions Counterparties	Connected Party Relationship	Category of Connected Transactions	Contents of Connected Transaction	Pricing Principles for Connected Transactions	Amount of Connected Transactions	Connected Transaction Caps
CRSC Group	Controlling shareholder(s)	Providing Services	Providing credit services	Determined with reference to the benchmark interest rate or fee rate for the same period promulgated by the People's Bank of China for the same type of business	0	10,000

Description of connected transaction: The aforesaid transaction was the performance of the Financial Services Framework Agreement entered into between the Company and CRSC Group on 28 October 2022 during the Reporting Period. The agreement is effective from 28 October 2022 to 30 June 2023. The transaction and the total transaction amount involved were within the decision-making authority of the Board of Directors of the Company and have been considered and approved by the same. In the meantime, the transaction satisfied the partial waiver level under the Hong Kong Listing Rules and was exempted from the approval by independent shareholders.

Confirmation by Independent Non-executive Directors

The independent non-executive Directors of the Company have reviewed the aforesaid continuing connected transactions and have confirmed that the Purchases and Sales Framework Agreement, the General Services Framework Agreement and the Construction Contracting Framework Agreement have been entered into in the ordinary and usual course of the Group's business; on normal commercial or better terms; on conditions no less favourable to the Company than those available to or from (as the case may be) independent third parties, if it was not practical to make such judgement based on comparable transactions as to whether such transactions have been carried out on normal commercial terms; and in accordance with relevant agreements whose terms are fair and reasonable and in the interest of the shareholders of the Company as a whole. Although the Financial Services Framework Agreement is not in the ordinary and usual course of business of the Company, the terms of the Financial Services Framework Agreement are fair and reasonable and in the interests of the Company and its shareholders as a whole.

SECTION VII SIGNIFICANT EVENTS

Auditor's Letter

In accordance with Rule 14A.56 of the Hong Kong Listing Rules, the Company has engaged its auditor, BDO China Shu Lun Pan Certified Public Accountants LLP ("BDO"), to report on the Group's continuing connected transactions in accordance with Hong Kong Standards on Assurance Engagements 3000 "Assurance Business Other Than Audits or Reviews of Historical Financial Information" and Practice Note 740 "Auditor's Letter on Continuing Connected Transactions under the Hong Kong Listing Rules" issued by the Hong Kong Institute of Certified Public Accounts. Based on its work, BDO has provided the Board with a letter confirming that, with respect to the aforesaid continuing connected transactions:

- (a) nothing has come to BDO's attention that causes it to believe that the aforesaid continuing connected transactions have not been approved by the Board;
- (b) in relation to the transactions involving products and services supplied by the Group, nothing has come to BDO's attention that causes it to believe that the transactions have not followed the Group's pricing policy in any material aspect;
- (c) nothing has come to BDO's attention that causes it to believe that the transactions have not been carried out in any material aspect in accordance with the relevant agreements;
- (d) in relation to the aggregate amounts for each of the aforesaid continuing connected transactions, nothing has come to BDO's attention that causes it to believe that the actual transaction amount of any of the aforesaid continuing connected transactions has not exceeded the cap determined by the Company for the year.

SECTION VII SIGNIFICANT EVENTS

XIII. MAJOR CONTRACTS AND PERFORMANCE

(I) Trusteeship, Contracting and Leasing Matters

1. Trusteeship

Applicable Not applicable

2. Contracting

Applicable Not applicable

2. Leasing

Applicable Not applicable

(II) Guarantees

Applicable Not applicable

Unit: Yuan Currency: RMB

External guarantees provided by the Company (excluding guarantees provided for its subsidiaries)

Total balance of guarantee provided during the Reporting
Period (excluding those provided to subsidiaries) —

Total balance of guarantee as at the end of the Reporting
Period (A) (excluding those provided to subsidiaries) —

Guarantees provided by the Company and its subsidiaries to its subsidiaries

Total guarantee to its subsidiaries incurred during the
Reporting Period 3,410,044,981.60

Total balance of guarantee to subsidiaries as at the end of
the Reporting Period (B) 4,535,197,167.73

SECTION VII SIGNIFICANT EVENTS

Aggregate guarantee of the Company (including those provided to subsidiaries)

Aggregate guarantee (A+B)	4,535,197,167.73
Percentage of aggregate guarantee to net assets of the Company (%)	10.01
Representing:	
Amount of guarantee provided for shareholders, actual controller and their related parties (C)	—
Amount of debts guarantee directly or indirectly provided to guaranteed parties with gearing ratio over 70% (D)	3,501,080,044.13
Excess amount of aggregate guarantee over 50% of net assets (E)	—
Aggregate amount of the above three categories (C+D+E)	3,501,080,044.13
Statement on the contingent joint and several liability in connection with unexpired guarantee	—

Statement on guarantee

Percentage of the total guarantee amount to net assets of the Company = guarantee amount/equity attributable to owners of the parent company. As at the end of 31 December 2022, the balance of guarantee amounted to RMB4,535 million, accounting for 10.01% of the Company's net assets, of which, the balance of guarantees for wholly-owned subsidiaries was RMB4,535 million; the balance of guarantees for controlling subsidiaries was RMB0 million. The Company did not provide any guarantee for any of its controlling shareholders, actual controllers or related parties. As at the end of the Reporting Period, the balance of guarantee provided by the Company for its subsidiaries with an asset-liability ratio of more than 70% amounted to RMB3,501 million.

SECTION VII SIGNIFICANT EVENTS

(III) Entrusted Cash Asset Management

1. Entrusted wealth management

(1) Overview picture about entrusted wealth management

Applicable Not applicable

Unit: 0'000 Yuan Currency: RMB

Type	Source of funds	Balance	Outstanding balance	Overdue amount
Cash management products of bank	Idle proceeds	270,000	270,000	0

The Company purchased the certificates of large-amount deposits of RMB2,450 million and RMB250 million from the Qinghuayuan Sub-branch of China Everbright Bank Company Limited and the Beijing Branch of China Merchants Bank Co., Ltd. for principal- and revenue-guaranteed cash management. For details, please refer to (IV) Other circumstances of use of proceeds during the Reporting Period of XIV. EXPLANATION ON PROCESS IN USE OF PROCEEDS in this section.

Other information

Applicable Not applicable

(2) Individual entrusted wealth management

Applicable Not applicable

Other information

Applicable Not applicable

(3) Provision for impairment of entrusted wealth management

Applicable Not applicable

SECTION VII SIGNIFICANT EVENTS

2. Entrusted loans

(1) Overall picture about entrusted loans

Applicable Not applicable

Other information

Applicable Not applicable

(2) Individual entrusted loan

Applicable Not applicable

Other information

Applicable Not applicable

(3) Provision for impairment of entrusted loans

Applicable Not applicable

3. Other information

Applicable Not applicable

(IV) Other Material Contracts

Applicable Not applicable

SECTION VII SIGNIFICANT EVENTS

XIV. EXPLANATION ON PROCESS IN USE OF PROCEEDS

✓ Applicable Not applicable

(I) Overall Use of Proceeds

✓ Applicable Not applicable

Unit: Yuan

Source of Proceeds	Total proceeds	Net proceeds after deduction of issuance expenses	Total promised investment amounts out of proceeds	Total promised investment amounts out of proceeds as of the end of the Reporting Period (2)	Accumulated investment amount out of proceeds as of the end of the Reporting Period (%) (3) = (2)/(1)	Process of accumulated investment as of the end of the Reporting Period (%) (3) = (2)/(1)	Investment amount for the year (4)	Proportion of the investment amount for the year (%) (5)=(4)/(1)
The initial public offering	10,530,000,000.00	10,354,342,373.23	10,354,342,373.23	4,425,178,221.81	42.74	779,554,691.54	7.53	

SECTION VII SIGNIFICANT EVENTS

(II) Details of the investment project

Applicable Not applicable

Unit: Yuan

Project name	Whether the change is involved	Proceeds source	Total promised investment amounts out of project proceeds	Total proceeds investment after adjustments (1)	Accumulated investment amount as of the end of the Report Period (2)	Accumulated investment as of the end of the Report Period (%) (3) = (2)/(1)	Date of which projects reached expected available status	Closed or not	Whether process of investment is in line with plan process	Specific reasons for process of investment not achieved	Efficiency achieved or R&D results of this project	Whether feasibility of projects changes significantly, if yes, please specify	Amount of savings and reasons
Advanced and intelligent technology research and development projects	No	IPO	4,600,000,000.00	4,600,000,000.00	1,407,045,893.81	30.59	2023	No	Yes	-	Completed the pilot application of the regional coordinative transportation service system in Chongqing, a dynamic test for ground equipment of ETCS train control system based on baseline 3 in Belgrade—Novi Sad section of Hungary-Serbia Railway, completed the pilot application of the railway comprehensive dispatching information system in Baoshen line and Shenshuo line of Shennua Railway, on-site verification of various key technologies for the new train control system based on Beidou satellite positioning technology and the CBTC system based on full-electronic interlock system that achieved the first delivery of the extension project of Changchun Subway Line 3, etc.	Not applicable	

SECTION VII SIGNIFICANT EVENTS

Project name	Whether the change is involved	Proceeds source	Total promised investment amounts out of project proceeds	Total proceeds investment after adjustments (1)	Accumulated investment amount as of the end of the Report Period (2)	Accumulated investment as of the end of the Report Period (%) (3) = (2)/(1)	Date of which projects reached expected available status	Closed or not	Whether investment process is in line with plan process	Specific reasons for process of investment not achieved	Efficiency achieved or R&D results of this project	Whether feasibility of projects changes significantly, if yes, please specify	Amount of savings and reasons
Advanced and intelligent manufacturing base project	No	IPO	2,500,000,000.00	2,500,000,000.00	0.00	0	-	No	No	The implementation conditions of the advanced and intelligent manufacturing base project have changed, and the implementation progress was delayed. At present, the subsidiary responsible for the implementation of the project has submitted the feasibility study report, on which the Company is studying.	Not applicable	No	Not applicable
Information construction project	No	IPO	300,000,000.00	300,000,000.00	381,132,328.00	12.71	2022	No	Yes	The information construction project was not progressed as expected due to the external environment, but the implementation conditions and feasibility of the project has not changed significantly, and the Company will actively advance its implementation.	Not applicable	No	Not applicable
Supplement liquidity	No	IPO	2,954,342,373.23	2,954,342,373.23	2,980,000,000.00	100	-	No	Yes	-	Not applicable	No	Not applicable

Note 1: A total of RMB2,036.43 million was invested in advanced and intelligent technology research and development projects as at the end of the Reporting Period, of which RMB1,511.03 million was invested in research on advanced rail transit control systems and key technologies, and RMB140.27 million was invested in research on intelligent integrated operation and maintenance systems and technologies for rail transit, RMB289.40 million was invested in smart city and industry communication information system research, RMB11.17 million was invested in chip technology applicable to rail transit, and RMB84.56 million was invested in rail transit intelligent construction technology research.

Note 2: As of 31 December 2022, in the comparison table for the use of raised funds, the actual supplement working capital project investment amount was RMB2,995,934,028.20, including the total initial committed investment of RMB2,954,342,373.23 and current interest of RMB415,916,549,700 in the corresponding special bank account.

SECTION VII SIGNIFICANT EVENTS

(III) Changes in investment during the Reporting Period

Applicable Not applicable

(IV) Other circumstances of use of proceeds during the Reporting Period

1. Initial investment and replacement of projects with proceeds

Applicable Not applicable

2. Temporarily supplement working capital with idle proceeds

Applicable Not applicable

3. Cash management against idle proceeds to invest in relevant products

Applicable Not applicable

At the 8th meeting of the fourth session of the Board of Directors, the 4th meeting of the fourth session of the supervisory committee held on 8 August 2022, the Resolution on Utilizing Unused Raised Funds for Cash Management (《關於使用暫時閑置募集資金進行現金管理的議案》) was considered and approved by the Company, approving the Company's utilization of unused proceeds of no more than RMB2.7 billion (inclusive) for cash management, provided that the progress on investment plans which use the proceeds, the Company's production and operation and the security of the proceeds would not be affected, and for purchasing investment products with high security, good liquidity and guaranteed principal (including but not limited to structured deposits, time deposits and large deposit certificate) for a term of not exceeding 12 months. As of 31 December 2022, CRSC's cash management of proceeds is detailed in the table below.

SECTION VII SIGNIFICANT EVENTS

Unit: 0'000 Yuan Currency: RMB

No.	Trustee	Product type	Approved investment amount	Actual investment amount	Term	Balance as of 31 December 2022	Interest as of 31 December 2022	Remarks
1	China Everbright Bank Company Limited Qinghuayuan Sub-branch	Structured deposit	245,000	245,000	September 2019 – December 2019	–	2,331	Redeemed
2	China Everbright Bank Company Limited Qinghuayuan Sub-branch	Large deposit certificate	245,000	245,000	December 2019 – August 2020	–	6,901	Redeemed
3	China Merchants Bank Co., Ltd. Beijing Branch	Large deposit certificate	25,000	25,000	August 2019 – August 2020	–	950	Redeemed
4	China Merchants Bank Co., Ltd. Beijing Branch	Large deposit certificate	25,000	25,000	September 2020 – September 2022	–	1,891	Redeemed
5	China Merchants Bank Co., Ltd. Beijing Branch	Seven-day notice deposit	25,000	25,000	September 2022 – redemption on demand	25,000	–	Redeemed upon expiry
6	China Everbright Bank Company Limited Qinghuayuan Sub-branch	Large deposit certificate	170,000	170,000	September 2020 – December 2022	–	14,733	Redeemed
7	China Everbright Bank Company Limited Qinghuayuan Sub-branch	Large deposit certificate	75,000	75,000	September 2020 – December 2022	–	6,500	Redeemed
8	China Everbright Bank Company Limited Beijing Chaonei Sub-branch	Large deposit certificate	195,000	195,000	December 2022 – redemption on demand	195,000	–	Redeemed upon expiry
9	China Everbright Bank Company Limited Beijing Chaonei Sub-branch	Large deposit certificate	50,000	50,000	December 2022 – redemption on demand	50,000	–	Redeemed upon expiry
Total	/	/	/	/	/	270,000	33,306	/

SECTION VII SIGNIFICANT EVENTS

4. Permanently supplement liquidity with over-raised proceeds or repay bank loans

Applicable Not applicable

5. Others

Applicable Not applicable

XV. TAX AND TAX REDUCTION AND EXEMPTION

Cash dividend income tax applicable to overseas shareholders

Withholding and Payment of EIT on behalf of Overseas Non-Resident Enterprise Shareholders

Pursuant to the applicable provisions of the Enterprise Income Tax Law of the People's Republic of China (《中華人民共和國企業所得稅法》) and its implementing rules and the requirements under the Notice on the Issues Concerning Withholding and Payment of the Enterprise Income Tax on the Dividends Paid by Chinese Resident Enterprises to H shareholders Who Are Overseas Non-resident Enterprises (Guo Shui Han [2008] No. 897) issued by the State Administration of Taxation (《關於中國居民企業向境外H股非居民企業股東派發股息代扣代繳企業所得稅有關問題的通知》)(國稅函[2008]897號), the Company will withhold and pay EIT at the rate of 10% when it distributes the cash dividend to overseas non-resident enterprise holders of H Shares (including any H Shares of the Company registered in the name of HKSCC Nominees Limited, but excluding any H Shares of the Company registered in the name of HKSCC Nominees Limited and are held by China Securities Depository and Clearing Corporation Limited as nominee shareholder on behalf of investors who invest in the H shares of the Company through Shanghai-Hong Kong Stock Connect).

Withholding and Payment of Individual Income Tax on behalf of Overseas Individual Shareholders

Pursuant to the applicable provisions of the Individual Income Tax Law of the People's Republic of China (《中華人民共和國個人所得稅法》) and its implementing rules, the Tax Notice (《稅收通知》), the Notice of the State Administration of Taxation on Issues Concerning the Administration of Individual Income Tax Collection after the Annulment of Document Guo Shui Fa [1993] No. 045 (Guo Shui Han [2011] No. 348) (《國家稅務總局關於國稅發[1993]045號文件廢止後有關個人所得稅徵管問題的通知》)(國稅函[2011]348號)) and other relevant laws, regulations and requirements under normative documents, the Company will implement the following arrangements in relation to the withholding and payment of individual income tax on behalf of the overseas individual H shareholders:

- For individual H shareholders who are Hong Kong or Macao residents or whose country (region) of domicile is a country (region) which has entered into a tax treaty with the PRC stipulating a tax rate of 10%, the Company will withhold and pay individual income tax at the rate of 10% on behalf of these individual H shareholders in the distribution of the cash dividend;

SECTION VII SIGNIFICANT EVENTS

- For individual H shareholders whose country (region) of domicile is a country (region) which has entered into a tax treaty with the PRC stipulating a tax rate of less than 10%, the Company will temporarily withhold and pay individual income tax at the rate of 10% on behalf of these individual H shareholders in the distribution of the cash dividend. If relevant individual H shareholders would like to apply for a refund of the excess amount of tax withheld and paid, the Company will handle, on their behalf, the applications for tax preferential treatments under relevant tax treaties according to the Tax Notice. Qualified Shareholders please submit in time a letter of entrustment and all application materials as required under the Tax Notice to the Company's H Share Registrar, Computershare Hong Kong Investor Services Limited. The Company will then submit the above documents to the competent tax authorities and, after their examination and if and when the documents are approved, the Company will assist in refunding the excess amount of tax withheld and paid;
- For individual H shareholders whose country (region) of domicile is a country (region) which has entered into a tax treaty with the PRC stipulating a tax rate of more than 10% but less than 20%, the Company will withhold and pay individual income tax at the effective tax rate stipulated in the relevant tax treaty on behalf of these individual H shareholders in the distribution of the cash dividend; and
- For individual H shareholders whose country (region) of domicile is a country (region) which has entered into a tax treaty with the PRC stipulating a tax rate of 20%, or a country (region) which has not entered into any tax treaties with the PRC, or under any other circumstances, the Company will withhold and pay individual income tax at the rate of 20% on behalf of these individual H shareholders in the distribution of the cash dividend.

Cash dividend income tax applicable to shareholders in Mainland China investing in H shares of the Company through Southbound Trading Link

Withholding and Payment of Individual Income Tax on behalf of Domestic Individual Shareholders Investing through Southbound Trading Link

Shanghai-Hong Kong Stock Connect: Pursuant to the Notice on Tax Policies for Shanghai-Hong Kong Stock Connect Pilot Program (Cai Shui [2014] No. 81) 《關於滬港股票市場交易互聯互通機制試點有關稅收政策的通知》(財稅[2014]81號)), for domestic individual shareholders who invest in H Shares of the Company through Shanghai-Hong Kong Stock Connect (such H shares are registered in the name of HKSCC Nominees Limited and held by China Securities Depository and Clearing Corporation Limited as nominee shareholder), the Company will withhold and pay individual income tax at the rate of 20% on their behalf in the distribution of the cash dividend. For domestic shareholders who are securities investment funds investing in H Shares of the Company through Shanghai-Hong Kong Stock Connect (such H shares are registered in the name of HKSCC Nominees Limited and held by China Securities Depository and Clearing Corporation Limited as nominee shareholder), the Company will withhold and pay individual income tax at the rate of 20% on their behalf in the distribution of the cash dividend.

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Shenzhen-Hong Kong Stock Connect: Pursuant to the Notice on Tax Policies for Shenzhen-Hong Kong Stock Connect Pilot Program (Cai Shui [2016] No. 127) 《關於深港股票市場交易互聯互通機制試點有關稅收政策的通知》(財稅[2016]127號)), for domestic individual shareholders who invest in H shares of the Company through Shenzhen-Hong Kong Stock Connect (such H shares are registered in the name of HKSCC Nominees Limited and held by China Securities Depository and Clearing Corporation Limited as nominee shareholder), the Company will withhold and pay individual income tax at the rate of 20% on their behalf in the distribution of the cash dividend. For domestic shareholders who are securities investment funds investing in H shares of the Company through Shenzhen-Hong Kong Stock Connect (such H shares are registered in the name of HKSCC Nominees Limited and held by China Securities Depository and Clearing Corporation Limited as nominee shareholder), the Company will withhold and pay individual income tax at the rate of 20% on their behalf in the distribution of the cash dividend.

No Withholding or Payment of EIT on behalf of Domestic Enterprise Shareholders Investing through Southbound Trading Link

Shanghai-Hong Kong Stock Connect: Pursuant to the Notice on Tax Policies for Shanghai-Hong Kong Stock Connect Pilot Program (Cai Shui [2014] No. 81) 《關於滬港股票市場交易互聯互通機制試點有關稅收政策的通知》(財稅[2014]81號)), for domestic enterprise shareholders who invest in H shares of the Company through Shanghai-Hong Kong Stock Connect (such H Shares are registered in the name of HKSCC Nominees Limited and held by China Securities Depository and Clearing Corporation Limited as nominee shareholder), the Company will not withhold or pay EIT on their behalf in the distribution of the cash dividend, and the domestic enterprise shareholders shall report and pay the relevant taxes payable by themselves. Any dividend received in respect of H shares of the Company which have been continuously held by a domestic enterprise shareholder for 12 months shall be exempted from EIT.

Shenzhen-Hong Kong Stock Connect: Pursuant to the Notice on Tax Policies for Shenzhen-Hong Kong Stock Connect Pilot Program (Cai Shui [2016] No. 127) 《關於深港股票市場交易互聯互通機制試點有關稅收政策的通知》(財稅[2016]127號)), for domestic enterprise shareholders who invest in H shares of the Company through Shenzhen-Hong Kong Stock Connect (such H Shares are registered in the name of HKSCC Nominees Limited and held by China Securities Depository and Clearing Corporation Limited as nominee shareholder), the Company will not withhold or pay EIT on their behalf in the distribution of the cash dividend, and the domestic enterprise shareholders shall report and pay the relevant taxes payable by themselves. Any dividend received in respect of H shares of the Company which have been continuously held by a domestic enterprise shareholder for 12 months shall be exempted from EIT.

H shareholders of the Company are recommended to consult their own tax advisors on the relevant tax impact in China, Hong Kong and other countries (regions) on the possession and disposal of H shares of the Company.

XVI. EXPLANATION ON OTHER SIGNIFICANT MATTERS THAT HAVE A SIGNIFICANT IMPACT ON THE INVESTORS' VALUE JUDGMENT AND INVESTMENT DECISIONS

Applicable Not applicable

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

I. THE MOVEMENTS IN SHARE CAPITAL

(I) Table of Changes in Shares

1. Table of changes in shares

There was no change in the total number of shares and equity structure of the Company during the Reporting Period.

2. Explanation on changes in shares

Applicable Not applicable

3. The impact of changes in shares on financial indicators such as earnings per share, net asset per share for the latest year and the latest period (if any)

Applicable Not applicable

4. Other disclosable contents that the Company deemed necessary or were required by securities regulatory authorities

Applicable Not applicable

On 15 July 2022, CRSC Group, the controlling shareholder of the Company, has made undertakings to extend the lock-up period of domestic shares (6,604,426,424 shares) held by CRSC upon its initial public offering by 6 months to 21 January 2023. During the extended lock-up period, CRSC Group shall not transfer or entrust others to manage the CRSC's A shares held by it, nor shall CRSC repurchase such shares. CRSC Group has strictly complied with the above undertakings during the lock-up period and there is no non-fulfilment of the relevant undertakings affecting the listing and circulation of the restricted shares, and such shares have been listed and circulated from 30 January 2023.

(II) Changes in Shares Subject to Trading Moratorium

Applicable Not applicable

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

Unit: Share

Name of Shareholders	Number of shares subject to trading moratorium at the beginning of the year	Number of shares released from trading moratorium for the year	Number of new shares subject to trading moratorium for the year	Number of shares subject to trading moratorium at the end of the year	Reason for the trading moratorium	Date of release from trading moratorium
China Railway Signal and Communication (Group) Corporation Limited	6,604,426,424	0	0	6,604,426,424	Subject to trading moratorium under the initial public offering and voluntary commitment to extend the lock-up period for restricted shares	30 January 2023
Total	6,604,426,424	0	0	6,604,426,424	/	/

II. SECURITIES ISSUE AND LISTING

(I) Issue of Securities as at the Reporting Period

Applicable Not applicable

Explanation on securities issue as at the Reporting Period (for bonds with different interest rates during the duration, please specify separately):

Applicable Not applicable

(II) Changes in the Total Number of Shares and Shareholders Structure of the Company and Changes in the Company's Assets and Liabilities Structure

Applicable Not applicable

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

III. SHAREHOLDERS AND ACTUAL CONTROLLERS

(I) Total Number of Shareholders

Total number of ordinary shareholders as at the end of the Reporting Period (account)	87,875
Total number of ordinary shareholders at the end of the previous month before the disclosure date of the annual report (account)	85,628
Total number of shareholders of preference shares with restored voting rights as at the end of the Reporting Period (account)	Not applicable
Total number of shareholders of preference shares with restored voting rights at the end of the previous month before the disclosure date of the annual report (account)	Not applicable
Total number of shareholders holding special voting shares as at the end of the Reporting Period (account)	Not applicable
Total number of shareholders holding special voting shares at the end of the previous month before the disclosure date of the annual report (account)	Not applicable

Number of depositary receipt holders

Applicable Not applicable

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

(II) Particulars of Shareholdings of the Top Ten Shareholders and the Top Ten Shareholders of Tradable Shares (or Shareholders Not Subject to Trading Moratorium) as at the End of the Reporting Period

Unit: share

Particulars of shareholdings of the top ten shareholders

Name of Shareholder (full name)	Change of shareholding during the Reporting Period	Number of shares held as at the end of the period	Percentage (%)	Number of shares held subject to trading moratorium	Number of restricted shares including lending shares for securities financing	Shares pledged, marked or frozen	Nature of shareholder
						Status of shares	Number of shares
China Railway Signal and Communication (Group) Corporation Limited ^{Note 1}	-	6,604,426,424	62.37	6,604,426,424	6,604,426,424	No shares being pledged, marked or frozen	State-owned corporation Overseas
HKSCC NOMINEES LIMITED ^{Note 2}	-13,000	1,967,714,950		-	-	Unknown	corporation
China Merchants Bank Co., Ltd.-ChinaAMC SSE STAR 50 Exchange Traded Fund	+92,256,519	146,146,505	1.38	-	-	Unknown	Other Overseas
HKSCC Limited	+26,931,901	110,043,215	1.04	-	-	Unknown	corporation
China National Machinery Industry Corporation	-	63,507,192	0.60	-	-	Unknown	State-owned corporation
Industrial and Commercial Bank of China Limited – E Fund SSE STAR 50 Exchange Traded Fund	+19,786,146	47,774,555	0.45	-	-	Unknown	Other State-owned
China Railway Investment Co., Ltd.	-	34,188,000	0.32	-	-	Unknown	corporation
Guangdong Hengjian Capital Management Co., Ltd.	-	23,677,500	0.22	-	-	Unknown	State-owned corporation
CETC Fund Management Co., Ltd.- Zhongdian Electronic Information Industry Investment Fund (Tianjin) Partnership (Limited Partnership)	-	23,677,500	0.22	-	-	Unknown	Other State-owned
Hunan Rail Transit Holding Group Co., Ltd.	-	23,677,500	0.22	-	-	Unknown	corporation

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

Particulars of shareholdings of the top ten Shareholders not subject to trading moratorium

Name of Shareholder	Number of circulating shares held not subject to trading moratorium	Type and number of shares	
		Type	Number
HKSCC NOMINEES LIMITED ^{Note 2}	1,967,714,950	Overseas listed foreign shares	1,967,714,950
China Merchants Bank Co., Ltd – ChinaAMC SSE STAR 50 Exchange Traded Fund	146,146,505	RMB ordinary shares	146,146,505
HKSCC Limited	110,043,215	RMB ordinary shares	110,043,215
China National Machinery Industry Corporation	63,507,192	RMB ordinary shares	63,507,192
Industrial and Commercial Bank of China Limited-E Fund SSE STAR 50 Exchange Traded Fund	47,774,555	RMB ordinary shares	47,774,555
China Railway Investment Co., Ltd.	34,188,000	RMB ordinary shares	34,188,000
Guangdong Hengjian Capital Management Co., Ltd.	23,677,500	RMB ordinary shares	23,677,500
CETC Fund Management Co., Ltd-Zhongdian Electronic Information Industry Investment Fund (Tianjin) Partnership (Limited Partnership)	23,677,500	RMB ordinary shares	23,677,500
Hunan Rail Transit Holding Group Co., Ltd.	23,677,500	RMB ordinary shares	23,677,500
Agricultural Bank of China Co., Ltd. – CSI 500 Index Trading Open Index Securities Investment Fund	21,460,233	RMB ordinary shares	21,460,233
Explanation on the special account for repurchase of the top ten shareholders	–		
Explanation on the above shareholders who entrusted, be entrusted with or waived voting rights	–		
Explanation on the related party relationship or acting-in-concert arrangement among the above shareholders		China Railway Signal and Communication (Group) Corporation Limited, the largest shareholder, does not have any related party relationship with the other shareholders nor is it a person acting in concert with them. The Company is not aware whether the other shareholders have related party relationship or acting-in-concert arrangement.	
Explanation on the shareholders of preference shares with restored voting right and their shareholdings		Not applicable	

Note 1: As of 31 December 2022, apart from 6,604,426,424 A shares, China Railway Signal and Communication (Group) Corporation Limited also holds 34,302,000 H shares of the Company.

Note 2: H shares held by HKSCC NOMINEES LIMITED are held on behalf of various clients.

Note 3: Apart from information set out in note 1 and note 2, shares held by shareholders in the table above are all A shares of the Company.

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

The shareholdings of the top ten Shareholders subject to trading moratorium and conditions of such trading moratorium

Applicable Not applicable

Unit: share

No.	Name of Shareholder subject to trading moratorium	Number of Shares held subject to trading moratorium	Shares subject to trading moratorium available for listing and trading		Trading moratorium
			Time available for listing and trading	Number of additional shares available for listing and trading	
1	China Railway Signal and Communication (Group) Corporation Limited	6,604,426,424	30 January 2023	–	42 months from the date when the Company's shares are listed at the SSE

Explanation on the related party relationship or acting-in-concert arrangement among the above shareholders

Not applicable

Note: On 15 April 2019, CRSC Group, the controlling shareholder of the Company, has made undertakings in respect of lock-up of shares of CRSC held by it, that within 36 months from the date when the CRSC's A shares upon initial public offering are listed on the Shanghai Stock Exchange, the CRSC's A shares held by CRSC Group shall not be transferred or entrusted to others to manage the CRSC's domestic shares directly or indirectly held by it prior to the issuance, nor shall CRSC repurchase such shares. During the Reporting Period, CRSC Group, the controlling shareholder of the Company, has made undertakings to extend the lock-up period of domestic shares held by CRSC upon its initial public offering by 6 months to 21 January 2023. The above shares became tradable on 30 January 2023.

Particulars of the top ten domestic depository receipts holders of the Company as at the end of the Reporting Period

Applicable Not applicable

Number of holdings of the top ten holders of depository receipts subject to trading moratorium and conditions of such trading moratorium

Applicable Not applicable

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

(III) Particulars of Top Ten Shareholders with Voting Rights as at the End of the Reporting Period

Applicable Not applicable

(IV) Top 10 Shareholders from Strategic Investors or General Legal Persons Participating in the Placing of the New Shares/Depository Receipts

Applicable Not applicable

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

(V) Strategic Placement of IPO

- Particulars of shareholding of senior management and core employees by setting up a special asset management plan to participate in the strategic placement of IPO

✓ Applicable Not applicable

Unit: share

Name of Shareholder/holder	Number of allocated shares/depositary receipts	Time available for listing and trading	Changes of number in the Reporting Period	Number of holdings of shares/depositary receipts including lending shares for securities financing at the end of the period
CICC-Guangfa Bank-CICC Feng Zhong No. 1 collective assets management plan for employee participation in STAR MARKET strategic allotment	18,901,500	22 July 2020	0	4,010,647
CICC-Guangfa Bank-CICC Feng Zhong No. 2 collective assets management plan for employee participation in STAR MARKET strategic allotment	44,713,112	22 July 2020	-141,595	7,197,591
CICC-Guangfa Bank-CICC Feng Zhong No. 3 collective assets management plan for employee participation in STAR MARKET strategic allotment	34,227,038	22 July 2020	0	6,328,531
CICC-Guangfa Bank-CICC Feng Zhong No. 4 collective assets management plan for employee participation in STAR MARKET strategic allotment	1,621,102	22 July 2020	-	-
CICC-Guangfa Bank-CICC Feng Zhong No. 5 collective assets management plan for employee participation in STAR MARKET strategic allotment	9,270,248	22 July 2020	-418,628	2,540,172

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

2. Particulars of shareholding of relevant subsidiaries of sponsors participating in the strategic placement of IPO

✓ Applicable Not applicable

Unit: share

Name of Shareholder	Relationship with the sponsor	Number of allocated shares/ depositary receipts	Time available for listing and trading	Changes of number in the Reporting Period	Number of holdings of shares/ depositary receipts including lending shares for securities financing at the end of the period	
China CICC Wealth Management Securities Company Limited (Formerly known as China Investment Securities Company Limited)	A wholly-owned subsidiary of the sponsor	36,000,000	22 July 2021	-	-	-

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

(VI) Interests and short positions of substantial shareholders in shares and underlying shares of the Company

As at 31 December 2022, so far as is known to the Directors, the following persons (other than the directors, the supervisors or chief executives of the Company) had interests or short positions in the shares or underlying shares of the Company which would be required to be disclosed to the Company under the provisions of Divisions 2 and 3 of Part XV of the Securities and Futures Ordinance (the "SFO") and which were entered in the register required to be kept by the Company pursuant to section 336 of the SFO:

Name of Shareholder	Class of shares	Capacity	Number of shares held	Approximate percentage of shares in the relevant class of shares of the Company	Approximate percentage of shares in the total issued shares of the Company
China Railway Signal and Communication (Group) Corporation Limited	A shares	Beneficial owner	6,604,426,424 (Long position)	76.61%	62.37%
Shanghai Zhenhua Heavy Industries Co., Ltd. ⁽¹⁾	H shares	Interests in a controlled corporation	123,063,000 (Long position)	6.25%	1.16%
Shanghai Zhenhua Port Machinery (Hong Kong) Company Limited ⁽¹⁾	H shares	Beneficial owner	123,063,000 (Long position)	6.25%	1.16%
China Railway Group Investment (Hong Kong) Limited ⁽²⁾	H shares	Beneficial owner	123,063,000 (Long position)	6.25%	1.16%
China Railway Engineering Corporation ⁽²⁾	H shares	Interests in a controlled corporation	123,063,000 (Long position)	6.25%	1.16%
China Railway Group Limited ⁽²⁾	H shares	Interests in a controlled corporation	123,063,000 (Long position)	6.25%	1.16%
China Railway International Group Co., Limited ⁽²⁾	H shares	Interests in a controlled corporation	123,063,000 (Long position)	6.25%	1.16%
Shanghai Ningquan Asset Management Co., Ltd. (上海寧泉資產管理有限公司)	H shares	Investment manager	223,875,000 (Long position)	11.37%	2.11%

Notes:

As at 31 December 2022, the number of issued shares of the Company was 10,589,819,000 shares, of which 1,968,801,000 shares were H shares and 8,621,018,000 shares were A shares.

- Shanghai Zhenhua Heavy Industries Co., Ltd. had interests in such shares through Shanghai Zhenhua Port Machinery (Hong Kong) Company Limited.
- China Railway Engineering Corporation had interests in such shares through China Railway Group Limited, China Railway International Group Co., Limited and China Railway Group Investment (Hong Kong) Limited.

Save as disclosed above, as at 31 December 2022, the Directors were not aware of any persons (other than the directors, the supervisors or chief executives of the Company) who had interests and/or short positions in the shares or underlying shares of the Company which would be required to be disclosed to the Company under the provisions of Divisions 2 and 3 of Part XV of the SFO and which were entered in the register required to be kept by the Company pursuant to section 336 of the SFO.

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

IV. THE CONTROLLING SHAREHOLDER AND ACTUAL CONTROLLER

(I) Controlling Shareholder

1 Legal person

Applicable Not applicable

Name **China Railway Signal and Communication (Group) Corporation Limited**

Leader or legal representative ZHOU Zhiliang

Date of establishment 7 January 1984

Main business Business scope: Dispatching expatriate labor required to undertake overseas projects that are compatible with the company's strength, scale, and performance; production of railway (including subway) equipment used in communications, signals, electricity, and automatic control; scientific research, survey, design, installation and construction of the aforesaid projects, as well as construction of supporting projects thereof; import and export businesses; contracting overseas railways and electricity projects and international tender projects in PRC; contracting survey, consultation, design and supervision of the afore-said overseas projects; survey, design, installation, construction and ancillary building construction of communication, signal, electricity, and automatic control projects of roadway traffic, airport, port, industrial and mining enterprises; technical consultation and technical services related to the afore-said projects; leasing of the equipment and self-owned building. (Enterprises can freely choose the operating projects and carry out business activities according to laws; projects subject to approval according to laws shall be launched to carry out business activities with approval of the competent authorities and based on the content of the approval; business activities of the forbidden and restricted projects as required by the municipal industry policies are not allowed.)

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

Equity in other domestic and overseas listed companies controlled and invested during the Reporting Period

China Railway Signal and Communication (Group) Corporation Limited holds 36,686,852 RMB ordinary shares of Tianjin Keyvia Electric Co., Ltd. (stock code: 300407). The shareholding percentage is 11.42%.

China Railway Signal and Communication (Group) Corporation Limited holds 34,843,206 RMB ordinary shares of China Railway Construction Heavy Industry Co., Ltd. (stock code: 688425). The shareholding percentage is 0.68%.

China Railway Signal and Communication (Group) Corporation Limited participated in the non-public issuance of Power Construction Corporation of China, Ltd. in January 2023. After the completion of the issuance, China Railway Signal and Communication (Group) Corporation Limited holds 31,055,900 RMB ordinary shares of Power Construction Corporation of China, Ltd. (stock code: 601669). The shareholding percentage is 0.18%.

Other explanations None

2 Natural person

Applicable Not applicable

3 Special explanation for absence of the Company's controlling shareholder

Applicable Not applicable

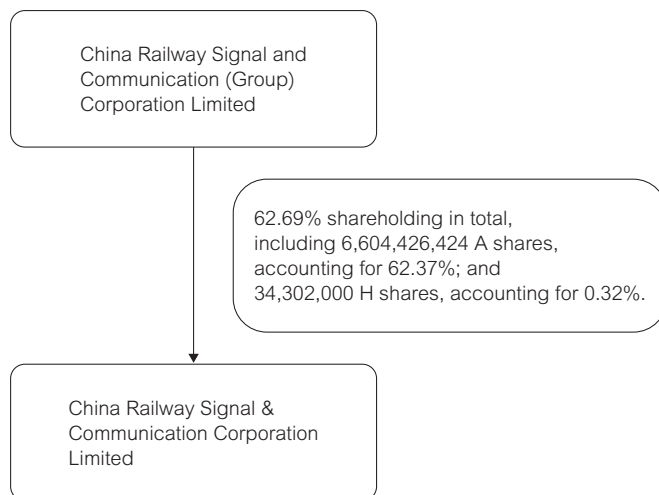
4 Explanation for changes in controlling shareholder during the Reporting Period

Applicable Not applicable

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

5 Diagram of the property rights and control relationship between the Company and the controlling shareholder

Applicable Not applicable



(II) Actual Controllers

1 Legal person

Applicable Not applicable

Actual controller of the Company – State-owned Assets Supervision and Administration Commission of the State Council, which is the ministry level institution directly under the State Council, and was set up in accordance with the Institutional Reform Plan of the State Council and the Notice of the State Council on Establishment of Institutions passed at the First Session of the 10th National People’s Congress. The State-owned Assets Supervision and Administration Commission is authorized by the State Council to perform its duties as an investor on behalf of the State. The scope of supervision of the State-owned Assets Supervision and Administration Commission extends to the state-owned assets of central government owned enterprises (excluding financial enterprises).

2 Natural person

Applicable Not applicable

3 Special explanation for absence of the Company’s actual controllers

Applicable Not applicable

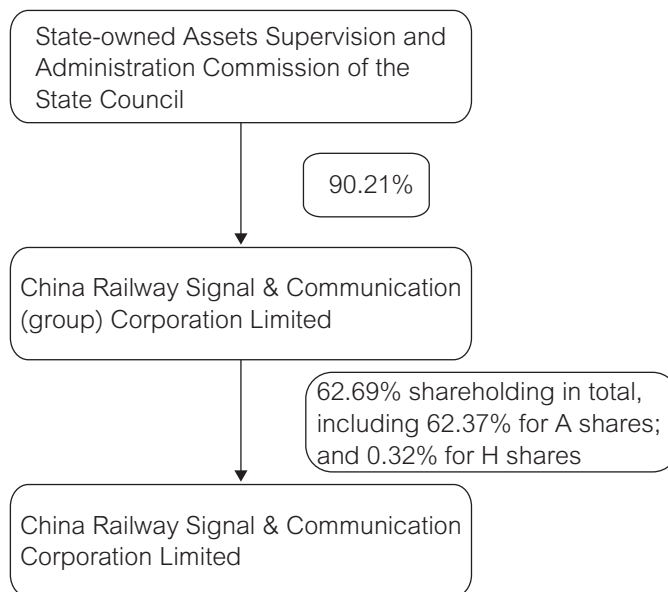
SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

4 Explanation for changes in control of the Company during the Reporting Period

Applicable Not applicable

5 Diagram of the property rights and control relationship between the Company and the actual controllers

Applicable Not applicable



6 Controlling the Company by the actual controllers through trust or other asset management methods

Applicable Not applicable

SECTION VIII CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

(III) Other Information of Controlling Shareholder and Actual Controllers

Applicable Not applicable

V. THE CUMULATIVE NUMBER OF PLEDGED SHARES OF THE CONTROLLING SHAREHOLDERS OR THE LARGEST SHAREHOLDER OF THE COMPANY AND THE PERSON ACTING IN CONCERT WITH THEM ACCOUNTS FOR MORE THAN 80% OF THE SHARES OF THE COMPANY HELD BY THEM.

Applicable Not applicable

VI. OTHER LEGAL PERSON HOLDING MORE THAN 10% OF THE SHARES

Applicable Not applicable

VII. EXPLANATION OF RESTRICTIONS ON REDUCTION OF HOLDING OF SHARES/DEPOSITARY RECEIPTS

Applicable Not applicable

VIII. IMPLEMENTATION OF THE SHARE REPURCHASE DURING THE REPORTING PERIOD

Applicable Not applicable

Neither the Company nor any of its subsidiaries purchased, sold or redeemed any of its listed securities during the year ended 31 December 2022.

SECTION IX PARTICULARS OF PREFERENCE SHARES

Applicable Not applicable

SECTION X PARTICULARS OF BONDS

I. ENTERPRISE BONDS, CORPORATE BONDS AND DEBT FINANCING INSTRUMENTS OF NON-FINANCIAL ENTERPRISES

Applicable Not applicable

(I) Enterprise Bonds

Applicable Not applicable

(II) Corporate Bonds

Applicable Not applicable

SECTION X PARTICULARS OF BONDS

(III) Debt Financing Instruments of Non-financial Enterprises in the Interbank Bond Market

✓ Applicable Not applicable

1. Basic information on debt financing instruments of non-financial enterprises

Unit: Yuan Currency: RMB

Name of bond	Abbreviation	Code	Issue date	Value date	Maturity date	Balance of the bond	Interest rate (%)	Repayment of principal and interest	Trading place	Investor suitability arrangements (if any)	Whether there is a risk of termination of listing and trading
2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited	21 CRSC-MTN001	102102265.B	15 December 2021	16 December 2021	3+N (3) years, standing perpetually before redemption by the issuer in accordance with the terms of issuance, and maturing upon redemption by the issuer in accordance with the terms of issuance.	2,800,000,000.00	3.32	Interest payment method: Simple interest for accrual of annual interest, and no compound interest will be accrued. If the Company does not exercise the option of deferred payment of interest, interest will be paid annually; if the Company exercises the option of deferred payment of interest, the current interest and all deferred interest and interest thereof will be deferred to the next interest payment date, and each deferred interest is interest bearing at the prevailing coupon rate during the deferral period. The last instalment of interest shall be paid together with the principal.	Interbank market	For qualified institutional investors in the national interbank bond market (other than purchasers prohibited by national laws or regulations), it shall be conducted in accordance with the relevant regulations promulgated by the National Interbank Funding Center.	No

SECTION X PARTICULARS OF BONDS

Measures adopted by the Company for the risk of terminating the listing and trading of bonds

Applicable Not applicable

Overdue and outstanding bonds

Applicable Not applicable

Payments of interest and principal of bonds during the Reporting Period

Applicable Not applicable

Name of bond

Payments of interest and principal

2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited The Company paid interest on bonds of RMB92.96 million on schedule

2. The triggering and implementation of the issuer or investor option terms and the investor protection terms

Applicable Not applicable

3. Intermediaries providing services for bonds issuance and business subsisting

Name of intermediary	Address	Name of signing		
		accountant	Contact person(s)	Contact number
China Merchants Securities Co., Ltd.	17/F, Building 3, No. 1 Yuelan South Street, Xicheng District, Beijing	Not applicable	RONG Xi, ZHAO Yan	010-57601901
China Everbright Bank Company Limited	China Everbright Center, No.25 Taipingqiao Avenue, Xicheng District, Beijing	Not applicable	JIANG Shasha	010-63639651
Zhong Lun Law Firm	23-31/F, Building 3, South Tower of CP Center, No. 20 Jin He East Avenue, Chaoyang District, Beijing	Not applicable	YUAN Ting, MA Sicong	010-59572288
Ernst & Young Hua Ming LLP	Rooms 01-12, Level 17, Ernst & Young Tower, Oriental Plaza, No. 1 East Chang'an Avenue, Dongcheng District, Beijing	Not applicable	ZHANG Xiaoliang	010-58153960
Dagong Global Credit Rating Co., Ltd.	3/F-01, No. 89 West Third Ring North Road, Haidian District, Beijing	Not applicable	GE Ling	010-67413300
BDO China Shu Lun Pan Certified Public Accountants LLP	20/F, Tower A, China Overseas International Center, Building 7, No. 5 Anding Road, Chaoyang District, Beijing	Not applicable	GUO Jian, WANG Xiaoyan	010-56730214

SECTION X PARTICULARS OF BONDS

Changes in the above intermediaries

Applicable Not applicable

Name of intermediary	Reason for change	Procedures	Impact on the interests of bond investors
Ernst & Young Hua Ming LLP	The term of cooperation expired	It has been considered and approved by the Board of Directors and the general meeting of the Company	Not applicable

4. Use of proceeds as at the end of the Reporting Period

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of bond	Total proceeds	Proceeds used	Proceeds unused	Operation of special account for proceeds (if any)	Rectification of illegal use of proceeds (if any)	Whether the use of proceeds is consistent with the use of proceeds committed, the planned use and other agreements in the prospectus
2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited	2,800,000,000	2,489,030,000	308,000,000	Not applicable	Not applicable	Yes

Note: The Company raised a total of RMB2.8 billion from the debt financing instruments, and the net proceeds after deduction of the relevant issuance expenses was RMB2.79703 billion.

Progress and operating efficiency in use of proceeds for construction projects

Applicable Not applicable

SECTION X PARTICULARS OF BONDS

Explanation for changing the use of proceeds raised from the above-mentioned bonds during the Reporting Period

Applicable Not applicable

Other explanations

Applicable Not applicable

5. Adjustment of credit rating results

Applicable Not applicable

Other explanations

Applicable Not applicable

6. Implementation and changes in guarantees, debt repayment plans and other repayment guarantees during the Reporting Period and their impact

Applicable Not applicable

7. Other explanations of debt financing instruments of non-financial enterprises

Applicable Not applicable

(IV) Losses in the consolidated statements exceeding 10% of the net assets as at the end of the previous year during the Reporting Period

Applicable Not applicable

(V) Default on payment of interest-bearing debts excluding bonds as at the end of the Reporting Period

Applicable Not applicable

(VI) Influence of violations of laws and regulations, the Articles of Association, the management system for information disclosure, and the agreements or undertakings in the bond prospectus on the rights and interests of bond investors during the Reporting Period

Applicable Not applicable

SECTION X PARTICULARS OF BONDS

(VII) Accounting data and financial indicators of the Company for the last two years as of the end of the Reporting Period

Applicable Not applicable

Unit: Yuan Currency: RMB

Major indicators	2022	2021	Change as compared with the corresponding period of last year (%)	Reasons for changes
Net profits attributable to shareholders of the listed company after deducting non-recurring profit and loss	3,416,830,555.97	3,123,863,726.28	9.38	/
Current ratio	1.42	1.48	-0.06	/
Quick ratio	0.75	0.77	-0.02	/
Gearing ratio (%)	59.52	58.35	1.17	/
Debt-to-EBITDA ratio	1.25	1.54	-0.29	/
Interest coverage ratio	43.73	46.30	-2.57	/
Cash interest coverage ratio	25.81	38.14	-12.33	/
EBITDA interest coverage ratio	49.91	53.81	-3.90	/
Loan repayment ratio (%)	100.00	100.00	-	/
Interest repayment ratio (%)	100.00	100.00	-	/

II. CONVERTIBLE COMPANY DEBENTURES

Applicable Not applicable

SECTION XI FINANCIAL REPORT

I. AUDIT REPORT

Applicable Not applicable

AUDITOR'S REPORT

Xin Kuai Shi Bao Zi [2023] No. ZG26716

To the Shareholders of China Railway Signal & Communication Corporation Limited:

I. Opinion

We have audited the accompanying financial statements of China Railway Signal & Communication Corporation Limited ("CRSC"), which comprise the consolidated and company's balance sheets as at 31 December 2022, the consolidated and company's income statements, the consolidated and company's statements of cash flows, and the consolidated and company's statements of changes in owners' equity for the year then ended, and notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the consolidated and company's financial position as at 31 December 2022 and the consolidated and company's financial performance and cash flows for the year then ended in accordance with the requirements of Accounting Standards for Business Enterprises.

II. Basis for Opinion

We conducted our audit in accordance with China Standards on Auditing ("CSAs"). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of CRSC in accordance with the Code of Ethics for Professional Accountants of the Chinese Institute of Certified Public Accountants ("CICPA Code"), and we have fulfilled our other ethical responsibilities in accordance with the CICPA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

SECTION XI FINANCIAL REPORT

AUDITOR'S REPORT (Continued)

III. Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We identified the following key audit matters in our audit:

Key Audit Matters	How these matters were addressed in the audit
<p>1. <i>Recognition of revenue from construction contracts</i></p> <p>The revenue of CRSC is mainly derived from construction contracts for which CRSC recognises revenue according to performance progress. Recognition of revenue in accordance with performance progress may involve significant Management judgements and estimates, including estimated contract revenue, estimated contract costs, and work progress. When conditions change, the relating judgements and estimates may vary. During the execution of contracts, the Management of CRSC evaluated and revised the estimated contract revenue and estimated contract costs based on factors such as scope of contract delivery and estimated cost to completion. The recognition of revenue from construction contracts has a significant effect on financial statements.</p> <p>For the accounting policies and the disclosure of information for the recognition of construction contract revenue, please refer to Note “V.(XXVII)” and Note “VII.(LXI)” to the financial statements.</p>	<p>Method of audit</p> <ol style="list-style-type: none">1. We tested and evaluated the internal control of revenue recognition of CRSC.2. We obtained major construction contracts, reviewed key contract terms and evaluated the rationality of the Management’s estimation on estimated contract revenue and estimated contract costs.3. We performed sampling inspection of relevant documents to review contract costs incurred; recalculated the performance progress and revenue based on incurred costs and estimated contract costs.4. We carried out cut-off test procedures to check whether relevant contract costs are recorded in the appropriate accounting period; and underwent an analytical review process for the gross profit margin of major construction contracts.5. We evaluated the sufficiency of the Management’s disclosure of recognition of revenue from construction contracts in the financial statements.

SECTION XI FINANCIAL REPORT

AUDITOR'S REPORT (Continued)

III. Key Audit Matters (Continued)

Key Audit Matters	How these matters were addressed in the audit
<p>2. <i>Impairment of accounts receivable and contract assets</i></p>	Method of audit
<p>CRSC recognises provision for impairment of accounts receivable and contract assets based on expected credit losses, which involves significant judgements and estimations of the Management. Specific factors considered by the Management in its recoverability analysis include ageing, customers' repayment plans, historical settlement records, credit ratings and historical repayment records, and other qualitative and quantitative data available to the Management. The Management also evaluated the expected changes in the credit risk of the debtor based on the above data combined with economic policies, macroeconomic indicators, industry risks and other factors, and considered forward-looking information. The balance of accounts receivable and contract assets of CRSC was significant, and the impairment of accounts receivable and contract assets had significant impacts on the financial statements.</p>	<p>1. We tested and evaluated the internal control of accrual process of CRSC for provision for impairment of accounts receivable and contract assets.</p> <p>2. We reviewed the Management's analysis and evaluation of historical data of receivables and analysis of historical settlement of contract assets, and checked relevant supporting documents for selected samples to review the accuracy of the ageing of receivables.</p> <p>3. For individual recognition of impairment provision for receivables and contract assets, we understood the reasons for the Management's judgement and evaluated the rationality of the Management's impairment provision.</p> <p>4. For the recognition of impairment provision for receivables and contract assets by reference to the credit risk portfolio, we reviewed the Management's settings for the credit risk portfolio, evaluated the rationality of the impairment loss rate in combination with the consideration of historical audit experience and forward-looking information, and reviewed relevant documents for the selected samples to evaluate the rationality of the Management's credit risk portfolio classification and impairment provision.</p> <p>5. We evaluated the sufficiency of the Management's disclosure of provision for impairment of accounts receivable and contract assets.</p>
<p>For the accounting policies and the disclosure of information for provision for impairment of accounts receivable and contract assets, please refer to Note "V.(X)", Note "VII.(V)", and Note "VII.(X)" to the financial statements.</p>	

SECTION XI FINANCIAL REPORT

AUDITOR'S REPORT (Continued)

IV. Other Information

Management of CRSC ("Management") is responsible for the other information. The other information comprises all of the information included in the 2022 annual report of CRSC, other than the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact. We have nothing to report in this regard.

V. Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the requirements of Accounting Standards for Business Enterprises, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing CRSC's ability to continue as a going concern, disclosing, if applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate CRSC or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing CRSC's financial reporting process.

SECTION XI FINANCIAL REPORT

AUDITOR'S REPORT (Continued)

VI. Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with CSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with CSAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- (1) Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- (2) Obtain an understand of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances.
- (3) Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- (4) Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on CRSC's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause CRSC to cease to continue as a going concern.
- (5) Evaluate the overall presentation (including the disclosures), structure and contents of the financial statements, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

SECTION XI FINANCIAL REPORT

AUDITOR'S REPORT (Continued)

VI. Auditor's Responsibilities for the Audit of the Financial Statements (Continued)

- (6) Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within CRSC to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and, where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

BDO CHINA Shu Lun Pan
Certified Public Accountants LLP

Shanghai, China

Certified Public Accountant of China: GUO Jian
(Engagement Partner)

Certified Public Accountant of China: WANG Xiaoyan

23 March 2023

CONSOLIDATED BALANCE SHEET

31 December 2022

II. FINANCIAL STATEMENTS

Prepared by: China Railway Signal & Communication Corporation Limited

Unit: Yuan Currency: RMB

ITEM	Note VII	31 December 2022	31 December 2021
Current assets:			
Cash and bank balances	(I)	22,215,371,337.81	22,982,585,272.39
Balances with clearing companies			
Placements with banks and other financial institutions			
Held-for-trading financial assets	(II)		
Derivative financial assets	(III)		
Bills receivable	(IV)	1,714,371,393.60	
Accounts receivable	(V)	22,672,081,197.55	19,853,757,318.28
Receivables for financing	(VI)	1,048,965,771.85	2,142,993,114.00
Prepayments	(VII)	1,135,530,595.29	908,511,854.83
Premiums receivable			
Reinsurance accounts receivable			
Deposits receivable from reinsurance treaty			
Other receivables	(VIII)	1,579,389,304.96	1,093,595,430.95
Including: Interest receivable		3,628,769.52	
Dividends receivable		6,075,000.00	6,525,000.00
Financial assets held under resale agreements			
Inventories	(IX)	2,378,763,660.23	2,492,752,472.50
Contract assets	(X)	38,617,088,327.03	37,318,249,499.32
Assets held for sale	(XI)		
Non-current assets due within one year	(XII)	104,252,537.37	52,914,920.60
Other current assets	(XIII)	954,216,216.16	1,187,176,665.81
Total current assets		92,420,030,341.85	88,032,536,548.68

CONSOLIDATED BALANCE SHEET

31 December 2022

ITEM	Note VII	31 December 2022	31 December 2021
Non-current assets:			
Loans and advances to customers			
Debt investment	(XIV)	273,172,183.50	273,172,183.50
Other debt investments	(XV)		
Long-term receivables	(XVI)	5,909,956,266.76	3,713,734,908.20
Long-term equity investments	(XVII)	1,505,010,167.68	1,378,223,747.06
Other equity instrument investments	(XVIII)	1,124,819,159.20	1,124,819,159.20
Other non-current financial assets	(XIX)		
Investment properties	(XX)	360,225,551.83	284,692,545.57
Fixed assets	(XXI)	4,580,968,030.17	4,689,690,366.70
Construction in progress	(XXII)	891,536,403.93	800,282,649.47
Productive biological assets	(XXIII)		
Oil and gas assets	(XXIV)		
Right-of-use assets	(XXV)	173,961,270.40	172,627,457.06
Intangible assets	(XXVI)	2,563,747,410.22	2,529,711,941.27
Development expenditure	(XXVII)	188,000,541.82	213,250,203.11
Goodwill	(XXVIII)	305,324,128.58	305,324,128.58
Long-term prepaid expenses	(XXIX)	58,177,965.51	50,007,280.33
Deferred tax assets	(XXX)	474,086,180.50	370,019,211.39
Other non-current assets	(XXXI)	5,977,528,881.93	5,004,496,508.18
Total non-current assets		<u>24,386,514,142.03</u>	<u>20,910,052,289.62</u>
Total assets		<u>116,806,544,483.88</u>	<u>108,942,588,838.30</u>

CONSOLIDATED BALANCE SHEET

31 December 2022

ITEM	Note VII	31 December 2022	31 December 2021
Current liabilities:			
Short-term borrowings	(XXXII)	261,169,967.41	75,629,684.59
Borrowings from central bank			
Placements from banks and other financial institutions			
Financial liabilities held for trading	(XXXIII)		
Derivative financial liabilities	(XXXIV)		
Bills payable	(XXXV)	2,260,154,270.80	2,300,794,453.21
Accounts payable	(XXXVI)	49,888,119,903.73	46,455,196,868.52
Advance receipts	(XXXVII)		
Contract liabilities	(XXXVIII)	7,704,721,222.25	7,238,346,058.76
Financial assets sold for repurchase			
Customers deposits and deposits from banks and other financial institutions			
Amount paid for agency securities trading			
Amount paid for agency securities underwriting	(XXXIX)	690,620,818.93	657,601,985.99
Employee benefits payable	(XL)	899,902,868.80	899,642,671.41
Tax payable	(XLI)	1,485,075,980.09	1,063,620,223.11
Other payables			
Including: Interest payable			
Dividends payable		118,347,201.50	
Fees and commissions payable			
Reinsurance accounts payable			
Liabilities held for sale	(XLII)		
Non-current liabilities due within one year	(XLIII)	1,237,094,658.03	328,560,596.20
Other current liabilities	(XLIV)	815,521,607.44	476,073,584.49
Total current liabilities		65,242,381,297.48	59,495,466,126.28

CONSOLIDATED BALANCE SHEET

31 December 2022

ITEM	Note VII	31 December 2022	31 December 2021
Non-current liabilities:			
Insurance contract reserve			
Long-term borrowings	(XLV)	3,290,786,172.77	3,127,722,482.40
Bonds payable	(XLVI)		
Including: Preference shares			
Perpetual bonds			
Lease liabilities	(XLVII)	118,073,535.41	97,747,858.35
Long-term payables	(XLVIII)	58,629,829.67	62,593,424.21
Long-term employee benefits payable	(XLIX)	503,607,000.00	530,775,000.00
Estimated liabilities	(L)	28,711,970.11	33,531,824.87
Deferred income	(LI)	215,017,593.46	160,098,912.68
Deferred tax liabilities	(XXX)	71,602,084.41	63,277,288.05
Other non-current liabilities	(LII)		
Total non-current liabilities		4,286,428,185.83	4,075,746,790.56
Total liabilities		69,528,809,483.31	63,571,212,916.84
Shareholders' equity:			
Share capital	(LIII)	10,589,819,000.00	10,589,819,000.00
Other equity instruments	(LIV)	2,796,935,660.38	2,796,935,660.38
Including: Preference shares			
Perpetual bonds		2,796,935,660.38	2,796,935,660.38
Capital reserve	(LV)	15,964,068,097.89	15,964,108,133.50
Less: treasury stocks	(LVI)		
Other comprehensive income	(LVII)	-198,844,477.42	-183,635,652.68
Special reserve	(LVIII)	343,494,199.17	267,880,349.13
Surplus reserve	(LIX)	2,042,968,810.17	1,811,324,694.45
General risk reserve			
Retained earnings	(LX)	13,785,475,907.76	12,308,220,568.86
Total equity attributable to Shareholders of the parent company		45,323,917,197.95	43,554,652,753.64
Non-controlling interests		1,953,817,802.62	1,816,723,167.82
Total Shareholders' equity		47,277,735,000.57	45,371,375,921.46
Total liabilities and Shareholders' equity		116,806,544,483.88	108,942,588,838.30

Person-in-charge of the Company: ZHOU Zhiliang Chief Financial Officer: LI Lianqing Head of Accounting
Department: ZHANG Shihu

PARENT COMPANY'S BALANCE SHEET

31 December 2022

Prepared by: China Railway Signal & Communication Corporation Limited

Unit: Yuan Currency: RMB

ITEM	Note	31 December 2022	31 December 2021
Current assets:			
Cash and bank balances		14,716,787,400.28	17,821,358,618.20
Held-for-trading financial assets			
Derivative financial assets			
Bills receivable	(I)	79,973,817.53	
Accounts receivable	(II)	1,788,106,057.35	1,949,665,011.07
Receivables for financing	(III)	54,684,084.19	162,628,503.49
Prepayments		300,822,929.37	178,067,195.29
Other receivables	(IV)	6,417,222,998.16	6,569,134,199.92
Including: Interest receivable			–
Dividends receivable		161,752,930.31	356,533,862.95
Inventories		7,879,326.58	–
Contract assets		1,826,390,756.07	1,840,202,585.91
Assets held for sale			
Non-current assets due within one year		21,937,975.59	
Other current assets		95,978,072.44	151,428,268.78
Total current assets		25,309,783,417.56	28,672,484,382.66

PARENT COMPANY'S BALANCE SHEET

31 December 2022

ITEM	Note	31 December 2022	31 December 2021
Non-current assets:			
Debt investment		273,172,183.50	273,172,183.50
Other debt investments			
Long-term receivables		2,130,745,638.37	1,816,483,821.44
Long-term equity investments	(V)	19,245,173,565.00	17,197,354,628.64
Other equity instrument investments		476,408,221.20	476,408,221.20
Other non-current financial assets			
Investment properties		1,422,508,459.84	1,460,482,054.68
Fixed assets		505,661,396.64	526,008,611.39
Construction in progress		9,199,876.28	9,199,876.28
Productive biological assets			–
Oil and gas assets			
Right-of-use assets		928,460.62	
Intangible assets		471,510,245.98	478,257,923.35
Development expenditure			
Goodwill			
Long-term prepaid expenses			
Deferred tax assets		32,275,748.35	25,833,621.35
Other non-current assets		67,200,329.05	14,939,305.93
Total non-current assets		<u>24,634,784,124.83</u>	<u>22,278,140,247.76</u>
Total assets		<u><u>49,944,567,542.39</u></u>	<u><u>50,950,624,630.42</u></u>

PARENT COMPANY'S BALANCE SHEET

31 December 2022

ITEM	Note XVII	31 December 2022	31 December 2021
Current liabilities:			
Short-term borrowings			
Financial liabilities held for trading			
Derivative financial liabilities			
Bills payable		68,734,295.36	74,058,902.62
Accounts payable		4,230,353,881.18	4,335,980,609.76
Advance receipts			
Contract liabilities		1,231,698,118.45	1,122,506,270.37
Employee benefits payable		28,431,342.29	28,449,031.48
Tax payable		3,892,538.54	3,833,264.62
Other payables		9,671,141,276.39	11,135,484,672.18
Including: Interest payable			
Dividends payable			
Liabilities held for sale			
Non-current liabilities due within one year		800,518,240.71	
Other current liabilities		45,902,934.67	29,551,335.32
Total current liabilities		16,080,672,627.59	16,729,864,086.35
Non-current liabilities:			
Long-term borrowings			800,000,000.00
Bonds payable			
Including: Preference shares			
Perpetual bonds			
Lease liabilities		144,616.42	
Long-term payables			
Long-term employee benefits payable		60,534,000.00	66,977,000.00
Provisions		686,646.49	686,646.49
Deferred income		3,869,841.68	3,869,841.68
Deferred tax liabilities			
Other non-current liabilities			
Total non-current liabilities		65,235,104.59	871,533,488.17
Total liabilities		16,145,907,732.18	17,601,397,574.52

PARENT COMPANY'S BALANCE SHEET

31 December 2022

ITEM	Note XVII	31 December 2022	31 December 2021
Shareholders' equity:			
Share capital		10,589,819,000.00	10,589,819,000.00
Other equity instruments		2,796,935,660.38	2,796,935,660.38
Including: Preference shares			
Perpetual bonds		2,796,935,660.38	2,796,935,660.38
Capital reserve		16,356,470,432.63	16,356,470,432.63
Less: treasury stocks			
Other comprehensive income		-45,904,166.59	-48,002,800.35
Special reserve		42,219,683.05	18,097,489.74
Surplus reserve		2,042,968,810.17	1,811,324,694.45
Retained earnings		2,016,150,390.57	1,824,582,579.05
Total Shareholders' equity		33,798,659,810.21	33,349,227,055.90
Total liabilities and Shareholders' equity		49,944,567,542.39	50,950,624,630.42

Person-in-charge of the Company: ZHOU Zhiliang Chief Financial Officer: LI Lianqing Head of Accounting
Department: ZHANG Shihu

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

January to December 2022

Unit: Yuan Currency: RMB

ITEM	Note VII	2022	2021
I. Total revenue		40,219,614,549.44	38,358,297,108.78
Including: Revenue	(LXI)	40,203,207,773.29	38,358,297,108.78
Interest income		16,406,776.15	
Premiums earned			
Fees and commissions income			
II. Total cost of sales		35,476,209,041.72	34,340,429,353.84
Including: Cost of sales	(LXI)	30,680,741,586.09	29,846,875,671.34
Interest expenses			
Fees and commissions expense			
Surrenders			
Net payments for insurance claims			
Net provisions for insurance contract reserve			
Policy dividend expenses			
Reinsurance costs			
Taxes and surcharges	(LXII)	241,534,607.36	253,686,656.86
Selling and distribution expenses	(LXIII)	812,111,306.78	796,771,857.42
General and administrative expenses	(LXIV)	2,289,994,474.16	2,116,982,019.27
Research and development expenses	(LXV)	1,689,810,596.63	1,638,494,903.20
Finance costs	(LXVI)	-237,983,529.30	-312,381,754.25
Including: Interest expenses		110,995,320.48	94,342,569.44
Interest income		407,442,103.32	482,214,091.74
Add: Other income	(LXVII)	366,824,324.56	336,893,708.75
Investment income (with "-" for loss)	(LXVIII)	121,595,656.28	113,911,083.50
Including: Share of profits of associates and joint ventures		96,310,729.93	86,129,094.82
Derecognition of income from financial assets at amortized cost			
Foreign exchange gains (with "-" for loss)			
Net gains from hedging exposure (with "-" for loss)	(LXIX)		
Gains from changes in fair value (with "-" for loss)	(LXX)		
Credit impairment losses (with "-" for loss)	(LXXI)	-594,320,058.29	-195,496,554.50
Assets impairment losses (with "-" for loss)	(LXXII)	37,185,041.73	-64,728,770.22
Gains from disposal of assets (with "-" for loss)	(LXXIII)	29,599,933.66	35,949,376.07

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

January to December 2022

ITEM	Note VII	2022	2021
III. Operating profit (with "-" for loss)		4,704,290,405.66	4,244,396,598.54
Add: Non-operating income	(LXXIV)	48,280,889.32	44,826,898.06
Less: Non-operating expenses	(LXXV)	9,877,586.82	15,311,313.98
IV. Total profits (with "-" for total losses)		4,742,693,708.16	4,273,912,182.62
Less: Income tax expenses	(LXXVI)	642,049,846.43	581,002,096.30
V. Net profit (with "-" for net loss)		4,100,643,861.73	3,692,910,086.32
(I) Classified by continuity of operation			
1. Net profit from continuing operations (with "-" for net loss)		4,100,643,861.73	3,692,910,086.32
2. Net profit from discontinued operations (with "-" for net loss)			
(II) Classified by the ownership			
1. Net profit attributable to the owners of the parent company (with "-" for net loss)		3,633,640,258.62	3,274,672,689.28
2. Net profit attributable to non-controlling interests (with "-" for net loss)		467,003,603.11	418,237,397.04
VI. Other comprehensive income, net of tax	(LXXVII)	-14,969,172.13	24,056,850.65
(I) Other comprehensive income attributable to the owners of the parent company, net of tax		-15,208,824.74	24,054,954.45
1. Other comprehensive income that may not be reclassified into profit or loss		1,565,000.00	24,841,000.00
(1) Changes of re-measurement of defined benefit plans		1,565,000.00	24,841,000.00
(2) Other comprehensive income that cannot be transferred to profit or loss under equity method			
(3) Changes in fair value of other equity instrument investments			
(4) Changes in fair value of the Company's own credit risk			

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

January to December 2022

ITEM	Note VII	2022	2021
2. Other comprehensive income that will be reclassified into profit or loss		-16,773,824.74	-786,045.55
(1) Other comprehensive income that can be transferred to profit or loss under equity method		—	
(2) Changes in fair value of other debt investments		—	
(3) Provision for impairment of receivables for financing		-1,117,575.27	592,617.70
(4) Amount of financial assets reclassified into other comprehensive income			
(5) Credit impairment provisions for other debt investments			
(6) Hedging reserve arising from cash flows		-17,353,786.82	-1,074,832.24
(7) Exchange differences on translation of foreign operations		1,697,537.35	-303,831.01
(8) Others		—	
(II) Other comprehensive income attributable to non-controlling interests, net of tax		239,652.61	1,896.20
VII. Total comprehensive income		4,085,674,689.60	3,716,966,936.97
(I) Total comprehensive income attributable to Shareholders of the parent company		3,618,431,433.88	3,298,727,643.73
(II) Total comprehensive income attributable to non-controlling interests		467,243,255.72	418,239,293.24
VIII. Earnings per share:			
(I) Basic earnings per share (RMB/share)		0.33	0.30
(II) Diluted earnings per share (RMB/share)		0.33	0.30

No business combination under common control occurred during the current period.

Person-in-charge of the Company: ZHOU Zhiliang Chief Financial Officer: LI Lianqing Head of Accounting Department: ZHANG Shihu

PARENT COMPANY'S STATEMENT OF PROFIT OR LOSS

January to December 2022

Unit: Yuan Currency: RMB

ITEM	Note	2022	2021
I. Revenue	(VI)	3,668,723,629.64	5,768,771,719.63
Less: Cost of sale	(VI)	3,212,561,012.53	5,326,648,007.20
Taxes and surcharges		38,710,831.58	43,971,950.42
Selling and distribution expenses		3,238,006.40	4,548,788.46
General and administrative expenses		218,082,028.39	223,969,645.55
Research and development expenses		194,890,776.03	161,607,975.13
Finance costs		-201,125,589.31	-170,608,177.99
Including: Interest expenses		107,904,368.37	95,570,283.85
Interest income		315,018,653.88	303,878,053.65
Add: Other income		2,653,830.84	8,318,553.51
Investment income (with "-" for loss)	(VII)	2,210,271,346.30	2,025,893,818.19
Including: Share of profits of associates and joint ventures		30,765,509.16	51,213,441.33
Derecognition of income from financial assets at amortized cost		-	
Net gains from hedging exposure (with "-" for loss)			
Gains from changes in fair value (with "-" for loss)			
Credit impairment losses (with "-" for loss)		-27,405,511.28	-17,199,725.67
Assets impairment losses (with "-" for loss)		406,202.75	1,532,848.98
Gains from disposal of assets (with "-" for loss)		2,353.75	7,400,302.71
II. Operating profit (with "-" for loss)		2,388,294,786.38	2,204,579,328.58
Add: Non-operating income		3,161,814.94	250,321.35
Less: Non-operating expenses		16,653.97	75,030.91
III. Total profits (with "-" for total losses)		2,391,439,947.35	2,204,754,619.02
Less: Income tax expenses		74,998,790.11	71,090,254.50
IV. Net profit (with "-" for net loss)		2,316,441,157.24	2,133,664,364.52
(I) Net profit from continuing operations (with "-" for net loss)		2,316,441,157.24	2,133,664,364.52
(II) Net profit from discontinued operations (with "-" for net loss)			
V. Other comprehensive income, net of tax		2,098,633.76	-296,657.83
(I) Other comprehensive income that may not be reclassified into profit or loss		2,240,000.00	-499,000.00
1. Changes of re-measurement of defined benefit plans		2,240,000.00	-499,000.00
2. Other comprehensive income that cannot be transferred to profit or loss under equity method			
3. Changes in fair value of other equity instrument investments			
4. Changes in fair value of the Company's own credit risk			

PARENT COMPANY'S STATEMENT OF PROFIT OR LOSS

January to December 2022

ITEM	Note XVII	2022	2021
(II) Other comprehensive income that will be reclassified into profit or loss		-141,366.24	202,342.17
1. Other comprehensive income that can be transferred to profit or loss under equity method			
2. Changes in fair value of other debt investments			
3. Provision for impairment of receivables for financing		-191,259.88	191,259.88
4. Amount of financial assets reclassified to other comprehensive income			
5. Provision for credit impairment of other debt investments			
6. Hedging reserve arising from cash flows			
7. Exchange differences on translation of foreign operations		49,893.64	11,082.29
8. Others			
VI. Total comprehensive income		2,318,539,791.00	2,133,367,706.69
VII. Earnings per share:			
(I) Basic earnings per share (RMB/share)			
(II) Diluted earnings per share (RMB/share)			

Person-in-charge of the Company: ZHOU Zhiliang Chief Financial Officer: LI Lianqing Head of Accounting
Department: ZHANG Shihu

CONSOLIDATED STATEMENT OF CASH FLOWS

January to December 2022

Unit: Yuan Currency: RMB

ITEM	Note VII	2022	2021
I. Cash flows generated from operating activities:			
Cash received from the sale of goods or rendering of services		35,104,674,749.42	40,860,468,880.44
Net increase in customer deposits received and interbank deposits			
Net increase in borrowings from central bank			
Net increase in placements from other financial institutions			
Cash received from original insurance contract premium			
Net cash received from reinsurance business			
Net increase in savings and investment funds			
Interests, service charges and commission received		12,780,332.10	
Net increase in placements from banks and other financial institutions			
Net increase in returned business capital			
Net cash received from accounts payables to brokerage clients			
Refunds of tax		612,337,395.38	280,212,429.84
Cash received relating to other operating activities (LXXVIII)		838,799,769.58	832,568,324.24
Subtotal of cash inflows from operating activities		36,568,592,246.48	41,973,249,634.52
Cash paid for goods and services		24,949,280,859.96	29,741,089,837.12
Net increase in loans and advances to customers			
Net increase in deposits with the central bank and interbank funds			
Cash paid for original insurance contract compensation			
Net increase in placements with banks and other financial institutions			
Interests, service charges and commission paid			
Cash paid for bonus of guarantee slip			
Cash paid to and on behalf of employees		5,628,724,136.37	5,540,044,722.05
Cash paid for all taxes		2,293,139,763.20	2,560,992,749.04
Cash paid relating to other operating activities (LXXVIII)		1,615,285,826.07	1,362,420,835.25
Subtotal of cash outflows from operating activities		34,486,430,585.60	39,204,548,143.46
Net cash flows generated from operating activities		2,082,161,660.88	2,768,701,491.06

CONSOLIDATED STATEMENT OF CASH FLOWS

January to December 2022

ITEM	Note VII	2022	2021
II. Cash flows generated from investing activities:			
Cash received from disposal of investments			275,791.34
Cash received from return on investment		39,334,273.70	77,910,792.99
Net cash received from disposal of fixed assets, intangible assets and other long-term assets		34,176,839.70	92,191,889.65
Decrease in unsecured/pledged and unrestricted time deposits with maturity over three months		369,676,297.78	
Net cash from disposal of subsidiaries and other operating units			381,153.40
Cash received relating to other investing activities	(LXXVIII)	183,259,710.63	309,908,872.00
Subtotal of cash inflows from investing activities		626,447,121.81	480,668,499.38
Cash paid for acquisition of fixed assets, intangible assets and other long-term assets		707,989,088.68	869,517,948.66
Cash paid for investments		69,400,000.00	334,786,961.07
Increase in unsecured/pledged and unrestricted time deposits with maturity over three months			516,507,241.36
Net increase in pledged loan			
Net cash paid on acquisition of subsidiaries and other operating units			
Cash paid relating to other investing activities	(LXXVIII)		17,537,919.08
Subtotal of cash outflows from investing activities		777,389,088.68	1,738,350,070.17
Net cash flows generated from investing activities		-150,941,966.87	-1,257,681,570.79

CONSOLIDATED STATEMENT OF CASH FLOWS

January to December 2022

ITEM	Note VII	2022	2021
III. Cash flows generated from financing activities:			
Cash received as capital contributions		129,889,435.93	–
Including: Cash received by subsidiaries from minority shareholders' investment		129,889,435.93	–
Cash received from issuance of other equity instruments		–	2,796,935,660.38
Cash received from borrowings		1,540,734,282.82	1,416,825,684.59
Cash received relating to other financing activities	(LXXVIII)	–	–
Subtotal of cash inflows from financing activities		<u>1,670,623,718.75</u>	<u>4,213,761,344.97</u>
Cash paid on repayments of borrowings		272,909,856.03	550,856,743.01
Cash paid for distribution of dividends or profits and for interest expenses		2,320,651,979.30	2,633,026,934.12
Including: Dividend and profit of minority shareholder paid by subsidiaries		307,508,732.98	302,577,231.35
Cash paid for redemption of other equity instruments		–	2,800,000,000.00
Cash paid relating to other financing activities	(LXXVIII)	<u>1,495,908,382.53</u>	<u>303,214,723.13</u>
Subtotal of cash outflows from financing activities		<u>4,089,470,217.86</u>	<u>6,287,098,400.26</u>
Net cash flows generated from financing activities		<u>-2,418,846,499.11</u>	<u>-2,073,337,055.29</u>
IV. Effect of fluctuations in exchange rate on cash and cash equivalents		<u>133,561,129.63</u>	<u>-26,819,831.31</u>
V. Net increase in cash and cash equivalents	(LXXIX)	<u>-354,065,675.47</u>	<u>-589,136,966.33</u>
Add: Balance of cash and cash equivalents at the beginning of the period	(LXXIX)	<u>17,595,724,106.74</u>	<u>18,184,861,073.07</u>
VI. Balance of cash and cash equivalents at the end of the period	(LXXIX)	<u>17,241,658,431.27</u>	<u>17,595,724,106.74</u>

Person-in-charge of the Company: ZHOU Zhiliang Chief Financial Officer: LI Lianqing Head of Accounting Department: ZHANG Shihu

STATEMENT OF CASH FLOWS OF THE PARENT COMPANY

January to December 2022

Unit: Yuan Currency: RMB

ITEM	Note XVII	2022	2021
I. Cash flows generated from operating activities:			
Cash received from the sale of goods or rendering of services		4,015,126,390.22	5,992,136,796.55
Refunds of tax		66,947,210.59	61,309,154.12
Cash received relating to other operating activities		980,176,186.94	731,264,165.03
Subtotal of cash inflows from operating activities		5,062,249,787.75	6,784,710,115.70
Cash paid for goods and services		3,764,978,024.65	5,852,045,148.64
Cash paid to and on behalf of employees		187,273,086.99	234,388,268.14
Cash paid for all taxes		196,605,642.85	166,729,913.67
Cash paid relating to other operating activities		1,200,447,667.82	1,115,312,251.24
Subtotal of cash outflows from operating activities		5,349,304,422.31	7,368,475,581.69
Net cash flows generated from operating activities		-287,054,634.56	-583,765,465.99
II. Cash flows generated from investing activities:			
Cash received from disposal of investments		249,607,061.63	—
Cash received from return on investment		1,960,169,251.35	2,218,371,435.73
Net cash received from disposal of fixed assets, intangible assets and other long-term assets		30,610.00	13,036,725.94
Net cash from disposal of subsidiaries and other operating units			
Cash received relating to other investing activities		5,683,250,255.55	1,090,027,524.00
Subtotal of cash inflows from investing activities		7,893,057,178.53	3,321,435,685.67
Cash paid for acquisition of fixed assets, intangible assets and other long-term assets		72,136,821.69	7,310,557.53
Cash paid for investments		2,067,053,427.20	163,000,000.00
Increase in unsecured/pledged and unrestricted time deposits with maturity over three months			562,980,700.00
Net cash paid on acquisition of subsidiaries and other operating units			
Cash paid relating to other investing activities		3,844,794,813.59	899,175,366.56
Subtotal of cash outflows from investing activities		5,983,985,062.48	1,632,466,624.09
Net cash flows generated from investing activities		1,909,072,116.05	1,688,969,061.58

STATEMENT OF CASH FLOWS OF THE PARENT COMPANY

January to December 2022

ITEM	Note XVII	2022	2021
III. Cash flows generated from financing activities:			
Cash received as capital contributions			
Cash received from issuance of other equity instruments			2,796,935,660.38
Cash received from borrowings			800,000,000.00
Cash received relating to other financing activities			
Subtotal of cash inflows from financing activities			<u>3,596,935,660.38</u>
Cash paid on repayments of borrowings			400,000,000.00
Cash paid for distribution of dividends or profits and for interest expenses		<u>1,858,916,543.93</u>	2,236,235,663.72
Cash paid relating to other financing activities		<u>1,429,505,549.34</u>	2,800,460,000.00
Subtotal of cash outflows from financing activities		<u>3,288,422,093.27</u>	<u>5,436,695,663.72</u>
Net cash flows generated from financing activities		<u>-3,288,422,093.27</u>	<u>-1,839,760,003.34</u>
IV. Effect of fluctuations in exchange rate on cash and cash equivalents			
		<u>124,921,139.00</u>	<u>-18,578,914.41</u>
V. Net increase in cash and cash equivalents			
Add: Balance of cash and cash equivalents at the beginning of the period		<u>12,984,265,297.85</u>	<u>13,737,400,620.01</u>
VI. Balance of cash and cash equivalents at the end of the period			
		<u>11,442,781,825.07</u>	<u>12,984,265,297.85</u>

Person-in-charge of the Company: ZHOU Zhiliang Chief Financial Officer: LI Lianqing Head of Accounting Department: ZHANG Shihu

CONSOLIDATED STATEMENT OF CHANGES IN OWNERS' EQUITY

January to December 2022

Unit: Yuan Currency: RMB

ITEM	Equity attributable to owners of the parent Company										Total owners' equity		
	Paid-in capital (or share capital)	Preference shares	Other equity instruments	Less: treasury stocks	Other comprehensive income	Special reserve	Surplus reserve	General risk reserve	Undistributed profits	Others		Subtotal	Minority shareholder interests
I. Closing balance of last year	10,589,819,000.00	—	2,796,355,660.38	—	15,964,106,133.50	287,860,349.13	1,811,324,894.45	—	12,208,220,958.86	—	43,554,652,753.64	1,816,723,187.82	45,371,375,621.46
Plus: Changes in accounting policies	—	—	—	—	—	—	—	—	—	—	—	—	—
Correction of errors in prior period	—	—	—	—	—	—	—	—	—	—	—	—	—
Business combination under common control	—	—	—	—	—	—	—	—	—	—	—	—	—
Others	—	—	—	—	—	—	—	—	—	—	—	—	—
II. Opening balance of the year	10,589,819,000.00	—	2,796,355,660.38	—	15,964,106,133.50	287,860,349.13	1,811,324,894.45	—	12,208,220,958.86	—	43,554,652,753.64	1,816,723,187.82	45,371,375,621.46
III. Increase/(decrease) during the period (with "+", by decrease)	—	—	—	—	—	—	—	—	—	—	—	—	—
(I) Total comprehensive income	—	—	—	—	-15,208,824.74	76,613,650.04	231,644,115.72	—	1,477,255,338.90	—	1,789,294,444.31	137,094,634.80	1,906,359,079.11
(II) Capital contributions and withdrawals by shareholders	—	—	—	—	-15,208,824.74	—	—	—	3,633,640,239.62	—	3,618,431,423.88	467,243,256.72	4,085,674,680.60
1. Common shares contributed by shareholders	—	—	—	—	—	—	—	—	—	—	-40,035.61	—	129,849,400.32
2. Capital contributed by holders of other equity instruments	—	—	—	—	—	—	—	—	—	—	—	—	129,888,435.93
3. Share-based payment recorded in owners' equity	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Others	—	—	—	—	-40,035.61	—	—	—	—	—	-40,035.61	—	-40,035.61
(III) Profit distribution	—	—	—	—	—	—	—	—	-2,158,384,919.72	—	-1,924,740,804.00	-460,716,028.82	-2,385,456,833.82
1. Appropriation of surplus reserve	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Accual of general risk reserve	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Distribution to owners (or shareholders)	—	—	—	—	—	—	—	—	-1,800,269,230.00	—	-1,800,269,230.00	-430,440,263.82	-2,230,709,493.82
4. Others	—	—	—	—	—	—	—	—	-124,471,574.00	—	-124,471,574.00	-30,275,668.00	-154,747,400.00
(IV) Internal transfer of owners' equity	—	—	—	—	—	—	—	—	—	—	—	—	—
1. Transfer of capital reserve into capital (or share capital)	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Transfer of surplus reserve into capital (or share capital)	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Recover of loss by surplus reserve	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Changes in defined benefit plan transferred to retained earnings	—	—	—	—	—	—	—	—	—	—	—	—	—
5. Other comprehensive income transferred to retained earnings	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Others	—	—	—	—	—	—	—	—	—	—	—	—	—
(V) Special reserve	—	—	—	—	—	—	—	—	—	—	—	—	—
1. Appropriated in current period	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Use in current period	—	—	—	—	—	—	—	—	—	—	—	—	—
(VI) Others	—	—	—	—	—	—	—	—	—	—	—	—	—
IV. Closing balance during the period	10,589,819,000.00	—	2,796,355,660.38	—	15,964,068,097.89	348,494,199.17	2,042,368,010.17	—	13,786,475,907.76	—	45,323,917,197.95	1,953,817,862.62	47,277,735,060.57

CONSOLIDATED STATEMENT OF CHANGES IN OWNERS' EQUITY

January to December 2022

2021

ITEM	Equity attributable to owners of the parent Company										Total owners' equity				
	Other equity instruments	Preference shares	Perpetual bonds	Others	Capital reserve	Less: treasury stocks	Other comprehensive income	Special reserve	Surplus reserve	General risk reserve		Undistributed profits	Others	Statutory	Minority shareholder interests
I. Closing balance of last year Plus: changes in accounting policies Correction of errors in prior period Business combination under common control Others	10,589,919,000.00	2,800,000,000.00			15,964,304,189.86		-207,690,607.13	308,215,150.31	1,597,938,257.98		11,512,862,059.38		42,563,468,050.40	1,733,863,464.00	44,297,337,514.40
II. Opening balance of the year	10,589,919,000.00		2,800,000,000.00		15,964,304,189.86		-207,690,607.13	308,215,150.31	1,597,938,257.98		11,512,862,059.38		42,563,468,050.40	1,733,863,464.00	44,297,337,514.40
III. Increase/(decrease) during the period (with "+", for decrease)			-3,094,339.62		-196,056.36		24,054,954.45	-38,334,801.18	213,366,636.47		3,274,672,689.28		891,184,703.24	82,853,708.82	1,074,038,407.06
(I) Total comprehensive income							24,054,954.45	-38,334,801.18	213,366,636.47		3,274,672,689.28		891,184,703.24	82,853,708.82	1,074,038,407.06
(II) Capital contributions and withdrawals by shareholders			-3,094,339.62										-3,094,339.62	-5,049,910.79	-8,114,250.41
1. Common shares contributed by shareholders															
2. Capital contributed by holders of other equity instruments			2,796,935,660.38										2,796,935,660.38		2,796,935,660.38
3. Share-based payment recorded in owners' equity															
4. Others															
5. Capital recovery by holders of other equity instruments															
6. Disposal of a subsidiary			-2,800,000,000.00										-2,800,000,000.00		-2,800,000,000.00
(III) Profit distribution									213,366,636.47		-2,479,314,179.80		-2,265,947,743.33	-5,049,910.79	-5,049,910.79
1. Appropriation of surplus reserve									213,366,636.47		-2,479,314,179.80		-2,265,947,743.33	-331,247,621.35	-2,597,195,364.68
2. Accrual of general risk reserve															
3. Distribution to owners (or shareholders)															
4. Others															
5. Distribution to other holders of equity															
(IV) Internal transfer of owners' equity															
1. Transfer of capital reserve into capital (or share capital)															
2. Transfer of surplus reserve into capital (or share capital)															
3. Recover of loss by surplus reserve															
4. Changes in defined benefit plan transferred to retained earnings															
5. Other comprehensive income transferred to retained earnings															
6. Others															
(V) Special reserve															
1. Appropriated in current period															
2. Use in current period															
(VI) Others															
IV. Closing balance during the period	10,589,919,000.00		2,796,935,660.38		15,964,108,133.50		-163,635,652.68	267,880,349.13	1,611,324,684.45		12,208,220,689.86		43,554,652,753.64	1,816,723,197.82	45,371,375,951.46

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihuo

PARENT COMPANY'S STATEMENT OF CHANGES IN OWNERS' EQUITY

January to December 2022

Unit: Yuan Currency: RMB

ITEM	2022						Total owners' equity			
	Paid-in capital (or share capital)	Preference shares	Other equity instruments	Capital reserve	Less: treasury stocks	Other comprehensive income		Special reserve	Surplus reserve	Undistributed profits
I. Closing balance of last year Plus: changes in accounting policies Correction of errors in prior period Others	10,589,819,000.00		2,796,935,660.38	16,356,470,432.63		-49,002,800.35	18,097,489.74	1,811,324,694.45	1,824,582,579.05	33,349,227,055.90
II. Opening balance of the year	10,589,819,000.00		2,796,935,660.38	16,356,470,432.63		-49,002,800.35	18,097,489.74	1,811,324,694.45	1,824,582,579.05	33,349,227,055.90
III. Increase (decrease) during the period (with "+", for decrease)						2,098,633.76	24,122,193.31	231,644,115.72	191,567,811.52	449,632,754.31
(I) Total comprehensive income						2,098,633.76				
(II) Capital contributions and withdrawals by shareholders										
1. Common shares contributed by shareholders										
2. Capital contributed by holders of other equity instruments										
3. Share-based payment recorded in owners' equity										
4. Others										
(III) Profit distribution										
1. Appropriation of surplus reserve								231,644,115.72	-2,124,873,345.72	-1,893,229,230.00
2. Distribution to owners (or shareholders)								231,644,115.72	-231,644,115.72	
3. Others									-1,800,269,230.00	-1,800,269,230.00
(IV) Internal transfer of owners' equity									-92,960,000.00	-92,960,000.00
1. Transfer of capital reserve into capital (or share capital)										
2. Transfer of surplus reserve into capital (or share capital)										
3. Recover of loss by surplus reserve										
4. Changes in defined benefit plan transferred to retained earnings										
5. Other comprehensive income transferred to retained earnings										
6. Others										
(V) Special reserve										
1. Appropriated in current period							24,122,193.31			24,122,193.31
2. Use in current period							67,662,728.34			67,662,728.34
(VI) Others							-43,540,535.03			-43,540,535.03
IV. Closing balance during the period	10,589,819,000.00		2,796,935,660.38	16,356,470,432.63		-45,904,166.59	42,219,683.05	2,042,968,810.17	2,016,150,390.57	33,798,659,810.21

PARENT COMPANY'S STATEMENT OF CHANGES IN OWNERS' EQUITY

January to December 2022

2021

ITEM	Other equity instruments					Less: treasury stocks	Other comprehensive income	Special reserve	Surplus reserve	Undistributed profits	Total owners' equity
	Paid-in capital (or share capital)	Preference shares	Perpetual bonds	Others	Capital reserve						
I. Closing balance of last year	10,589,819,000.00		2,800,000,000.00		16,356,470,432.63		-47,706,142.52	30,739,738.39	1,597,958,257.98	2,140,391,784.33	33,467,673,070.81
Plus: changes in accounting policies											
Correction of errors in prior period											
Others											
II. Opening balance of the year	10,589,819,000.00		2,800,000,000.00		16,356,470,432.63		-47,706,142.52	30,739,738.39	1,597,958,257.98	2,140,391,784.33	33,467,673,070.81
III. Increase (decrease) during the period (with "+" for increase)			-3,064,339.62				-296,657.83	-12,642,248.65	213,366,436.47	-315,809,205.28	-118,446,014.91
(I) Total comprehensive income							-296,657.83				
(II) Capital contributions and withdrawals by shareholders			-3,064,339.62								
1. Common shares contributed by shareholders											
2. Capital contributed by holders of other equity instruments			2,796,935,660.38								2,796,935,660.38
3. Share-based payment recorded in owners' equity											
4. Others											
5. Capital recovery by holders of other equity instruments			-2,800,000,000.00								-2,800,000,000.00
(III) Profit distribution									213,366,436.47	-2,449,473,669.80	-2,236,107,133.33
1. Appropriation of surplus reserve									213,366,436.47	-213,366,436.47	
2. Distribution to owners (or shareholders)										-2,117,963,800.00	-2,117,963,800.00
3. Others										-118,143,333.33	-118,143,333.33
(IV) Internal transfer of owners' equity											
1. Transfer of capital reserve into capital (or share capital)											
2. Transfer of surplus reserve into capital (or share capital)											
3. Recover of loss by surplus reserve											
4. Changes in defined benefit plan transferred to retained earnings											
5. Other comprehensive income transferred to retained earnings											
6. Others											
(V) Special reserve											
1. Appropriated in current period											
2. Use in current period											
(VI) Others											
IV Closing balance during the period	10,589,819,000.00		2,796,935,660.38		16,356,470,432.63		-49,002,800.35	18,097,489.74	1,811,324,694.45	1,824,582,579.05	33,349,227,055.90

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

III. CORPORATE INFORMATION

(I) Company profile

Applicable Not applicable

China Railway Signal & Communication Corporation Limited (the “Company”) is a joint stock company limited liability company jointly sponsored on 29 December 2010 by China Railway Signal and Communication (Group) Corporation Limited (hereinafter referred to as the “CRSC Group”) as the promoter, in association with China National Machinery Industry Corporation, China Chengtong Holdings Group Ltd., China Reform Holdings Corporation Ltd., and CICC Jiacheng Investment Management Co., Ltd. (these four companies are collectively referred to as the “Other Promoters”) approved by the State-owned Assets Supervision and Administration Commission of the State Council (國務院國有資產監督管理委員會) (the “SASAC”) via Guo Zi Gai Ge [2010] No. 876 on 17 August 2010 in accordance with the relevant provisions of laws and administrative regulations of the PRC. The Company’s headquarters are at 20th floor of Block A, CRSC Building, 1 Compound Automobile Museum South Road, Fengtai District, Beijing.

Upon approval of the China Securities Regulatory Commission’s Reply on Issuance of Overseas Listed Foreign Shares by China Railway Signal & Communication Corporation Limited (Zheng Jian Xu Ke [2015] No. 1630), the Company has issued 1,789,819,000 H Shares with a nominal value of RMB1 each at an issue price of HK\$6.30 per share that were listed on the Hong Kong Stock Exchange from July to September 2015. The total amount of funds raised before deducting the issuance expenses was approximately HK\$11,275,859,700 and such H Shares commenced for trading on the Main Board of the Hong Kong Stock Exchange in August and September 2015. The Company’s four state-owned shareholders, CRSC Group, China National Machinery Industry Corporation, China Chengtong Holdings Group Ltd. and China Reform Holdings Corporation Ltd., converted a total of 178,982,000 state-owned legal person shares to H Shares during August and September 2015, which were then transferred to the National Council for Social Security Fund of the People’s Republic of China.

According to the China Securities Regulatory Commission’s Approval for Consent to the Registration of China Railway Signal & Communication Corporation Limited’s Initial Public Offering (Zheng Jian Xu Ke [2019] No. 1135), as of 16 July 2019, the Company has issued 1,800,000,000 ordinary shares with a nominal value of RMB1 each at an issue price of RMB5.85 per share that were listed on the Sci-Tech innovation board of the Shanghai Stock Exchange. The total amount of funds raised before deduction of issuance expenses was RMB10,530,000,000.00 and such ordinary shares were commenced for trading on the Shanghai Stock Exchange’s Sci-Tech innovation board on 22 July 2019.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

III. CORPORATE INFORMATION (Continued)

(I) Company profile (Continued)

As of 31 December 2022, the Company has accumulatively issued a total issued share capital of 10,589,819,000 shares with the accumulated share capital amounting RMB10,589,819,000.

The Company and its subsidiaries (collectively referred to as the “Company”) are mainly engaged in the following businesses: design and integration of rail transportation control system which mainly include the provision of comprehensive planning for investigation, design and control systems for rail transportation control system; equipment manufacturing of rail transportation control system which mainly includes production and sales of signal systems, communication systems, infrastructure equipment, information systems and other products; and system implementation services for rail transportation control system which include provision of construction, installation, testing, operation and maintenance services for rail transportation control system; and provision of services relating to municipal engineering projects and other construction projects.

The parent company and the ultimate controlling party of the Company is CRSC Group based in the PRC.

The financial statements were approved by resolution by the Board of Directors of the Company on 23 March 2023.

(II) Scope of consolidated financial statements

Applicable Not applicable

As of 31 December 2022, the subsidiaries of the Company within the scope of consolidated financial statements are as follows:

No.	Level	Name of subsidiary	Abbreviation of subsidiary
1	2	Beijing CRSC Research & Design Institute Group Co., Ltd.(北京全路通信信號研究設計院集團有限公司)	CRSCD
2	2	China Railway Signal & Communication International Co., Ltd. (中國通號國際有限公司)	CRSC International
3	2	CRSC Cables Company Ltd. (通號電纜集團有限公司)	CRSC Cables
4	2	CRSC Jishou Huatai Pipeline Project Management Co., Ltd. (吉首通號華泰管廊項目管理有限責任公司)	CRSC Huatai
5	2	CRSC Jishou Tengda Project Management Co., Ltd. (吉首通號騰達項目管理有限責任公司)	CRSC Tengda

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

III. CORPORATE INFORMATION (Continued)

(II) Scope of consolidated financial statements (Continued)

No.	Level	Name of subsidiary	Abbreviation of subsidiary
6	2	CRSC (Beijing) Tendering Company Ltd. (通號(北京)招標有限公司)	CRSC Beijing Tendering
7	2	CRSC (Xi'an) Rail Industry Group Co., Ltd. (通號(西安)軌道交通工業集團有限公司)	CRSC Xi'an Industry Group
8	2	CRSC (Changsha) Rail Transit Control Technology Company Limited (通號(長沙)軌道交通控制技術有限公司)	CRSC Changsha Railway
9	2	CRSC (Zhengzhou) Electrification Bureau Co., Ltd. (通號(鄭州)電氣化局有限公司)	CRSC Electrification Bureau
10	2	Zhengzhou Zhongyuan Railway Engineering Co., Ltd. (鄭州中原鐵道工程有限責任公司)	Zhengzhou Zhongyuan
11	2	CASCO Signal Ltd. (卡斯柯信號有限公司)	CRSC CASCO
12	2	CRSC International Holdings Company Limited (通號國際控股有限公司)	CRSC International Holdings
13	2	CRSC (Jiangsu) Smart City Construction & Development Co., Ltd. (通號(江蘇)智慧城市建設開發有限公司)	CRSC Jiangsu Smart
14	2	CRSC Innovation Investment Co., Ltd. (通號創新投資有限公司)	Innovation Investment
15	2	CRSC Engineering Group Company Ltd. (通號工程局集團有限公司)	CRSCE
16	2	CRSC Construction Group Co., Ltd. (通號建設集團有限公司)	CRSC Construction
17	2	CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司)	CRSCC
18	2	CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司)	Urban Rail Transit
19	2	China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (中國鐵路通信信號上海工程局集團有限公司)	CRSCS
20	2	CRSC Group Finance Limited (通號集團財務有限公司)	CRSC Finance

For relevant details of subsidiaries of the Company, please refer to Note "IX. Interests in Other Entities."

For details of changes in the scope of consolidation during the Reporting Period, please refer to Note "VIII. Changes on Scope of Consolidation."

IV. BASIS OF PREPARATION OF FINANCIAL STATEMENTS

(I) Basis of preparation

The Company prepares financial statements in accordance with the Accounting Standards for Business Enterprises – Basic Standards and all the specific accounting standards, Application Guidance to the Accounting Standards for Business Enterprises, the interpretation of the Accounting Standards for Business Enterprises and other relevant provisions (hereinafter referred to as the “Accounting Standards for Business Enterprises”), as well as the relevant provisions of the Rules for the Compilation and Submission of Information Disclosure by Companies Offering Securities to the Public No.15 – General Requirements for Financial Reports issued by the China Securities Regulatory Commission. Furthermore, the financial statements also comply with the applicable disclosure provisions of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited and the applicable disclosure requirements of the Hong Kong Companies Ordinance.

(II) Going concern

Applicable Not applicable

The financial statements are prepared on a going concern basis.

It is evaluated that the Company has no significant event, which may raise any serious doubt about the going-concern ability, within 12 months from the end of the Reporting Period.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES

Tips for specific accounting policies and accounting estimates:

Applicable Not applicable

The following disclosures have covered the specific accounting policies and estimates formulated by the Company according to its actual production and operation features.

(I) Statement on compliance with the Accounting Standards for Business Enterprises

The financial statements meet the requirements of the Accounting Standards for Business Enterprises issued by the Ministry of Finance, and truly and completely reflect the consolidated and the company's financial position of the Company as at 31 December 2022, and the consolidated and the company's financial performance and cash flows for the year then ended.

(II) Accounting period

The accounting year is from 1 January to 31 December in calendar year.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(III) Operating cycle

Applicable Not applicable

The Company's operating cycle is 12 months.

(IV) Functional currency

RMB is adopted as the Company's functional currency.

(V) Accounting treatment methods for business combinations under and not under common control

Applicable Not applicable

Business combination under common control: Assets and liabilities acquired from business combination by the acquirer (including the goodwill formed by the ultimate controller's acquisition of the acquiree) are measured at the carrying amount of assets and liabilities of the acquiree in the financial statements of the ultimate controller on the combination date. Capital stock premium in the capital reserves should be adjusted according to the difference between the carrying amount of net asset acquired from the combination and that of consideration (total face value of the shares issued) paid for the combination. In case the capital stock premium is not enough, the retained earnings need to be adjusted.

For the business combination not under common control: The combination costs are the fair value, on the acquisition date, of any assets acquired, any liabilities incurred or assumed, and any equity securities issued by the acquirer, in exchanges for the right of control over the acquiree. The Company shall recognize the difference of the combination costs in excess of the fair value of the identifiable net assets acquired from the acquiree as goodwill. The Company shall recognize the difference of the combination costs in short of the fair value of the identifiable net assets acquired from the acquiree in the current profit or loss. The identifiable assets, liabilities and contingent liabilities of the acquiree that are obtained from combination and satisfying the recognition criteria shall be measured at their fair values.

Direct expenses arising from the business combination shall be included in current profit or loss on the occurrence date. Transaction expenses on equity or debt securities issued by the acquirer for the purpose of the combination consideration shall be included in the initially recognized amount of equity or debt securities.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VI) Preparation method of consolidated financial statements

Applicable Not applicable

1. Scope of consolidation

The scope of consolidation for the consolidated financial statements of the Company is determined based on control, including the Company and all its subsidiaries. Control means the Company has the power over the investee and enjoys the variable return through participating in activities related to the investee, and has the ability to the Company's return by using the power over the investee.

2. Consolidation procedure

The Company deems the whole enterprise group as a single accounting entity and prepares consolidated financial statements in accordance with unified accounting policies to reflect the overall financial position, operating results and cash flows. The influence of internal transactions between the Company and its subsidiaries and between subsidiaries shall be offset. When internal trading indicates that related assets are impaired, they will be fully recognized. If the accounting policy and the accounting period adopted by a subsidiary are inconsistent with that of the Company, in preparing consolidated financial statements, necessary adjustments shall be made in accordance with the Company's accounting policy and accounting period.

The share of shareholders' equity, current net profit or loss, and current comprehensive income of subsidiaries attributable to non-controlling interests shall be respectively and separately listed in the shareholders' equity of the consolidated balance sheet, the net profit and the total comprehensive income item of the consolidated income statement. If the share of the current losses attributable to the non-controlling interests of a subsidiary exceeds the share of the shareholders' equity attributable to non-controlling interests of the subsidiary at the beginning of the period, the balance is allocated against the non-controlling interests.

(1) Increase of subsidiaries or business

During the Reporting Period, if a subsidiary or business is included as a result of a business combination under the same control, the operating results and cash flows of the subsidiary or business combination from the beginning of the period to the end of the reporting year are included in the consolidated financial statements, while the beginning of the consolidated financial statements and the related items in the comparative statements are adjusted as if the consolidated reporting entity had existed since the point when the ultimate controller began to control it.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VI) Preparation method of consolidated financial statements (Continued)

2. Consolidation procedure (Continued)

(1) *Increase of subsidiaries or business* (Continued)

If the Company is able to exercise control over an investee under the same control due to additional investment, etc., equity investments held before the control over the acquiree is obtained, the related gains and losses, other comprehensive income as well as other changes in net assets recognized from the later of the date when the original equity is obtained or the date when the acquirer and the acquiree are under the same control, to the combination date will respectively write down the retained earnings or current profit or loss in the comparative statements.

During the Reporting Period, if the Company acquires subsidiaries or business from the business combination not under common control, such subsidiaries or business shall be included in consolidated financial statements from the acquisition date at the fair value of identifiable assets, liabilities and contingent liabilities determined on the acquisition date.

If there is control over the investee not under the common control due to additional investments or other reasons, for the equity of the acquiree held before the acquisition date, the Company will re-measure the equity on the acquisition date at its fair value and include the difference between the fair value and carrying amount in current investment income. Other comprehensive income and other changes in shareholders' equity under the equity method that are involved in the equity of the acquiree held prior to the acquisition date and can be reclassified into profit or loss later are transferred to investment income of the period to which the acquisition date belongs.

(2) *Disposal of subsidiaries*

① General method of disposal

For the remaining equity investments after the disposal, the Company will re-measure the same at the fair value on the date when it loses control over the investee due to disposal of partial equity investment or other reasons. The sum of the consideration of equity disposal and the fair value of the remaining equity, less the sum of the share of net assets of the subsidiary attributable to the Company calculated continuously since the acquisition date or the combination date according to the original shareholding ratio and the goodwill, shall be included in the investment income for this period when the control is lost. Other comprehensive income and other changes in shareholders' equity under the equity method that are related to the equity investment of original subsidiaries and can be reclassified into profit or loss later are transferred to investment income for this period upon the loss of control power.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VI) Preparation method of consolidated financial statements (Continued)

2. Consolidation procedure (Continued)

(2) Disposal of subsidiaries (Continued)

② Disposal of subsidiaries by stages

Where the Company disposes the equity investments in subsidiary through multiple transactions and by stages until it loses the control, if the effect of the disposal on the terms and conditions of all transactions of equity investments in subsidiary and economic effect meet one or more of the following circumstance, it usually indicates that the multiple transactions should be accounted for as a package deal:

- i. The transactions are concluded at the same time or under the consideration of mutual effect;
- ii. The transactions as a whole can reach a complete business result;
- iii. The occurrence of a transaction depends on that of at least one other transactions;
- iv. A single transaction is uneconomical but it is economical when considered together with other transactions.

If the transactions for the disposal of equity investment in subsidiaries that leads to the loss of control are under a package of transactions, the Company treats all such transactions as one transaction through which the Company disposes of its equity in the subsidiary and loses its control over such subsidiary; the difference between the proceeds from each transaction before the Company loses its control over the subsidiary and the corresponding share in the net assets of the subsidiary of the disposed-of investment shall be recognized as other comprehensive income in the consolidated financial statements, and shall be included into the loss and profit in this period when the Company loses its control over the subsidiary.

If the transactions are not package transactions, before the control loses, related policies governing the partial disposal of equity investments in subsidiaries without losing control will apply; when the control loses, general accounting method for the disposal of subsidiaries will govern.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VI) Preparation method of consolidated financial statements (Continued)

2. Consolidation procedure (Continued)

(3) *Purchase of non-controlling interests of subsidiary*

The difference between long-term equity investments acquired by the Company through purchase of minority interest and the subsidiary's identifiable net assets attributable to the Company calculated continuously from the acquisition date (or the combination date) in accordance with the increased shareholding ratio shall be charged against stock premium within capital reserves in the consolidated balance sheet; when stock premium within capital reserves is insufficient to offset, the retained earnings shall be adjusted.

(4) *Partial disposal of equity investments in subsidiaries without losing control*

Share premium in the capital reserve under the consolidated balance sheet will be adjusted at the difference between the proceeds achieved from the partial disposal of equity investments in subsidiaries and the share of net assets of subsidiaries attributable to the Company corresponding to the disposal of long-term equity investments and calculated constantly from the acquisition date or combination date without losing the control rights. Where the share premium in capital reserve is insufficient to offset, retained earnings will be adjusted.

(VII) Classification of joint venture arrangements and accounting treatment methods of joint operation

Applicable Not applicable

Joint venture arrangements are classified into joint operation and joint venture.

Joint operation refers to those joint venture arrangements under which the joint venture is entitled to relevant assets and be responsible for relevant liabilities.

The Company recognizes the following items relating to the interests share in joint operation:

- (1) Assets it solely holds and its share of jointly-held assets based on its percentage;
- (2) Liabilities it solely assumes and its share of jointly-assumed liabilities based on its percentage;
- (3) Incomes from sale of output enjoyed by it from the joint operation;

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VII) Classification of joint venture arrangements and accounting treatment methods of joint operation (Continued)

- (4) Income from selling the production of the joint operation recognized based on the shares held by the Company :
- (5) Separate costs and costs for the joint operation based on the shares held by the Company.

The Company's investments in its joint ventures are calculated under the equity method. For details, please refer to Note "V. (XIII) Long-term equity investments."

(VIII) Recognition criteria of cash and cash equivalents

Cash refers to the Company's cash on hand and the unrestricted deposits. Cash equivalents refer to the short-term and highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value.

(IX) Foreign currency transactions and translation of foreign currency financial statements

Applicable Not applicable

1. Foreign currency transactions

Foreign currency transactions are converted into RMB for recording purpose at the spot exchange rate prevailing on the transaction date.

The balance of foreign currency monetary items as at the balance sheet date are translated at the spot exchange rate on the balance sheet date and the exchange differences arising therefrom shall be included in the current profit or loss, except those exchange differences arising from the special borrowings of foreign currency related to the acquired and constructed assets qualified for capitalization that will be capitalized at the borrowing expenses.

2. Conversion of foreign currency financial statements

The assets and liability items in the balance sheet shall be converted at the spot exchange rates on the balance sheet date. For shareholders' equity items, except for the item of "retained earnings", other items are translated at the spot exchange rates when the transactions occur. The income and expenses in the income statement are translated at the spot exchange rate prevailing on the date when transactions occur.

Where the Company disposes of an overseas business, it shall transfer the exchange difference relating to the overseas business to the current profit or loss.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments

Applicable Not applicable

When the Company becomes a party to a financial instrument, it shall recognize a financial asset or financial liability or an equity instrument.

1. Classification

Based on the business model of managing financial assets and the contractual cash flow characteristics of financial assets, the Company classifies upon initial recognition financial assets into financial assets measured at amortized cost, financial assets measured at fair value through other comprehensive income, and financial assets measured at fair value through current profit or loss.

The Company classifies financial assets that are not designated as those measured at fair value through current profit or loss as financial assets measured at amortized cost if they both meet the following conditions:

- A business model is to collect contractual cash flows;
- The contractual terms are only payments of principal and interest based on the outstanding principal.

The Company classifies as financial assets at fair value through other comprehensive income financial assets (debt instruments) that are not designated those measured at fair value through current profit or loss if they meet the following criteria:

- The business model is both to collect the contractual cash flows and to sell the financial asset;
- The contractual terms are only payments of principal and interest based on the outstanding principal.

For investments in equity instrument not held for trading, the Company will upon initial recognition designate them as financial assets (equity instrument) measured at fair value through other comprehensive income. This designation is made on an individual investment basis and the related investment meets the definition of an equity instrument from the perspective of the issuer.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

1. Classification (Continued)

The Company classifies financial assets except financial assets measured at amortized cost and financial assets measured at fair value through other comprehensive income, as financial assets measured at fair value through current profit or loss. On initial recognition, if it can eliminate or significantly reduce accounting mismatch, the Company irrevocably designates some financial assets that should be measured at amortized cost or at fair value through other comprehensive income as financial assets at fair value through current profit or loss.

Financial liabilities at their initial recognition, are divided into the financial liabilities measured at fair value through current profit or loss and financial liabilities measured at amortized cost.

Financial liabilities meeting one of the following conditions can, at the time carrying out the initial recognition, be designated to the financial liabilities measured at fair value through the current profit or loss:

- 1) The designation eliminates or significantly reduces accounting mismatches.
- 2) Management and performance evaluation of the financial liability portfolio or portfolio of financial assets and financial liabilities on a fair value basis in accordance with the enterprise risk management or investment strategy as set out in a formal written document, and reporting to key officers on this basis within the Company.
- 3) The financial liability contains embedded derivative needed to be separated.

2. Recognition basis and measurement method

(1) *Financial assets measured at amortized cost*

Financial assets measured at amortized cost include notes receivable, accounts receivable, other receivables, long-term receivables, and debt investments, etc., which are initially measured at fair value, and related transaction expenses are included in the amount upon initial recognition; accounts receivable that do not contain a significant financing component and that the Company decides not to consider those with a financing component not exceeding one year are initially measured at the contract transaction price.

During the holding period, the interest calculated with the effective interest method shall be included in the current profit or loss.

Upon recovery or disposal, the difference between the purchase price obtained and the carrying amount of such financial asset is included in current profit or loss.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

2. Recognition basis and measurement method (Continued)

(2) *Financial assets (debt instruments) measured at fair value through other comprehensive income*

Financial assets (debt instruments) measured at fair value through other comprehensive income include financing of accounts receivable, other debt investments, etc., which are initially measured at fair value, and related transaction expenses are included in the initial recognition amount. The financial assets are subsequently measured at fair value. Changes in fair value, except for interest calculated with the effective interest method, impairment or gains and exchange gains and losses, shall be included in other comprehensive income.

At derecognition, the accumulated gains or losses previously included in other comprehensive income will be transferred from the other comprehensive income to current profit or loss.

(3) *Financial assets (equity instruments) measured at fair value through other comprehensive income*

Financial assets (equity instruments) measured at fair value through other comprehensive income, including investments in other equity instruments are initially measured at fair value, and related transaction expenses are included in the initial recognition amount. The financial assets are subsequently measured at fair value. Changes in fair value shall be included in other comprehensive income. The dividends obtained are included in the current profit or loss.

When a financial asset is derecognized, the accumulated gains or losses previously included in other comprehensive income shall be transferred from other comprehensive income and included in retained earnings.

(4) *Financial assets measured at fair values through current profit or loss*

Financial liabilities measured at fair value through current profit or loss include financial liabilities held for trading, derivative financial liabilities and other non-current financial assets, and are measured at fair value upon initial recognition, with the related transaction expenses being included into current profit or loss. The financial assets are subsequently measured at fair value. Changes in fair value shall be included in current profit or loss.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

2. Recognition basis and measurement method (Continued)

(5) *Financial liabilities measured at fair value through current profit or loss*

Financial liabilities measured at fair value through current profit or loss include financial liabilities held for trading, derivative financial liabilities etc., which are initially measured at fair value, and related transaction expenses are included in current profit or loss. The financial liabilities are subsequently measured at fair value. Changes in fair value shall be included in current profit or loss.

Difference between the fair value and the consideration paid is included in investment income upon derecognition.

(6) *Financial liabilities measured at amortized cost*

Financial assets measured at amortized cost include short-term borrowings, notes payable, accounts payable, other payables, long-term borrowings, bonds payable, long-term payables, etc., which are initially measured at fair value, and related transaction expenses are included in the amount upon initial recognition.

During the holding period, the interest calculated with the effective interest method shall be included in the current profit or loss.

Difference between the consideration paid and the fair value of such financial liabilities is included in current profit or loss upon derecognition.

3. Derecognition and transfer of financial assets

The Company will terminate the recognition of the financial assets if:

- Where the contractual rights for collecting the cash flow of the said financial asset are terminated;
- The financial asset has been transferred, and nearly all the risks and rewards associated with ownership of the financial assets have been transferred to the transferee;
- The financial asset has been transferred and the Company has neither transferred nor retained nearly all the risks and rewards associated with the ownership of the financial asset but does not retain the control over the financial asset.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

3. Derecognition and transfer of financial assets (Continued)

In the event of a transfer of financial asset, the Company shall not de-recognize the financial asset if nearly all the risks and rewards associated with the ownership of the financial assets are retained.

The principle of substance over form is adopted to determine whether a financial asset meets the above de-recognition conditions for the financial asset.

The transfer of a financial asset of the Company is classified into the entire transfer and the partial transfer of financial asset. If the entire transfer of financial asset satisfies the criteria for de-recognition, the difference between the amounts of the following two items shall be included in the current profit or loss:

- (1) The carrying amount of the financial asset transferred;
- (2) The sum of the consideration received from the transfer and the accumulated amount of the changes in fair value originally and directly included in shareholders' equity (where the financial asset transferred is a financial asset (debt instrument) measured at fair value through other comprehensive income is involved).

If the partial transfer of financial asset satisfies the criteria for derecognition, the entire carrying amount of the transferred financial asset shall be split into the derecognized and recognized parts according to their respective fair values and the difference between the amounts of the following two items shall be included in the current profit or loss:

- (1) The carrying amount of derecognized part;
- (2) The sum of the consideration received from the derecognition and the amount of the derecognized part in the accumulated amount of the changes in fair value originally and directly included in shareholders' equity (where the financial asset transferred is a financial asset (debt instrument) measured at fair value through other comprehensive income is involved).

Where the financial assets transfer does not meet the derecognition conditions, the financial asset will be recognized and the consideration received is recognized as a financial liability.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

4. Derecognition of financial liabilities

A financial liability shall be wholly or partly derecognized if its present obligations are wholly or partly dissolved. Where the Company enters into an agreement with a creditor so as to substitute the existing financial liabilities with any new financial liability, and the new financial liability is substantially different from the contractual stipulations regarding the existing financial liability, it shall derecognize the existing financial liability, and recognize a new one at the same time.

Where substantive changes are made to the contractual terms of an existing financial liability in whole or in part, the existing financial liability or part thereof will be derecognized, and the financial liability the terms of which have been modified will be recognized as a new financial liability.

Where financial liabilities are de-recognized in whole or in part, the difference between the carrying amount of the financial liabilities derecognized and the consideration paid (including non-cash assets transferred out or new financial liabilities borne) shall be included in the current profit or loss.

Where the Company repurchases part of a financial liability, the entire carrying amount of the financial liability shall be split into the derecognized part and continuously-recognized part according to their respective relatively fair values on the repurchase date. The difference between the carrying amount of the derecognized part and the consideration paid (including non-cash assets surrendered or new financial liabilities assumed) shall be included in the current profit or loss.

5. Determination method for the fair value of financial assets and financial liabilities

Fair value of a financial instrument having an active market is determined on the basis of quoted prices in the active market. The fair value of a financial instrument, for which there is no active market, is determined by using valuation techniques. At the time of valuation, the Company adopts the valuation techniques that are applicable in the current situation and supported by enough available data and other information, selects the input values that are consistent with the features of assets or liabilities as considered by market participants in relevant asset or liability transactions, and gives priority to use relevant observable inputs. Unobservable input values are used only when relevant observable input values cannot be available or such values obtained are infeasible.

6. Testing method and accounting treatment of depreciation of financial assets

The Company estimates the expected credit losses of financial assets measured at amortized cost, financial assets (debt instruments) measured at fair value through other comprehensive income and finance guarantee contract in a single or combined manner.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

6. Testing method and accounting treatment of depreciation of financial assets (Continued)

The Company recognizes expected credit losses by calculating the probability-weighted amount of the present value of the difference between the cash flows receivable under the contract and the cash flows expected to be received, taking into account reasonable and substantiated information about past events, current conditions and forecasts of future economic conditions, weighted by the risk of default.

If the credit risk of the financial instrument has increased significantly since the initial recognition, the Company measures its loss provision at the expected credit losses for the whole duration of the financial instrument; if the credit risk of the financial instrument has not significantly increased since the initial recognition, the Company measures its loss provision at the expected credit losses of the financial instrument within the next 12 months. The increase or reversal of the loss provision is included in the current profit or loss as an impairment loss or gain.

The Company assesses whether the credit risk of a financial instrument has increased significantly since initial recognition by comparing the risk of default of the financial instrument at the balance sheet date with the risk of default at the date of initial recognition to determine the relative change in the risk of default over the expected life of the financial instrument. Generally, once the overdue period is more than 30 days, the Company may consider that there is obvious increase in credit risk of such financial instrument, unless there is unambiguous evidence that there is no obvious increase in credit risk of such financial instrument following the initial recognition.

The Company considers that the credit risk of the financial instrument has not increased significantly since initial recognition if the credit risk of a financial instrument on the balance sheet date.

If there is objective evidence that there is credit loss for a financial asset, the Company shall make provision for impairment of the financial asset on a single basis.

For receivables and contract assets resulting from transactions governed by the Accounting Standards for Business Enterprises No. 14 – Revenue (2017), the Company consistently measures its allowance for losses at an amount equal to the expected credit loss over the entire life of the asset, whether or not it contains a significant financing component.

For lease receivables, the Company has chosen to always measure its loss allowance at an amount equal to the expected credit loss over the entire life of the receivables.

When the Company no longer reasonably expects the contractual cash flows of a financial asset to be recovered in whole or in part, it directly writes down the gross carrying amount of that financial asset.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XI) Inventories

Applicable Not applicable

1. Classification and cost of inventories

Inventories are classified into stock commodities, raw materials, semi-finished goods and work-in-progress, turnover materials, dispatched goods, etc.

Inventories are initially measured at cost, and the inventory cost includes the procurement cost, processing cost and other expenses arising from making the inventory at their present location and condition.

2. Measurement method of dispatched inventories

Upon dispatch, inventories are measured with the weighted average method.

3. Recognition basis of the net realizable value of different types of inventories

On the balance sheet date, the inventories shall be valued at the lower of their costs or net realizable values. When the inventory costs are higher than the net realizable values, the provision for inventory depreciation reserves shall be made. The net realizable values of inventories refer to the amounts of the estimated selling prices of inventories minus the estimated costs to completion, estimated selling expenses and relevant taxes and surcharges.

In normal operation process, for merchandise inventories held directly for sale, including finished goods, stock commodities and held-for-sale materials, their net realizable values are determined at the estimated selling prices minus the estimated selling expenses and relevant taxes and surcharges; in normal production and operation process, for material inventories that need further processing, their net realizable values are determined at the estimated selling prices of finished goods minus estimated costs to completion, estimated selling expenses and relevant taxes and surcharges; for inventories held to execute sales contract or service contract, their net realizable values are calculated on the basis of contract price. If the quantities of inventories held by the Company are more than those specified in sales contracts, the net realizable value of the excess portion of inventories are calculated on the basis of general selling prices.

After the provisions for the inventory depreciation are made, the factors causing any write-down of inventory value have disappeared, leading to the net realizable values of inventories higher than its carrying amount, the amount of write-down shall be resumed and be reversed from the original provision for inventory devaluation with the reversal being included in current profit or loss.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XI) Inventories (Continued)

4. Inventory system

Perpetual inventory system is adopted.

5. Amortization methods for low-cost consumables and packaging materials

(1) Low-cost consumables: lump-sum amortization method;

(2) Packaging materials are amortized at lump-sum method.

(XII) Contract assets

1. Recognition method and standards for contractual assets

Applicable Not applicable

The Company presents contractual assets or contractual liabilities in the balance sheet based on the relationship between its performance of fulfillment obligations and customer payments. If the Company has transferred the right to receive consideration for goods transferred or services provided to customers and the right depends on factors other than the passage of time, it is presented as a contract asset. Contractual assets and contractual liabilities under the same contract are presented by their net amounts. The Company's unconditional (only subject to the passage of time) rights to receive consideration from customers are individually presented as receivables.

2. Determination method and accounting treatment of expected credit losses of contractual assets

Applicable Not applicable

The method of determining expected credit losses and accounting treatment for contract assets are detailed in Note "(X) 6. Testing method and accounting treatment of depreciation of financial assets."

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIII) Long-term equity investments

Applicable Not applicable

1. Judgment criteria for joint control and significant influence

Common control refers to the control shared over an arrangement in accordance with the relevant stipulations, and the decision-making of related activities of the arrangement should not be made before the party sharing the control right agrees the same. Where the Company and other investors exert common control over the investee and the Company is entitled to net assets of the investee, the investee is the joint venture of the Company.

Significant influence refers to the power to participate in making decisions on the financial and operating policies of the investee, but not the power to control, or jointly control, the formulation of such policies with other parties. Where the Company is able to have significant influences on an investee, the investee is its associate.

2. Determination of initial investment costs

(1) *A long-term equity investment as a result of business combination*

For long-term equity investments acquired from business combinations under common control, the investment initial cost thereof shall be recognized at the share of carrying amount of the shareholders' equity of the acquiree in the consolidated financial statements of the ultimate controller on the acquisition date. The capital premium in the capital reserve is adjusted according to the difference between the initial investment cost of long-term equity investment and the carrying amount of consideration. If the capital premium in the capital reserves is insufficient to cover the difference, the retained earnings shall be adjusted. In case the Company can exercise control over the investee under common control for additional investment or other reasons, the share premium will be adjusted at the difference between the initial investment cost of long-term equity investments recognized in accordance with the above principles and the sum of the carrying amount of long-term equity investments before the combination plus the carrying amount of the new consideration paid for further acquisition of shares on the combination date. If the share premium is insufficient to offset, retained earnings will be offset.

For long-term equity investment as a result of business combination not under common control, the Company determines the combination cost determined on the purchase date as the initial cost of long-term equity investments. Where additional investment or other reasons make the control over the investee not under the same control possible, the initial investment cost will be the sum of the carrying amount of the equity investments previously held and the newly increased investment costs.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIII) Long-term equity investments (Continued)

2. Determination of initial investment costs (Continued)

(2) *Long-term equity investments obtained by means other than business combination*

For long-term equity investments acquired from cash payment, the initial investment cost is the actually paid purchasing cost.

For a long-term equity investment acquired from issuance of equity securities, its initial cost is the fair value of the issued equity securities.

3. Subsequent measurement and recognition of gains and losses

(1) *Long-term equity investments calculated under cost method*

Long-term equity investments of the Company in its subsidiaries are accounted for at cost, unless the investments meet the conditions for holding for sale. Except for the actual price paid for acquisition of investment or the cash dividends or profits contained in the consideration which have been declared but not yet distributed, the Company recognizes the investment income in the current year at the cash dividends or profits declared by the investee.

(2) *Long-term equity investments calculated under equity method*

The Company's long-term equity investments in its associates and joint ventures are calculated under the equity method. If the cost of initial investment is in excess of the proportion of the fair value of the net identifiable assets in the investee when the investment is made, the difference will not be adjusted to the initial investment cost of long-term equity investment; if the cost of initial investment is in short of the proportion of the fair value of the net identifiable assets in the investee when the investment is made, the difference will be included in the current profit or loss, meanwhile the costs of long-term equity investments will be adjusted.

The Company shall recognize the investment income and other comprehensive income at the shares of net profit or loss and other comprehensive income realized by the investee which the Company shall enjoy or bear and adjust the carrying amount of long-term equity investments at the same time; the Company shall calculate the shares according to profits or cash dividends declared by the investee and correspondingly reduce the carrying amount of long-term equity investments; the carrying amount of long-term equity investments shall be adjusted according to the investee's other changes in shareholders' equity other than net profit or loss, other comprehensive income and Distribution of profits ("other changes in shareholders' equity"), which should be included in shareholders' equity.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIII) Long-term equity investments (Continued)

3. Subsequent measurement and recognition of gains and losses (Continued)

(2) Long-term equity investments calculated under equity method (Continued)

The share of the investee's net profit or loss, other comprehensive income and other changes in shareholders' equity should be recognized after adjustments are made to Net profit and other comprehensive income of the investee based on the fair value of identifiable net assets of the investee upon acquisition of investments and according to accounting policies and accounting period of the Company.

The Company shall write off the part of incomes from internal unrealized transactions between the Company and associates and joint ventures which are attributable to the Company according to the corresponding ratio and recognize the profit or loss on investments on such basis except that the assets invested or sold constitute business. Where the losses from internal transactions between the Company and the investee fall into the scope of assets impairment loss, the full amount of such losses should be recognized.

For net loss incurred by joint ventures or associates, the Company shall, in addition to its obligation to bear additional losses, write down to zero the carrying amount of long-term equity investments and other long-term equity that essentially constitutes net investment in such joint ventures or associates. If a joint venture or an associate realizes net profits in the future, the Company shall resume recognizing its share of profits after the share of profits makes up for the share of unrecognized losses.

(3) Disposal of long-term equity investments

For disposal of long-term equity investments, the difference between the carrying amount and the actual price shall be included in the current investment income.

For partial disposal of long-term equity investments accounted for under the equity method, if the remaining equity is still accounted for under the equity method, other comprehensive income originally accounted for and recognized under the equity method shall be carried forward in proportion on the basis same as that for the direct disposal of related assets or liabilities by the investee, and other changes in shareholders' equity shall be carried forward to current profit or loss in proportion.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIII) Long-term equity investments (Continued)

3. Subsequent measurement and recognition of gains and losses (Continued)

(3) *Disposal of long-term equity investments* (Continued)

In case the joint control or significant influence over the investee is lost for disposing of equity investments or other reasons, other comprehensive income recognized from original equity investments by using the equity method shall be subject to accounting treatment on the basis same as that for the direct disposal of related assets or liabilities by the investee when the equity method is terminated, and other changes in shareholders' equity shall be transferred to current profits or losses when the equity method is terminated.

Where the Company loses the control over the investee due to disposal of partial equity investments or other reasons, when it prepares individual financial statements, if the remaining equity can exercise joint control or significant influence on the investee, such investments should be changed to be accounted for under the equity method and the remaining equity should be deemed to have been accounted for by adopting the equity method on acquisition and adjusted; other comprehensive income recognized before the control of the investee is obtained will be carried forward on the basis same as that for the direct disposal of related assets or liabilities by the investee, and other changes in owner's equity accounted for and recognized under the equity method will be carried forward to current profits or losses in proportion; if the remaining equity cannot exercise joint control or significant influence on the investee, such equity will be recognized as financial assets, and the difference between fair value and carrying amount on the date of loss of the control should be included in current profits or losses; other comprehensive income and other changes in owner's equity recognized before the control of the investee is obtained will be carried forward.

Where the Company disposes of equity investments in subsidiaries through multiple transactions and by stages until loss of the control, if the above transactions belong to a package deal, accounting treatment shall be made on the transactions as a transaction to dispose equity investments of subsidiaries and lose the control. The difference between each disposal cost and the carrying amount of long-term equity investments corresponding to disposed equities before the loss of the control should be firstly recognized as other comprehensive income in individual financial statements and then transferred into the current profit or loss at the loss of the control. If the transactions are not under a package of transactions, each transaction shall be subject to accounting treatment separately.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIV) Investment properties

An investment property is a property held to earn rentals or for capital appreciation or for both purposes, which include a land use right that is leased out, a land use right held for transfer upon capital appreciation and a building that is leased out (including a building that used for rent after the completion of self-construction or development activities and a building under construction or development for future rental purpose).

Subsequent expenditures incurred for such investment properties are included in the cost of the investment properties when it is probable that economic benefits associated with an investment property will flow to the Company and the cost can be measured reliably. Otherwise, they are recognised in profit or loss for the period in which they are incurred.

The Company uses the cost model for subsequent measurement of investment properties, and adopts a depreciation or amortisation policy for the investment properties which is consistent with that for buildings and land use rights.

(XV) Fixed assets

1. Recognition and initial measurement of fixed assets

Applicable Not applicable

Fixed assets refer to the tangible assets of the Company held for the purpose of production of goods, service supply, leasing or business management with useful lives exceeding one accounting year. Fixed assets are recognized when the following criteria are satisfied simultaneously:

- (1) It is probable that the economic benefits relating to the fixed assets will flow into the Company;
- (2) The costs of the fixed asset can be measured reliably.

A fixed asset shall be initially measured at its cost with the consideration of the expected discard expenses.

The subsequent expenditures relating to fixed assets shall be included in the costs of fixed assets when the relevant economic interests are much likely to flow in the Company and their costs may be measured reliably; as for the party replaced, the carrying amount shall be derecognized; all other subsequent expenditures shall be included in the current profit or loss when incurred.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XV) Fixed assets (Continued)

2. Depreciation method

Applicable Not applicable

Fixed assets will be depreciated by using the straight line method by category and the depreciation rate shall be recognized according to the category, estimated useful lives and estimated net residual value rate of fixed assets. For the fixed assets with provision for impairment made, the amount of depreciation will be determined according to the carrying amount after deduction of the provision for impairment and the remaining useful life in the future. Where various components of fixed assets are different in useful lives or provide economic benefits for the enterprise in different ways, then different depreciation rates or methods are chosen to separately provide for depreciation.

Depreciation method, depreciation life, residual value rate and annual depreciation rate of various fixed assets are as follows:

Type	Depreciation method	Depreciation life (year)	Residual value rate (%)	Annual depreciation rate (%)
Houses and buildings	Straight-line method	20-40	3-10	2.25-4.85
Machinery equipment	Straight-line depreciation	5-10	3-10	9.00-19.40
Means of transportation vehicles	Straight-line depreciation	5-8	3-10	11.25-19.40
Electronic equipment and others	Straight-line depreciation	3-10	3-10	9.00-32.33

The Company reviews the useful life, estimated net residual value of a fixed asset and the depreciation method applied at least once at each year-end, and make adjustments when necessary.

3. Disposal of fixed assets

When fixed assets are disposed of or are expected to fail to generate economic benefits after the use or disposal, the fixed assets shall be derecognized. The difference of the income from sales, transfer, retirement or damage of fixed assets deducting the carrying amount and related taxes should be included in the current profit or loss.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XVI) Construction in progress

Applicable Not applicable

Construction in progress is recognised based on the actual construction expenditures incurred. It includes construction costs, installation costs, capitalised borrowing costs and expenditures necessary to be incurred before the construction in progress is ready for intended use, and other relevant expenditures. Construction in progress is transferred to fixed assets when the asset is ready for its intended use and provide for depreciation since next month.

(XVII) Borrowing costs

Applicable Not applicable

1. Recognition criteria of capitalization of borrowing costs

Borrowing costs of the Company that are directly attributable to the acquisition, construction or production of qualifying assets should be capitalized and included in the costs of related assets. Other borrowing costs are recognized as expenses at the amount on occurrence and are charged to the current profit or loss.

Assets meeting the capitalization requirements refers to fixed assets, investment properties and inventories, etc. that need to be purchased, constructed or produced for a long time to be available for intended use or sale.

2. Capitalization period for borrowing costs

Capitalization period refers to the period from commencement of capitalization of borrowing costs to its cessation. The period of capitalization suspension of borrowing costs is excluded.

Capitalization should commence when all the following three conditions are satisfied:

- (1) asset disbursements, which include those incurred by cash payment, the transfer of non-cash assets or the undertaking of interest-bearing debts for acquiring and constructing or producing assets eligible for capitalization, have already been incurred;
- (2) borrowing costs have occurred;
- (3) purchase, construction or manufacturing activities that are necessary to prepare the assets for their intended use are in progress.

Capitalization of borrowing costs should be ceased when the acquired and constructed or produced assets eligible for capitalization have reached their intended use or sale condition.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XVII) Borrowing costs (Continued)

3. Period of capitalization suspension

If the acquisition and construction or production activities of assets eligible for capitalization are abnormally interrupted and such condition lasts for more than three months, the capitalization of borrowing costs should be suspended; if the interruption is necessary procedures for the acquired, constructed or produced assets eligible for capitalization to reach their intended use or sale status, the borrowing costs continue to be capitalized. Borrowing costs incurred during the interruption are recognized as the current profit or loss and continue to be capitalized until the acquisition, construction or production of the asset restarts.

4. Calculation method of capitalization rate and capitalization amount of borrowing costs

As for special borrowings borrowed for acquiring and constructing or producing assets eligible for capitalization, borrowing costs of special borrowing actually incurred in this period less the interest income of the borrowings unused and deposited in bank or return on temporary investment shall be recognized as the capitalization amount of borrowing costs.

As for general borrowings used for acquiring and constructing or producing assets eligible for capitalization, the interest of general borrowings to be capitalized should be calculated by multiplying the weighted average of asset disbursements of the part of accumulated asset disbursements exceeding special borrowings by the capitalization rate of used general borrowings. The capitalization rate is determined via the calculation at the weighted average actual interest rate of general borrowings.

During capitalization period, exchange differences of principal and interest on foreign currency special borrowings shall be capitalized and included in the cost of assets eligible for capitalization. Exchange differences arising from the principal and interest of foreign currency borrowings other than special foreign currency borrowings are included in current profits or losses.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XVIII) Right-of-use assets

Applicable Not applicable

The Company's right-of-use assets include houses and buildings, means of transportation vehicles.

On the commencement date of the lease term, the Company recognises its right to use the leased assets over the lease term as right-of-use assets, the amount of which includes: the amount of the initial measurement of the lease liability; any lease payments made at or before the commencement date of the lease term less any lease incentives already received; any initial direct costs incurred by the lessee; an estimate of costs to be incurred by the lessee in dismantling and removing the leased asset, restoring the site on which it is located or restoring the leased asset to the condition required by the terms and conditions of the lease. The Company depreciates the right-of-use assets by using the straight-line method. If it is reasonable to determine the ownership of the leased asset at the expiration of the lease term, the Company shall depreciate the leased assets over the remaining useful life. If it is not reasonable to determine that the ownership of the leased assets can be obtained at the expiry of the lease term, the Company shall depreciate the leased assets over the lease term or the remaining useful life of the leased assets, whichever is shorter.

The Company shall remeasure lease liabilities according to the present value of the changed lease payments and adjust the book value of the right-of-use assets accordingly. However, if the carrying amount of the right-of-use assets is reduced to zero, yet there is still a further reduction in the measurement of the lease liabilities, the Company recognises any remaining amount of the remeasurement in profit or loss for the period.

(XIX) Intangible assets

1. Measurement method of intangible assets

Applicable Not applicable

(1) *The Company initially measures intangible assets at cost upon acquisition*

The costs of externally acquired intangible assets include their purchase prices, related taxes and surcharges and any other directly attributable expenditure incurred to prepare the asset for its intended use.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIX) Intangible assets (Continued)

1. Measurement method of intangible assets (Continued)

(2) Subsequent measurement

The useful lives of intangible assets are analyzed on acquisition.

As for intangible assets with limited useful life, they will be amortized during the period when the intangible assets generate economic benefit for enterprise; if the period when the intangible assets generate economic benefit for enterprise cannot be predicted, the intangible assets will be deemed as those with indefinite useful life and should not be amortized.

2. Estimate of the useful life of the intangible assets with definite useful lives

Item	Estimated	Amortization method	Residual	Basis
	useful life		value rate	
	(year)		(%)	
Land use right	50	Straight-line method	0.00	Legal useful life
Patent right	5-8	Straight-line method	0.00	Estimated actual useful life
Software	5	Straight-line method	0.00	Estimated actual useful life
Unfinished contracts	2-3	Straight-line method	0.00	Estimated actual useful life
Customer relationship	5-9	Straight-line method	0.00	Estimated actual useful life

Land use rights obtained by the Company are usually accounted for as intangible assets. The land use rights of the self-developed buildings including plants are measured as intangible assets and buildings are measured as fixed assets, respectively. With respect to the land use rights purchased together with buildings, the acquisition cost is allocated between the two parts proportionately, or otherwise, is wholly accounted for as fixed assets.

Intangible assets with the useful lives are amortised over their useful lives using the straight-line method. The Company reviews the useful lives and the amortisation method for intangible assets with the useful lives at least once at each year-end, and makes adjustments when necessary.

The Company had no intangible assets with indefinite useful lives.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIX) Intangible assets (Continued)

3. Accounting policies for internal research and development expenditure

Applicable Not applicable

Expenditure on an internal research and development project shall be classified into expenditure on the research phase and expenditure on development phase.

Research stage: it is the stage when creative and planned investigation and research activities are conducted to acquire and understand new scientific or technological knowledge. Development phase: development phase is the stage when the research achievements and other knowledge are applied to a plan or design, prior to the commercial production or use, so as to produce any new or substantially improved material, device or product.

Expenditure on an internal research and development project shall be classified into expenditure on the research phase and expenditure on development phase. The expenditures in research phase will be included in current profit or loss on occurrence. Expenditures in the development stage will be capitalised only when the following conditions are simultaneously satisfied: it is feasible technically to finish intangible assets for use or sale; it is intended to finish and use or sell the intangible assets; the usefulness of methods for intangible assets to generate economic benefits shall be proved, including being able to prove that there is a potential market for the products manufactured by applying the intangible assets or there is a potential market for the intangible assets themselves or the intangible assets will be used internally; it is able to finish the development of the intangible assets and able to use or sell the intangible assets, with the support of sufficient technologies, financial resources and other resources; and the expenditure attributable to the intangible asset during its development phase can be measured reliably. Expenditure in the development phase that does not meet the above criteria is recognised in profit or loss for the period in which it is incurred.

4. Specific criteria for capitalisation of expenditures in development phase

The expenditures in research phase will be included in current profit or loss on occurrence. Expenditures in the development stage will be recognized as intangible assets only when the following conditions are simultaneously satisfied, and included in current profit or loss if the following conditions are not satisfied:

- (1) It is feasible technically to finish intangible assets for use or sale;
- (2) It is intended to finish and use or sell the intangible assets;

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIX) Intangible assets (Continued)

4. Specific criteria for capitalisation of expenditures in development phase (Continued)

- (3) The usefulness of methods for intangible assets to generate economic benefits shall be proved, including being able to prove that there is a potential market for the products manufactured by applying the intangible assets or there is a potential market for the intangible assets themselves or the intangible assets will be used internally;
- (4) It is able to finish the development of the intangible assets and able to use or sell the intangible assets, with the support of sufficient technologies, financial resources and other resources;
- (5) The expenditure attributable to the intangible asset during its development phase can be measured reliably.

Where the research expenditures and the development expenditures are indistinguishable, the research expenditures and development expenditures shall be included in current profit or loss.

(XX) Long-term assets impairment

Applicable Not applicable

For long-term equity investments, investment properties measured at cost, fixed assets, construction in progress, use-of-right assets, intangible assets with definite service life, and other long-term assets, if there are signs of impairment, an impairment test will be conducted on the balance sheet date. If the result of the impairment test shows that the recoverable amount of the asset is lower than its carrying amount, the provision for impairment shall be made and included in impairment loss. The recoverable amounts of intangible assets are the higher of their fair values less costs to sell and the present values of the future cash flows expected to be derived from the assets. The asset impairment provision shall be calculated and recognized on the basis of single asset, if it is difficult to estimate the recoverable amount of the individual asset, the Company shall estimate the recoverable amount of the asset group that the individual asset belongs to. Asset group is the minimum combination of assets that can independently generate cash inflows. Goodwill arising in a business combination and intangible assets that have not been ready for intended use shall be tested for impairment at least at each year end, irrespective of whether there is any indication that the asset may be impaired.

The Company has conducted impairment test for goodwill. The carrying amount of goodwill acquired in a business combination is allocated from the acquisition date on a reasonable basis to each of the related asset groups; if it is difficult to allocate to the related asset groups, it is allocated to each of the related set of asset groups. Each of the related asset groups or set of asset groups is an asset group or set of asset groups that is able to benefit from the synergies of the business combination.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XX) Long-term assets impairment (Continued)

In testing an asset group or a set of asset groups including goodwill for impairment, if there is indication of impairment, the Company shall first test the asset group or the set of asset groups excluding goodwill for impairment, calculate the recoverable amount and compare it with the related carrying amount and recognise the corresponding impairment loss. After that, the Group shall test the asset group or set of asset groups including goodwill for impairment. The carrying amount of the related asset group or set of asset group is compared to its recoverable amount. If the recoverable amount of the asset group or set of asset groups is lower than its carrying amount, an impairment loss is first reduced by the carrying amount of the goodwill allocated to the asset group or set of asset groups and then, the carrying amount of other assets (excluding goodwill) within the asset group or set of asset groups pro rata based on the carrying amount of each asset. The above losses from assets impairment will not be reversed in subsequent accounting periods once recognized.

(XXI) Long-term deferred expenses

Applicable Not applicable

Long-term deferred expenses refer to the expenses which have been already incurred but will be borne in this period and in the future with an amortization period of over 1 year.

The amortisation period and amortisation method are as follows:

Item	Amortisation method	Amortisation period (years)
Costs of improvements to fixed assets under operating leases	straight-line basis	2-5

(XXII) Contract liabilities

Applicable Not applicable

The Company presents contractual assets or contractual liabilities in the balance sheet based on the relationship between its performance of fulfillment obligations and customer payments. The Company's obligation to transfer goods or provide services to customers for consideration receivable for goods received is presented as contract liabilities. Contractual assets and contractual liabilities under the same contract are presented by their net amounts.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIII) Employee compensation

1. Accounting treatment of short-term compensation

Applicable Not applicable

During the accounting period in which employees provide service to the Company, the short-term compensation actually incurred is recognized as liabilities and charged to the current profit or loss or the relevant assets cost.

The social insurance premiums and housing fund paid for employees by the Company, as well as the labor union expense and employee education expense accrued according to the provisions, shall be calculated according to the stipulated contribution base and proportion to determine the amount of corresponding employee compensation during the accounting period of employees providing services to the Company.

Employee benefits incurred by the Company are charged to current income or loss or the cost of related assets based on the actual amount incurred, of which non-monetary benefits are measured at fair value.

2. Accounting treatment of post-employment benefits

Applicable Not applicable

(1) *Defined contribution plan*

The Company pays the basic endowment insurance premiums and unemployment insurance for employees according to the relevant provisions of the local governments. During the accounting period when employees serve the Company, the paid amount which is calculated based on the payment base and proportion as stipulated in the provisions of the local place is recognized as liabilities and included in the current profit or loss or costs associated with assets. In addition, the Company also participates in the Enterprise Annuity Plan of China Railway Signal & Communication Corporation Limited as approved by the relevant national authorities. The Company makes payments to the local social insurance institutions in a certain proportion to the total employee wage, with corresponding expense included in the current profit or loss or related asset cost. The Company may not utilize any forfeited contributions to reduce the current contributions.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIII) Employee compensation (Continued)

2. Accounting treatment of post-employment benefits (Continued)

(2) *Defined benefit scheme*

The Company shall attribute the welfare obligations under the defined benefit scheme in accordance with the estimated accrued benefit method to the service period of relevant employee, and record the obligation in current profit or loss or costs of relevant assets.

The deficit or surplus generated from the present value of obligations of the defined benefit scheme minus the fair value of the assets of defined benefit scheme is recognized as net liabilities or net assets. When the defined benefit scheme has surplus, the Company will measure the net assets of the defined benefit scheme at the lower of the surplus of defined benefit scheme and the upper limit of the assets.

All defined benefit plans obligations, including the expected duty of payment within 12 months after the end of annual Reporting Period during which the staff provided service, were discounted based on the bond market yield of sovereign bond matching the term of defined benefit plans obligations and currency or corporate bonds of high quality in the active market on the balance sheet date.

The service cost incurred by defined benefit scheme and the net interest of the net liabilities and net assets of the defined benefit scheme would be charged into the current profits and loss or relevant costs of assets. The changes generated from the re-measurement of the net liabilities or net assets of the defined benefit scheme would be included in the other comprehensive income and are not reversed to profit or loss in a subsequent accounting period. The portion originally included in other comprehensive income is carried forward to unallocated profit to the extent of equity upon termination of the original defined benefit schemes.

When the defined benefit scheme is settled, the gain or loss is recognized based on the difference between the present value of obligations and the settlement price of the defined benefit scheme as at the balance sheet date.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIII) Employee compensation (Continued)

3. Accounting treatment of dismissal benefits

Applicable Not applicable

As to providing employees dismissal benefits, employee compensation incurred from dismissal benefits should be recognized as liabilities and included in the current profit or loss at the date when the Company is unable to unilaterally withdraw the dismissal benefits provided in the plan on the cancellation of labor relationship or the layoff proposal or when the Company recognizes the cost related to restructuring concerning payment of dismissal benefits (whichever is earlier).

4. Accounting methods for other long-term employee benefits

Applicable Not applicable

(XXIV) Lease liabilities

Applicable Not applicable

On the commencement date of the lease term, the Company recognises the present value of the lease payments that have not been paid as lease liabilities, except for short-term leases and low-value asset leases. In calculating the present value of the lease payments, the Company uses the leased interest rate as the discount rate; if the interest rate of the lease cannot be determined, the lessee's incremental borrowing rate is used as the discount rate. The Company calculates interest expenses of lease liabilities in each period of the lease term based on the constant periodic interest rate and recognises the interest expenses in profit or loss for the current period, except for those that are stipulated to be recognised in related asset costs. The variable lease payments that are not included in the measurement of the lease liabilities are recognised in profit or loss when incurred, except for those that are stipulated to be recognised in related asset costs.

After the commencement date of the lease term, in the event of change in the actual fixed payment amount, change in the amount expected to be payable under a residual value guaranteed, change in the index or ratio used to determine the lease payment, or change in the assessment results or actual exercise rights of the call option, renewal option or termination option, the Company re-measures the lease liability based on the present value of the changed lease payments.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXV) Provisions

Applicable Not applicable

Where the obligation related to contingency meets all the following conditions simultaneously, it may be recognized as provisions by the Company:

- (1) This obligation is a present obligation of the Company;
- (2) The performance of such obligation is likely to result in outflow of economic benefits from the Company;
- (3) The amount of the obligation can be measured reliably.

Provisions of the Company are initially measured as the best estimate of expenses required for the performance of relevant present obligations.

When determining the best estimates, the Company comprehensively considers the risks, uncertainties, time value of money, and other factors relating to the contingencies. If the time value of money is significant, the best estimate shall be determined after discounting the relevant future outflow of cash.

If there is continuous range for the necessary expenses, and probabilities of occurrence of all the outcomes within this range are equal, the best estimate shall be determined at the median range within the range; in other cases, the best estimate shall be accounted for as follows in different circumstances:

- If contingencies involve a single item, the best estimate shall be determined at the amount most likely incurred.
- If contingencies involve multiple items, the best estimate shall be calculated and determined at possible outcomes and related probabilities.

When all or part of the expenses necessary for the settlement of an estimated liability of the Company is expected to be compensated by a third party, the compensation should be separately recognized as an asset only when it is virtually certain that the compensation will be received. The amount recognized for the compensation should not exceed the carrying amount of the estimated liability.

On the balance sheet date, the carrying amount of provisions shall be reviewed. If there is conclusive evidence that the best estimate cannot be reflected, the carrying amount shall be adjusted based on the current best estimate.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVI) Other equity instruments

Applicable Not applicable

In accordance with the terms of the contract and the economic substance of the issued perpetual bonds reflected therein rather than in legal form only, the Company classifies the financial instrument or its components as financial assets, financial liabilities or equity instruments upon initial recognition.

Financial instruments such as perpetual bond issued by the Company meeting one of the following conditions, shall be classified as financial liabilities as a whole or its components at initial recognition:

- (1) The Company cannot unconditionally avoid contractual obligations performing by delivering cash or other financial assets;
- (2) Contract obligations including delivery of variable number of own equity instruments for settlement;
- (3) It includes derivative instruments that are settled by their own equity, and the derivative instruments cannot exchange fixed amount of cash or other financial assets with fixed amount of their own equity instruments for settlement;
- (4) There are contract terms that indirectly form contractual obligations;
- (5) When the issuer liquidates, the perpetual bonds are in the same order as the ordinary bonds and other debts issued by the issuer.

Financial instruments such as perpetual bonds/preference shares that do not meet any of the above conditions shall be classified as equity instruments at initial recognition.

The perpetual bonds issued by the Company have no maturity date. After the maturity date, the Company has the right to make unlimited renewals. For coupon interest of perpetual bonds, the Company has the right to make deferred payment. Those that the Company has no contractual obligation to pay cash or other financial assets shall be classified as equity instruments.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVII) Revenue

1. Accounting policies adopted for income recognition and measurement

Applicable Not applicable

The Company recognizes the income when its performance obligations as stipulated in the contract are fulfilled, that is, when the customer obtained control of the related goods or services. The acquisition of control over the related goods or services is defined as the ability to dominate the use of the goods or services and derive substantially all of the economic benefits therefrom.

Where the contract contains two or more performance obligations, the Company will, on the contract start date, allocate the transaction price to each individual performance obligation in the proportion of the individual selling price of the goods or services for which each individual performance obligation is committed. The Company measures revenue based on the transaction price apportioned to each individual performance obligation.

The transaction price is the amount of consideration to which the Company expects to be entitled as a result of the transfer of goods or provision of services to the customer, excluding amounts collected on behalf of third parties and amounts that the Company expects to refund to the customer. The Company determines the transaction price based on the terms of the contract, taking into account its past customary practice, and considers the impact of variable consideration, the existence of significant financing components in the contract, non-cash consideration, and consideration payable to the customer in determining the transaction price. The Company determines the transaction price that includes variable consideration by an amount not exceeding the amount for which it is highly probable that there will be no material reversal of the cumulative recognized revenue at the time the relevant uncertainty is removed. For contracts with a significant financing component, the Company determines the transaction price based on the amount payable in cash assuming that the customer will pay for the goods or services as soon as control is obtained, and amortizes the difference between this transaction price and the contract consideration over the term of the contract using the effective interest rate method. If the Company meets one of the following conditions, it is deemed to fulfill the performance obligations within a certain period of time; otherwise, it is deemed to so at a certain point of time:

- The customer obtains and consumes the economic benefits brought by the Company's performance while the Company is performing the contract.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVII) Revenue (Continued)

1. Accounting policies adopted for income recognition and measurement (Continued)

- The customer can control the commodities under construction during the Company's performance.
- The commodities produced by the Company during the performance of the contract have irreplaceable uses, and the Company has the right to receive payment for the accumulated performance of the contract so far throughout the contract period.

For performance obligations to be performed within a certain period of time, the Company recognizes revenue in accordance with the progress of performance over that period, except when the progress of performance cannot be reasonably determined. The Company determines the progress of performance using the output method or the input method, taking into account the nature of the goods or services. When there is no reasonable certainty of the progress of performance, revenue is recognized at the costs incurred when the costs incurred are expected to be reimbursed until the progress of performance can be reasonably determined.

The Company recognizes the income from the performance obligations to be performed at certain time, that is, when the customer obtained control of the related goods or services. In determining whether a customer has acquired control of goods or services, the Company considers the following indications:

- The Company has a present right to receive payment in respect of the commodity or services, i.e. the customer has a present payment obligation in respect of the commodity or services.
- The Company has transferred the legal title to the commodity to the customer, i.e. the customer has the legal title to the commodity.
- The Company has transferred the physical commodity to the customer, i.e. the customer has taken physical possession of the commodity.
- The Company has transferred to the customer the principal risks and rewards of ownership of the commodity, i.e. the customer has acquired principal risks and rewards with respect to the title to the commodity.
- The customer has accepted the goods or services, etc.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVII) Revenue (Continued)

2. Revenue recognition of the Company

(1) Sales agreement of goods

The sales agreement of goods entered into between the Company and its customers usually only includes the performance obligations of the transferred goods. The Company usually recognises the revenue at the time of transfer of control, taking into account the following factors: obtaining the current collection rights of the goods, transfer of the key risks and rewards of the ownership of the goods, transfer of the legal ownership of the goods, transfer of physical assets of goods and customers' acceptance of the goods.

(2) Service agreement

The service agreement entered into between the Company and its customers usually includes performance obligations such as system integration. As the services provided by the Company during the performance of the agreement have irreplaceable uses, and during the entire contract period, the Company has the right to take the revenue from the completion of performance of the agreement accumulated to date as the performance obligation performed within a certain period of time, and recognise the revenue based on the performance progress, except where the performance progress cannot be reasonably determined. The Company determines the performance progress for the services provided in accordance with the input method. When the performance progress cannot be reasonably determined, if the costs incurred by the Company are expected to be compensated, the revenue will be recognised based on the amount of costs incurred, until the performance progress can be reasonably determined.

(3) Construction contract

The construction contract entered into between the Company and its customers usually includes performance obligations such as construction services. As the customers can control the assets under construction in the performance of the Company, the Company considers them as performance obligations within a certain period of time, and recognises the revenue based on the performance progress, except where the performance progress cannot be reasonably determined. The Company determines the performance progress for the services provided in accordance with the input method and the costs occurred. When the performance progress cannot be reasonably determined, if the costs incurred by the Company are expected to be compensated, the revenue will be recognised based on the amount of costs incurred, until the performance progress can be reasonably determined.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVII) Revenue (Continued)

2. Revenue recognition of the Company (Continued)

(4) *Variable considerations*

The contracts between the Company and its certain customers containing changes, claims and reward arrangements, which forms a variable consideration. The Company determines the best estimate of the variable consideration based on the expected value or the most probable value. However, the sales price including variable considerations should not exceed the amount accumulatively recognised which is not likely to be significantly reversed when the uncertainty disappears.

(5) *Return clauses*

In connection with sales with a return clause, revenue is recognised according to the amount of consideration it expects to be entitled to for the transfer to a customer when the customer acquires control of the relevant. Amounts expected to be refunded for the return of sales are recognised as estimated liabilities. At the same time, the balance of the carrying value of the product expected to be returned upon transfer less expected costs for the recall of such product (including impairment loss of the recalled product) shall be recognised as an asset (i.e. cost of return receivables), and the net amount of the carrying value of the transferred product upon the transfer less the aforesaid asset cost shall be transferred to cost. At each balance sheet date, the Company reassesses the future return of sales and re-measures the above assets and liabilities.

(6) *Significant financing component*

If the contract includes significant financing component, the Company determines the transaction price based on the amount payable under the assumption that the customer pays that amount payable in cash when “control” of the goods is obtained by the customer. By discounting the nominal amount of the contract consideration to the discount rate of the current selling price of the goods, the difference between the transaction price determined and the contract consideration of the contract committed shall be amortised within the contract period using effective interest rate method. If the Company expects that the period between when the Company transfers a promised good to a customer and when the customer pays for that good will be one year or less, the Company needs not to consider the significant financing component.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVII) Revenue (Continued)

2. Revenue recognition of the Company (Continued)

(7) *Quality assurance obligation*

According to the contractual agreement, legal provisions, etc., the Company provides quality assurance for the goods sold or assets constructed. For assurance-type quality assurance to the customers to ensure that the goods sold meet the established standards, the Company performs accounting treatment in accordance with Note “V. (XXV) Provisions”. For service-type quality assurance for a separate service provided in addition to ensuring to the customers that the goods sold meet the established standards, the Company considers it as a single performance obligation, and according to the relative proportion of the individual selling prices for providing quality assurance for goods and services, amortises part of the transaction price to the service-type quality assurance, and recognises the revenue when the customer obtains control of the service. In assessing whether the quality assurance provides a separate service in addition to ensuring to the customers that the goods sold meet the established standards, the Company considers whether the quality assurance is a statutory requirement, a quality assurance period and the nature of the Company’s commitment to perform its tasks and other factors.

(8) *Principal/agent*

For the Company to obtain control of the goods or other assets from a third party and then transfer it to the customer, the Company has the right to determine the price of the goods traded at its own discretion, that is, the Company is a principal if it controls the specified good before that good is transferred to a customer, and the revenue shall be recognised based on the total consideration received or receivable; otherwise, the Company is an agent, and the revenue shall be recognised based on the amount of commission or handling fee that is expected to be charged, and such amount shall be determined based on the net amount of the total consideration received or receivable after deducting the prices payable to other related parties or according to the established commission amount or proportion.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVII) Revenue (Continued)

2. Revenue recognition of the Company (Continued)

(9) *Change in contract*

When there is a change to the construction contract entered into between the Company and its customers:

- 1) If the change in contract adds a clearly distinguishable construction service and contract price, and the new contract price reflects the individual selling price of the new construction service, the Company will consider the change in contract as a separate contract for accounting treatment;
- 2) If the change in contract does not fall within the circumstances stated in item 1) above, and the transferred construction service and the construction service which has not been transferred can be clearly distinguished at the date of change in contract, the Company considers it as termination of the original contract, and at the same time, the non-performance part of the original contract and the modified part of the contract will be combined into a new contract for accounting treatment;
- 3) If the change in contract does not fall within the circumstances stated in item 1) above, and the transferred construction service and the construction service which has not been transferred cannot be clearly distinguished at the date of change in contract, the Company will make the modified part of the contract as an integral part of the original contract for accounting treatment, of which the impact on the recognised revenue as a result of such change will be adjusted as the revenue for the period on the date of change in contract.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVII) Revenue (Continued)

2. Revenue recognition of the Company (Continued)

(10) Franchise contract (“BOT Contract”)

The franchise activities under the BOT Contract usually include building, operation and transfer.

During the construction phase, the Company recognizes the contractual income for construction services in accordance with the accounting policy of the construction contract above and determines whether the Company is a principal or an agent in accordance with the accounting policy of the principal/agent above, and if the Company is the principal, the revenue of the construction service is recognized for performance progress. The Company recognises contract assets while recognising the revenue to the extent that it has an unconditional contractual right to receive a definite amount of cash or another financial asset from the grantor within a certain period after the completion of the infrastructure prescribed in the contract; if the Company is an agent, the construction service revenue is not recognised, and contract assets shall be recognised after considering the provisions in the contract with reference to the project consideration payable in the course of construction.

During the operation phase, the contract assets and the revenue are both recognised when services are provided and a receivable is recognised to the extent that the Company has the right to receive the consideration (such right is conditional only on the passage of time); the daily maintenance or repair costs incurred are recognised as current expenses.

(11) Build and transfer contract (“BT Contract”)

The activities under the BT Contract usually include building and transfer. For the construction services provided by the Company, during the construction phase, the relevant construction service contract revenue is recognised in accordance with the accounting policies of the construction contract mentioned above. The construction contract revenue is measured at the fair value of the consideration receivable and the “long-term receivable” is recognised by using the effective interest rate and measured at amortised cost, and is eliminated upon the receipt of payment from the owner.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVIII) Contract costs

Applicable Not applicable

Contract costs include contract performance costs and contract acquisition costs.

Costs incurred by the Company to perform a contract that are not regulated by the relevant standards, such as inventories, fixed assets or intangible assets, are recognised as a contract performance cost as an asset when the following conditions are met:

- Where such cost is directly related to a current or expected contract.
- Where such cost increases the resources of the Company for fulfilling its performance obligations in the future.
- Where such cost is expected to be recovered.

If the incremental cost of the Company is expected to be recovered, the contract acquisition cost shall be recognised as an asset.

Assets related to the contract costs are amortized on the same basis as the recognition of the revenue of the goods or services related to the asset; however, if the amortization period of the contract acquisition costs is less than one year, the Company will include such costs in the current profit or loss when incurred.

For the assets related to contract costs whose carrying amount is higher than the difference between the following two items, the Company will make provision for impairment for the excess and recognize it as asset impairment loss:

1. Where the remaining consideration is expected to be obtained by the transfer of goods or services related to the asset;
2. Where the costs are estimated to occur for the transfer of the relevant goods or services.

If the said difference is higher than the carrying amount of the asset due to changes in the impairment factors in the previous period, the originally accrued impairment reserve shall be reversed and included in the current profit or loss, but the reversed asset carrying amount shall not exceed the carrying amount of the asset on the date of reversal assuming that the impairment reserve is not accrued.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIX) Government subsidies

Applicable Not applicable

1. Type

Government subsidies are monetary assets or non-monetary assets obtained by the Company from the government for free, which are classified into government subsidies related to assets and government subsidies related to income.

Asset-related government subsidies refer to government subsidies obtained by the Company for forming long-term assets by acquisition, construction or other manners. Government subsidies related to income refer to government subsidies other than those related to assets.

2. Timing of recognition

Government subsidies shall be recognized only if the Company is able to comply with the conditions for the government subsidies, and is likely to receive the government subsidies.

3. Accounting treatment

Government subsidies related to assets shall be used to offset the carrying amount of relevant assets or recognized as deferred income. Where such subsidies are recognized as the deferred income, they will be included in current profit or loss in accordance with the reasonable and systematic methods within useful lives of related assets (where such subsidies are related to the daily activities of the Company, they will be included in other income; where such subsidies are not related to the daily activities of the Company, they will be included in non-operating income);

Government subsidies relating to income used to compensate for relevant costs or losses which will occur in the following period in the Company shall be recognized as deferred income, and, during the period when relevant costs or losses are recognized, be included in current profit or loss (where government subsidies relating to income are relevant to routine activities of the Company, such subsidies shall be included in other income; where government subsidies relating to income are irrelevant to routine activities of the Company, such subsidies shall be included in non-operating income) or used to offset relevant costs or losses; government subsidies relating to income used to compensate for relevant costs or losses incurred in the Company shall be included in current profit or loss (where such subsidies are related to daily activities of the Company, they will be included in other income; where such subsidies are unrelated to the daily activities of the Company, they will be included in non-operating income) or used to offset relevant costs or losses.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIX) Government subsidies (Continued)

3. Accounting treatment (Continued)

The Company receives the interest grants with policy reference and treats in different ways in accordance with the following situations:

- (1) If the financial authorities allocate the interest subsidies to the lending bank, and the lending bank provides the loan to the Company at the preferential interest rate according to relevant policies, the Company takes the actually received loan amount as the recorded value of the loan, and calculates the relevant borrowing costs based on the loan principal and the preferential interest rate.
- (2) If the financial authorities directly allocate the interest subsidies to the Company, the Company will offset the corresponding interest subsidies against the relevant borrowing costs.

(XXX) Deferred tax assets and deferred tax liabilities

Applicable Not applicable

Income tax includes the current income tax and deferred income tax. Except for the income tax arising from business mergers and such transactions or items as are directly included in shareholders' equity (including other comprehensive income), the Company shall include the current income tax and the deferred income tax in the current profit or loss.

Deferred tax assets and deferred tax liabilities are calculated and recognized based on differences (temporary differences) between tax base and carrying amount of the assets and liabilities.

Deferred tax assets are recognized at deductible temporary differences to the extent that it shall not exceed the taxable income probably obtained in future periods to be against the deductible temporary difference. For deductible losses and tax credits that can be carried forward to subsequent periods, the Company recognized deferred tax assets to the extent that it is probable that taxable profit will be available against which the deductible losses and tax credits can be utilized.

Taxable temporary differences are recognized as deferred tax liabilities except in special circumstances.

Such special circumstances for not recognition of deferred tax assets and deferred tax liabilities include:

- Initial recognition of goodwill;
- A transaction or event that is neither a business combination nor, when incurred, affects accounting profit and taxable income (or deductible loss).

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXX) Deferred tax assets and deferred tax liabilities (Continued)

For the taxable temporary differences related to the investments in subsidiaries, associates and joint ventures, the deferred tax liabilities should be recognized, unless that the timing of the reversal of the temporary differences is able to be controlled by the Company and the temporary differences will be probable not to be reversed in the foreseeable future. For deductible temporary differences arising from investments in subsidiaries, associates and joint ventures, when the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the deductible temporary differences can be used, the deferred tax asset will be recognized.

On the balance sheet date, deferred tax assets and deferred tax liabilities should be measured at the applicable tax rate during the period of expected recovery of the relevant assets or liquidation of the relevant assets according to the provisions of tax laws.

On the balance sheet date, the Company reviews the carrying amount of deferred tax assets. If it is unlikely to obtain sufficient taxable income taxes to offset the benefit of the deferred tax assets, the carrying amount of the deferred tax assets shall be written down. When it is likely to earn sufficient taxable income, the write-down amount should be reversed.

If the Company has the legal right of netting and intends to settle in net amount or to obtain assets and discharge liabilities simultaneously, the current tax assets and current tax liabilities of the Company shall be presented based on the net amount after offset.

On the balance sheet date, deferred tax assets and deferred tax liabilities shall be listed by the net amount after offset if:

- The taxpayer has the statutory right to settle the current tax assets and current tax liabilities with net amount;
- Deferred tax assets and deferred tax liabilities are related to the income tax which are imposed on the same taxpayer by the same tax collection authority or on different taxpayers, but, in each important future period in connection with the reverse of deferred tax assets and liabilities, the involved taxpayer intends to balance tax assets and liabilities for this period with net settlement at the time of obtaining assets and discharging liabilities, deferred tax assets and deferred tax liabilities shall be presented based on the net amount after offset.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Leases

Lease refers to a contract in which the lessor transfers the right to use the assets to the lessee within a certain period to obtain consideration. On the contract commencement date, the Company evaluates whether the contract is or includes a lease. If a party to the contract transfers the right to control the use of one or more identified assets for a certain period of time in exchange for consideration, the contract is or includes a lease.

If the contract contains multiple separate leases at the same time, the Company may split the contract, and account for each lease separately. If the contract includes both lease and non-lease parts, the lessee and the lessor shall split them.

For rent concessions such as rent concessions and deferred payments entered into in connection with existing leases that are directly triggered by the COVID-19 outbreak and that also meet the following conditions, the Company applies the simplified method to all lease options and does not assess whether a lease change has occurred or reassess the lease classification:

- The lease consideration after the reduction decreases or remains substantially unchanged from that before the concession, where the lease consideration is either undiscounted or discounted at the pre-concession discount rate;
- Other terms and conditions of the leases are determined to have not changed significantly after considering qualitative and quantitative factors together.

The above simplified method was no longer applicable as of 30 June 2022.

1. The Company as the lessee

(1) *Right-of-use assets*

At the commencement of the lease term, the Company recognizes the right-of-use assets for leases other than short-term and low-value asset leases. Right-of-use assets are initially measured at cost, which includes:

- The initial measurement amount of the lease liability;
- The lease payment made on or before the commencement of the lease term, or the relevant amount after deducting the lease incentive already enjoyed if any;
- Initial direct costs incurred by the Company;
- The Company expects to incur costs for dismantling and removing leased assets, restoring the site of the leased assets to its original condition, or restoring leased assets to their original condition, excluding costs incurred for the production of inventories.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Leases (Continued)

1. The Company as the lessee (Continued)

(1) *Right-of-use assets* (Continued)

The Company subsequently adopts the straight-line method to accrue depreciation for the right-to-use assets. If ownership of the leased assets can be obtained with reasonable certainty at the end of the lease term, the Company depreciates the leased assets over their remaining useful lives; otherwise, the leased assets are depreciated over the shorter of the lease term and the remaining useful life of the leased assets.

The Company determines whether a right-of-use asset is impaired and accounts for the identified impairment loss in accordance with the principles described in Note “V. (XX) Impairment of long-term assets.”

(2) *Lease Liabilities*

At the commencement of the lease term, the Company recognizes lease liabilities for leases other than short-term and low-value asset leases. The lease liabilities are initially measured at the present value of the unpaid lease payments. Lease payments include:

- Fixed payment (including substantial fixed payment), and the relevant amount after deducting the lease incentive if any;
- Variable lease payments depending on index or ratio;
- Estimated payments due according to the guaranteed residual value provided by the Company;
- Exercise price of the purchase option, provided that the Company reasonably determines that the option will be exercised;
- The amount to be paid for the exercise of the lease termination options, provided that the lease term reflects that the Company will exercise the options to terminate the lease;

The Company uses the interest rate implicit in lease as the discount rate, but if the interest rate implicit in the lease cannot be reasonably determined, the Company uses the incremental borrowing rate as the discount rate.

NOTES TO FINANCIAL STATEMENTS

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Leases (Continued)

1. The Company as the lessee (Continued)

(2) Lease Liabilities (Continued)

The Company calculates the interest expense of the lease liabilities in each the lease term at a fixed periodic interest rate, and includes it in the current profit or loss or related asset costs.

Variable lease payments that are not included in the lease liabilities are included in current profit or loss or related asset costs when incurred.

The Company remeasures the lease liability and adjusts the corresponding right-of-use asset if, after the lease commencement date, the following circumstances occur. If the carrying amount of the right-of-use asset is reduced to zero, but the lease liability is still subject to further reduction, the difference is recognized in profit or loss:

- When the appraisal results of the purchase option, lease renewal option or termination option change, or when the actual exercise of the aforementioned options is inconsistent with the original appraisal results, the Company re-measures the lease liability at the present value calculated by the changed lease payments and the revised discount rate;
- When there is a change in the substantive fixed payment amount, a change in the amount expected to be payable for the guaranteed residual value or a change in the index or rate used to determine the lease payment amount, the Company re-measures the lease liability at the present value calculated from the changed lease payment amount and the original discount rate. However, if the change in the lease payment amount results from a change in the floating interest rate, the present value is calculated using the revised discount rate.

(3) Short-term and low-value asset leases

The Company chooses not to recognize the right-of-use assets and lease liabilities for short-term and low-value asset leases, and includes the related lease payments in the current profit or loss or related asset costs with the straight-line method in each lease term. Short-term lease refers to a lease that lasts for no more than 12 months and includes no purchase options at the commencement of the lease term. Low-value asset lease refers to a lease with lower value when the individual leased assets are brand new assets. If the Company sublets or anticipates subletting the leased assets, the original lease is not a low-value asset lease.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Leases (Continued)

1. The Company as the lessee (Continued)

(4) Lease change

If a lease changes and meets all the following conditions, the Company will account for the lease change as a separate lease:

- The lease change expands the scope of the lease by adding one or more rights to use the leased assets;
- The increased consideration is equivalent to the individual price of the expanded part adjusted according to the contract.

If the lease change is not accounted for as a separate lease, the Company shall, on the effective date of the lease change, re-allocate the consideration of the changed contract, re-determine the lease term, and remeasure the lease liabilities at the present value calculated based on the changed lease payment and the revised discount rate.

If a lease change results in a reduction in the scope of the lease or a shortening of the lease term, the Company reduces the carrying amount of the right-of-use asset accordingly and recognizes the gain or loss related to the partial or complete termination of the lease in current profit or loss. If other lease changes result in a remeasurement of the lease liability, the Company adjusts the carrying amount of the right-of-use asset accordingly.

(5) Rent concessions related to the COVID-19 epidemic

For the adoption of the simplified method of rent concessions related to the COVID-19 epidemic, the Company does not assess whether a lease change has occurred, continues to calculate interest expense on lease liabilities at the same discount rate as before the concessions and record it in current profit or loss, and continues to depreciate right-of-use assets in the same manner as before the concessions. When a rent reduction or exemption occurs, the Company treats the reduced or exempted rent as variable lease payments and reduces the related asset cost or expense by the amount discounted at the undiscounted or pre-reduction discount rate when the original rent payment obligation is discharged, such as when a reduction agreement is reached, and adjusts the lease liability accordingly; if the rent payment is deferred, the Company reduces the lease liability recognized in prior periods when the actual payment is made. The above simplified method was no longer applicable as of 30 June 2022.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Leases (Continued)

1. The Company as the lessee (Continued)

(5) *Rent concessions related to the COVID-19 epidemic (Continued)*

For short-term leases and leases of low-value assets, the Company continues to charge the original contractual rents to the cost or expense of the related assets in a manner consistent with that before the impairment. When a rent concession occurs, the Company recognizes the reduced rent as variable lease payment and reduces the cost or expense of the related assets in the period of the reduction; when a rent payment is deferred, the Company recognizes the rent payable as a payable in the original payment period and reduces the payable recognized in prior periods when the actual payment is made.

2. The Company as lessor

On the lease commencement date, the Company divides the lease into financial lease and operating lease. Financial leasing refers to the leasing that transfers almost all the risks and returns related to the ownership of the leased asset, regardless of whether the ownership is ultimately transferred or not. The term “operating lease” refers to a lease other than a financial lease. When the Company is the sub-lessee, the sublease is classified based on the right-to-use assets generated from the original lease contract.

(1) *Accounting for operating lease*

The lease amount received under operating leases are recognized as rental income according to the straight-line method in each period of the lease term. The Company capitalizes the initial direct expenses related to operating lease and amortizes them into the current profit and loss according to the same basis as the recognition of rental income during the lease term. The variable lease payments excluded from the lease receipts shall be included in the current profits and losses when they are actually incurred. In case of any change in the operating lease, the Company will make the accounting treatment for it as a new lease from the effective date of the change, and the amount received in advance or lease receivables before the change will be regarded as the receivables from the new lease.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Leases (Continued)

2. The Company as lessor (Continued)

(2) Accounting for financial lease

On the lease commencement date, the Company recognizes the financial lease receivable and derecognizes the financial lease assets. The net investment in the lease is taken as the entry value of the financial lease receivable as the Company initially measures the financial lease receivable. The net investment in a lease is the sum of the present value of the unguaranteed residual value and future lease payments at the beginning of the lease term, discounted at the interest rate implicit in lease.

The Company calculates and recognizes the interest income of each period in the lease term according to the fixed periodic interest rate. The derecognition and impairment of financial lease receivables shall be accounted for in accordance with the requirements set out in Note “V. (X) Financial Instruments”.

The variable lease payments excluded from the measurement of net investment in lease shall be included in the current profit and loss when they are actually incurred.

If the financial lease changes and meets the following conditions at the same time, the Company will treat the change as a separate lease for accounting treatment:

- The change expands the lease scope by increasing the right-to-use of one or more leased assets;
- The increased consideration is equivalent to the individual price of the expanded part of the lease scope adjusted according to the contract conditions.

If the change of financial lease is not accounted for as a separate lease, the Company will deal with the changed lease under the following circumstances:

- If the change takes effect on the lease commencement date, the lease will be classified as an operating lease, and the Company will treat it as a new lease from the effective date of the lease change, and take the net lease investment before the effective date of the lease change as the carrying amount of the leased assets;
- If the change takes effect on the commencement date of the lease, the lease will be classified as a financial lease, and the Company will carry out accounting treatment according to the policy on modifying or renegotiating a contract set out in “Note V. (X) Financial Instruments”.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Leases (Continued)

2. The Company as lessor (Continued)

(3) *Rental concessions related to the COVID-19 pandemic*

- For operating leases that adopt the simplified methods of rental concessions related to the COVID-19 pandemic, the Company continues to recognize the original contract rent as rental income in the same way as before the concession. In the event of a rental reduction, the reduced rental is treated as variable lease payments by the Company, and the rental income will be offset during the concession period; in the event of a deferred rental collection, rent collection is recognized as receivables by the Company during the original collection period, and the previously recognized receivables will be offset when the actual collection is made.
- For finance leases that adopt the simplified methods of rental concessions related to the COVID-19 pandemic, the Company continues to calculate the interest based on the discount rate consistent with that before the concession and recognize it as rental income. In the event of a rental reduction, the reduced rental will be treated as variable lease payments by the Company. When the rent collection right is waived, such as when a reduction agreement is reached, the amount discounted at the undiscounted or pre-reduction discount rate is offset against the originally recognized lease income, and the shortfall is credited to investment income, and the finance lease receivables are adjusted accordingly. In the event of a deferred rental collection, the previously recognized finance lease receivables will be offset when the actual collection is made.

3. Sale and leaseback transaction

The Company assesses and determines whether the asset transfer in the sale and leaseback transaction is sale according to the principles set out in Note “V. (XXVII) Income”.

(1) *The Company as lessee*

If the asset transfer in the sale and leaseback transaction is a sale, the Company, as the lessee, measures the right-of-use assets according to the carrying amount of the original assets regarding the right-of-use obtained by the leaseback, and only recognizes the relevant gains or losses for the right transferred to the lessor. If the asset transfer in the sale and leaseback transaction is not a sale, the Company, as the lessee, continues to recognize the transferred assets and recognize a financial liability whose amount equal to the transferred income at the same time. For the accounting treatment of financial liabilities, please refer to Note “V. (X) Financial Instruments”.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Leases (Continued)

3. Sale and leaseback transaction (Continued)

(2) *The Company as a lessor*

If the asset transfer in the sale and leaseback transaction is considered as sales, the Company, as the lessor, shall record the asset purchase and the asset lease in accordance with the policy in the aforesaid “2. The Company as lessor.” If the asset transfer in the sale and leaseback transaction is not considered as sales, the Company, as the lessor, shall not recognize the transferred asset, but recognize an equal amount in financial assets. For the accounting treatment of financial assets, please refer to Note “V. (X) Financial Instruments”

(XXXII) Hedge Accounting

1. Classification of hedging

- (1) Fair value hedge is a hedge of the exposure to changes in fair value of a recognised asset or liability or an unrecognised firm commitment (except foreign exchange risk).
- (2) Cash flow hedge is a hedge of the exposure to variability in cash flows that is either attributable to a particular risk associated with a recognised asset or liability or a highly probable forecast transaction, or a foreign currency risk in an unrecognised firm commitment.
- (3) Hedge of a net investment in a foreign operation is a hedge of the exposure to foreign exchange risk associated with a net investment in a foreign operation. Net investment in a foreign operation is the share of interest in the net asset of the foreign operation.

2. Designation of the hedge relationship and recognition of the effectiveness of hedging

At the inception of a hedge relationship, the Company formally designates the hedge relationship and documents the hedge relationship, the risk management objective and its strategy for undertaking the hedge. The documentation includes identification of the nature and quantity of the hedging instrument, the nature and quantity of the hedged item, the nature of the risk being hedged, the type of hedging and how the Company will assess the hedging instrument’s effectiveness. Hedging instrument’s effectiveness means the degree of the change of fair value and cash flow of the hedging instrument in offsetting the exposure to changes in the hedged item’s fair value or cash flows attributable to the hedged risk.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXII) Hedge Accounting (Continued)

2. Designation of the hedge relationship and recognition of the effectiveness of hedging (Continued)

The hedge is assessed by the Company for effectiveness on an ongoing basis and judged whether it meets the requirements for the effectiveness of using hedge accounting throughout the accounting periods for which the hedging relationship was designated. Provided the discontent of the requirements, the application of a hedge shall be terminated.

The application of hedge accounting shall meet the following requirements on the effectiveness of the hedge:

- (1) There is an economic relationship between the hedged item and the hedging instrument.
- (2) The effect of credit risk does not dominate the value changes that result from that economic relationship.
- (3) The appropriate hedge ratio will not cause the imbalance of relative weight between the hedged item and the hedging instrument, thus generating accounting results inconsistent with the hedge accounting objectives. If the hedge ratio is no longer inappropriate, but the hedge risk management objectives do not change, the amount of the hedged item or the hedging instrument shall be adjusted, so that the hedge ratio can re-meet the requirements on the effectiveness.

3. Criteria for hedge accounting

(1) *Fair value hedges*

The change in the fair value of a hedging derivative is recognized in the current profit or loss. The change in the fair value of the hedged item attributable to the risk hedged is recorded as a part of the carrying amount of the hedged item and is also recognized in the current profit or loss.

For fair value hedges relating to financial instruments carried at amortized cost, the adjustment to carrying amount is amortized through the current profit or loss over the remaining term to maturity. Any adjustment to the carrying amount of a hedged financial instrument for which the effective interest method is used is amortized to the current profit or loss. Amortization may begin as soon as an adjustment exists and shall begin no later than when the hedged item ceases to be adjusted for changes in its fair value attributable to the risk being hedged.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXII) Hedge Accounting (Continued)

3. Criteria for hedge accounting (Continued)

(1) Fair value hedges (Continued)

If the hedged item is derecognized, the unamortized fair value is recognized immediately in the current profit or loss.

When an unrecognized firm commitment is designated as a hedged item, the subsequent cumulative change in the fair value of the firm commitment attributable to the hedged risk is recognized as an asset or liability with a corresponding gain or loss recognized in the current profit or loss. The changes in the fair value of the hedging instrument are also recognized in the current profit or loss.

(2) Cash flow hedges

The effective portion of the gain or loss on the hedging instrument is recognized directly as other comprehensive income, while the ineffective portion is recognized immediately in the current profit or loss.

Amounts taken to other comprehensive income are transferred to the current profit or loss when the hedged transaction affects the current profit or loss, such as when hedged financial income or financial expense is recognized or when a forecast sale occurs. Where the hedged item is the cost of a non-financial asset or nonfinancial liability, the amounts taken to other comprehensive income are transferred to the initial carrying amount of the non-financial asset or non-financial liability (or originally recognized in other comprehensive income, and transferred in the same period as the profit and loss is affected by the non-financial assets and non-financial debts, the amounts shall be included in the current profit or loss).

If the forecast transaction or firm commitment is no longer expected to occur, the amounts previously recognized in other comprehensive income are transferred to the current profit or loss. If the hedging instrument expires or is sold, terminated or exercised without replacement or rollover, or if its designation as a hedge is revoked, the amounts previously recognised in other comprehensive income remain in there until the forecast transaction or firm commitment affects the current profit or loss.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXII) Hedge Accounting (Continued)

3. Criteria for hedge accounting (Continued)

(3) *Hedges of a net investment in a foreign operation*

Hedges of a net investment in a foreign operation, including a hedge of a monetary item that is accounted for as part of the net investment, are accounted for in a similar way to cash flow hedges. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized in other comprehensive income while any gains or losses relating to the ineffective portion are recognized in the current profit or loss. On disposal of the foreign operation, the cumulative value of any such gains or losses recorded in equity is transferred to the current profit or loss.

(XXXIII) Segment Report

The Company determines operating segments based on internal organization structure, management requirements and internal reporting system, determines reporting segments based on operating segments, and disclose the information of the segments.

Operating segment refers to the component parts of the Company that meet the following conditions at the same time: (1) the component parts can generate income and incur expenses in daily activities; (2) the Company's management can regularly evaluate the operating results thereof in order to decide allocation of resources and evaluate their performance; (3) the Company can obtain relevant accounting information such as the financial status, operating results and cash flows of the component parts. If two or more operating segments have similar economic characteristics, and have met a certain condition, they will be merged into one operating segment.

(XXIV) Fair Value Measurement

The Company measures the relevant assets or liabilities at fair value based on the following assumptions:

- The sale of assets or the transfer of liabilities between market participants on the measurement date is conducted in an orderly transaction under current market conditions.
- Such orderly transaction is carried out in the principal market of relevant assets or liabilities. If the principal market does not exist, it is assumed that such transaction is carried out in the most advantageous market for relevant assets or liabilities.
- The assumption used by the market participant in order to maximize the benefits at the time of pricing such assets or liabilities.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIV) Fair Value Measurement (Continued)

According to the nature of the said transaction and the characteristic of the said assets or liabilities, the Company recognizes the transaction value as the fair value of initial recognition.

If other relevant accounting standards require or permit the Company to conduct initial measurement on the relevant assets or liabilities at the said fair value, and the transaction value is different from the fair value, the Company will include relevant gains or losses in the current profit or loss, unless otherwise specified in other relevant accounting standards.

For the measurement of non-financial assets at fair value, the capability of the market participant in bringing about economic interest via the best use of such assets, or the capability in selling such assets to the other market participant for bringing about economic interest with the best use of such assets should be taken into account

The valuation techniques which are applicable to the current situation and have sufficient usable data and other information support are taken into account by the Company for the adoption of valuation technique. Relevant observable input values are preferentially adopted for valuation techniques, and the unobservable input values can be used only when the observable input values are unable or unpractical to be obtained.

Input values used in the fair value measurement are divided into three levels:

- Level 1 input values are unadjusted quoted prices in the active market of identical assets or liabilities accessible on the measurement date.
- Level 2 input values refer to input values that are directly or indirectly observable for relevant assets or liabilities, other than Level 1 input values.
- Level 3 input values are unobservable input values for relevant assets or liabilities.

The level of the measurement result of fair value shall be subject to the lowest level which the input that is of great significance to the measurement of fair value as a whole.

The Company's assets and liabilities measured at fair value mainly include: financial assets held for trading, receivables for financing, other equity instrument investments, other non-current financial assets and financial liabilities held for trading.

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Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXV) Significant accounting judgments and estimates

The preparation of the financial statements requires management to make judgements, estimations and assumption that affect the reported amounts and disclosures of revenues, expenses, assets and liabilities, and the disclosure of contingent liabilities at the balance sheet date. However, uncertainty about these assumptions and estimations could result in outcomes that could require a material adjustment to the carrying amounts of the assets or liabilities affected in the future.

1. Judgements

In the process of applying the Company's accounting policies, management has made the following judgements which have the most significant effect on the amounts recognised in the financial statements:

(1) *Operating leases – the Group as lessor*

The Company has entered into operating leases on its investment property portfolio. The Company has determined, based on an evaluation of the terms and conditions of the arrangements, that it retains all the significant risks and rewards of ownership of these properties which are leased out on operating leases.

(2) *Determination of progress towards completion of the performance of obligations for construction contracts*

The Company uses the input method to determine the progress towards completion of the performance obligations for the construction contracts. To be specific, the Company determines the progress towards completion of the performance obligations on the basis of the percentage of the accumulative actual construction costs incurred to the expected total costs. The accumulative actual costs include the direct and indirect costs incurred during the process of transferring goods to the customers. The Company believes that the construction contract price with the customers is determined on the basis of the construction costs, and the actual construction costs as a percentage of the estimated total costs can accurately reflect the progress of the construction service. The Company determines the progress of contract performance based on the proportion of the cumulative actual construction costs to the estimated total costs, and recognizes revenue accordingly. In view of the long duration of construction contracts, which may span several accounting periods, the Company will review and revise the budget as the construction contracts progress, and adjust the income recognition amount accordingly.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXV) Significant accounting judgments and estimates (Continued)

1. Judgements (Continued)

(3) *The division of research stage and development stage of research and development project*

The Company distinguishes between the research and development stages of internal research and development projects, the research phase for original planned surveys to acquire and understand new scientific or technical knowledge, and the application of research results or other knowledge to a programme or design prior to commercial production or use to produce new or substantially improved materials, installations, products, etc.

2. Estimation uncertainty

The key assumptions concerning the future and other key sources of estimation uncertainty at the balance sheet date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the future accounting periods, are described below.

(1) *Construction contracts and labour service results*

The Company recognises revenue based on the percentage of completion of individual contracts providing construction contracts and labour services. The management estimates the percentage of project completion based on the actual costs involved in the total budgeted costs and also estimates the relevant contract revenue. Due to the nature of the activities carried out in the contracts, the dates of the activities and the dates of completion of the activities are usually classified into different accounting periods. The Company will review and revise the budget and contract cost estimates as the contracts progress (if the actual contract revenue is less than the estimated or actual contract costs, provision for the estimated contract losses is to be made).

(2) *Impairment of financial instruments and contract assets*

The Company has adopted the expected credit loss model to evaluate the impairment of financial instruments and contract assets. The application of the expected credit loss model requires significant judgement and estimates and the consideration of all reasonable and soundly based information, including forward-looking information. In making such judgement and estimates, the Company estimates the projected movements of the debtor's credit risk according to past repayment records, economic policies, macro-economic indicators and industry risks, etc. Differences in estimates may have an impact on the provision for Impairment. A provision for impairment may not be equal to the actual amount of impairment losses in the future.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXV) Significant accounting judgments and estimates (Continued)

2. Estimation uncertainty (Continued)

(3) *Impairment of non-current assets other than financial assets (excluding goodwill)*

The Company assesses whether there are any indicators of impairment for non-current assets other than financial assets as at the balance sheet date. Non-current assets other than financial assets are tested for impairment when there are indicators that the carrying amounts may not be recoverable. An impairment exists when the carrying value of an asset or asset group exceeds its recoverable amount, which is the higher of its fair value less costs to sell and its present value of future cash flows. The calculation of the fair value less costs to sell is based on available data from binding sales transactions in an arm's length transaction of similar assets or observable market prices less incremental costs for disposing of the asset. When value in use calculations are undertaken, management must estimate the expected future cash flows from the asset or asset group and choose a suitable discount rate in order to calculate the present value of those cash flows.

(4) *Impairment of goodwill*

Goodwill is tested for impairment at least annually. For the purpose of impairment testing, the present value of future cash flows, which are generated from asset groups or sets of asset groups considered together with allocated goodwill, is estimated. The Company estimates the present value of future cash flows from asset groups or sets of asset groups by forecasting the related cash flow and selecting a suitable discount rate.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXV) Significant accounting judgments and estimates (Continued)

2. Estimation uncertainty (Continued)

(5) *Impairment of inventories*

The Company determines the write-down for obsolescence of inventories. These estimates are made with reference to aged inventory analyses, projections of expected future sales of goods and management experience and judgement. Based on this review, write-down of inventories will be made when the carrying amounts of inventories decline below their estimated net realizable values. Due to changes in market conditions, actual sales of goods may be different from estimation and profit or loss in the current period could be affected by differences in this estimation.

(6) *Deferred tax assets*

Deferred tax assets are recognised for all unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilised. Significant management judgement is required to determine the amount of deferred tax assets that can be recognised, based upon the likely timing and level of future taxable profits together with future tax planning strategies.

(7) *Measurement of defined benefit scheme obligations*

The Company has recognised the supplementary retirement benefits under the defined benefit scheme as a liability. The estimated amount of these welfare expenses and liabilities shall be calculated and paid on the basis of various assumptions. These assumptions include the discount rate, the growth rate of welfare expenses during relevant period, as well as other factors. Deviations between actual results and actuarial assumptions will affect the accuracy of the relevant accounting estimates. Although the management believes that the above assumptions are reasonable, any changes in assumptions shall still affect the estimated liabilities of the relevant supplementary pension insurance and other external welfare plans.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXV) Significant accounting judgments and estimates (Continued)

2. Estimation uncertainty (Continued)

(8) *Useful lives and residual values of fixed assets*

The useful lives of fixed assets are estimated based on historical experience of the Group with similar assets used in a similar way. If useful lives of the fixed assets are estimated to be shorter than previously estimated, the Company will increase the depreciation rates accordingly, or dispose of those assets that are idle or technically obsolete.

In determining the useful lives and net residual values of fixed assets, the Company periodically reviews the changes in market conditions, estimated physical wear and tear, and the maintenance of an asset. The estimation of the useful life of the asset is based on historical experience of the Company with similar assets that are used in a similar way. The depreciation amount will be adjusted if the estimated useful lives and/or the net residual values of fixed assets are less than previous estimation. Useful lives and net residual values are reviewed, at each settlement date, based on changes in circumstances.

(9) *Lessee's incremental borrowing rate*

For a lease whose rate cannot be readily determined, the Company adopts lessee's incremental borrowing rate as the discount rate in estimating the present value of the lease payment. When determining the incremental borrowing interest rate, the Company uses the observable interest rate as a reference basis for determining the incremental borrowing rate according to the economic environment in which it is located and, on this basis, adjusts the reference interest rate according to the specific circumstances of the lease business, such as its own conditions, the underlying asset's condition, the lease term and the amount of the lease liability for obtaining an appropriate incremental borrowing rate.

(10) *Quality guarantee*

The Company will make a reasonable estimate of the warranty rate for the contract combination with similar characteristics based on historical warranty data and current warranty conditions, taking into account all relevant information such as product improvement and market changes. The estimate of the warranty rate may not be equal to the actual warranty rate in the future. The Company re-evaluates the warranty rate at least on each balance sheet date and determines the estimated liabilities based on the re-evaluated warranty rate.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVI) Changes in significant accounting policies and accounting estimates

1. Changes in major accounting policies

Applicable Not applicable

(1) Implementation of Interpretation of Accounting Standards for Business Enterprises No. 15

On 30 December 2021, the Ministry of Finance issued the Interpretation on the Accounting Standards for Business Enterprises No. 15 (Cai Kuai [2021] No. 35, hereinafter referred to as “Interpretation No. 15”).

① Accounting treatment for trial run sales

Interpretation No.15 stipulates the accounting treatment and presentation of products or by-products produced by an enterprise before a fixed asset reaches the working condition for its intended use or in the process of research and development, and stipulates that the net amount after offsetting costs by revenue related to trial run sales shall not be used to offset the costs of fixed assets or research and development expenditures. The provisions came into force from 1 January 2022, and retroactive adjustment shall be made for trial operation sales occurring between the beginning of the earliest period for presentation of financial statements and 1 January 2022.

The Company’s implementation of the provisions has no material impact on the Company’s financial position and operating results.

② Judgment on loss-making contracts

Interpretation No.15 specifies that the “contract performance costs” considered by an enterprise when determining whether a contract constitutes a loss-making contract shall include the incremental cost of performing the contract and the amortized amount of other costs directly related to the performance of the contract. The provisions came into force from 1 January 2022. Enterprises shall implement the provisions for contracts under which all obligations have not been fulfilled as at 1 January 2022. The cumulative effect shall be used to adjust to the retained earnings and other relevant financial statement items at the beginning of the year to which the implementation date belongs to, and the comparative financial statement data of prior period shall not be adjusted.

The Company’s implementation of the provisions has no impact on the Company’s financial position and operating results.

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Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVI) Changes in significant accounting policies and accounting estimates (Continued)

1. Changes in major accounting policies (Continued)

(2) *Implementation of Interpretation of Accounting Standards for Business Enterprises No. 16*

On 30 November 2022, the Ministry of Finance issued the Interpretation on the Accounting Standards for Business Enterprises No. 16 (Cai Kuai [2022] No. 31, hereinafter referred to as “Interpretation No. 16”).

- ① Accounting for the income tax impact of dividends related to financial instruments classified by the issuer as equity instruments

Interpretation No. 16 stipulates that for the financial instruments classified by an enterprise as equity instruments, where relevant dividend expenditures are deducted before enterprise income tax in accordance with relevant provisions of tax policies, the income tax impact of dividends shall be recognized when recognizing dividends payable, in the current profit or loss or owners’ equity items (including other comprehensive income) in a manner consistent with the transactions or events to generate distributable profits in the past.

The provisions were implemented from the date of its promulgation. The dividends payable arose between 1 January 2022 and the date of implementation, shall be adjusted in accordance with the provisions. The dividends payable arose before 1 January 2022 whose financial instruments involved have not been derecognized on 1 January 2022, shall be adjusted retrospectively.

The Company’s implementation of the provisions has no material impact on the Company’s financial position and operating results.

- ② Accounting for the equity-settled share-based payments to which an enterprise changes the cash-settled share-based payments

Interpretation No. 16 clarifies that if an enterprise amends the terms and conditions of the cash-settled share-based payments agreements to change it to the equity-settled share-based payments, on the amendment date (whether within the pending period or after the end thereof), the equity-settled share-based payments shall be measured at the amendment date fair value of the equity instruments granted, and the services received shall be accounted into the capital reserve. At the same time, the enterprise shall derecognize the liabilities recognized on the amendment date for the cash-settled share-based payments, and the difference thereof shall be recognized in the current profit or loss.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVI) Changes in significant accounting policies and accounting estimates (Continued)

1. Changes in major accounting policies (Continued)

(2) *Implementation of Interpretation of Accounting Standards for Business Enterprises No. 16* (Continued)

The provisions were implemented from the date of its promulgation. The transactions occurred between 1 January 2022 and the date of implementation, shall be adjusted in accordance with the provisions. The transactions occurred before 1 January 2022 that are not accounted for in accordance with the provisions, shall be adjusted retrospectively, and the enterprise shall adjust retained earnings and other related items as of 1 January 2022 for the cumulative impact, but not adjust the data in the comparative financial statements for the previous period.

The Company's implementation of the provisions has no material impact on the Company's financial position and operating results.

③ Accounting for the deferred income tax related to assets and liabilities arising from a single transaction which is not apply to the initial recognition exemption

Interpretation No. 16 stipulates that for a single transaction (including the lease transaction for which the lessee initially recognizes the lease liabilities on the beginning date of the lease term as use right assets, as well as the transaction in which provisions are recognized for fixed assets with retirement obligations as cost of such assets) that is not a business merger, does not affect either accounting profit or taxable income (or deductible loss) when occurring, and gives rise to equal taxable temporary differences and deductible temporary differences as a result of the initial recognition of its assets and liabilities, if the provisions of exemption from the initial recognition of deferred income tax liabilities and deferred income tax assets are not applicable, the enterprise shall recognize corresponding deferred income tax liabilities and deferred income tax assets, respectively, when the transaction occurs, according to the relevant provisions of Accounting Standards for Business Enterprises No. 18 – Income Tax.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVI) Changes in significant accounting policies and accounting estimates (Continued)

1. Changes in major accounting policies (Continued)

(2) *Implementation of Interpretation of Accounting Standards for Business Enterprises No. 16* (Continued)

- ③ Accounting for the deferred income tax related to assets and liabilities arising from a single transaction which is not apply to the initial recognition exemption (Continued)

The provisions will be implemented from 1 January 2023, allowing enterprises to apply early from 2022. For a single transaction that occurs between the beginning of the earliest period for the presentation of the financial statements to which the provisions are first applied and the date of implementation, and for the lease liabilities and use rights assets recognized as a result of the single transaction to which the provisions are applied at the beginning of the earliest period for the presentation of the financial statements, as well as for the provisions for retirement obligations recognized and such assets involved, if taxable temporary differences and deductible temporary differences arise, the enterprise shall make adjustment in accordance with the provisions.

The Company has implemented the provisions early from 2022, and the Company's implementation of the provisions has no material impact on the Company's financial position and operating results.

2. Changes in significant accounting estimates

- Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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VI. TAXATION

(I) Main taxes and tax rates

Main taxes and tax rates

Applicable Not applicable

Category	Tax determination basis	Tax rate (%)
Value-added tax	The VAT payable is the difference between output tax (calculated based on sales of goods and taxable service income under the tax laws) and the deductible input tax for the current period	6, 9, 13
Urban maintenance and construction tax	Levied on the basis of VAT actually paid	5, 7
Corporate income tax	Levied on the basis of taxable profits	15, 16.5, 20, 25

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VI. TAXATION (Continued)

(I) Main taxes and tax rates (Continued)

Disclosure statement of taxable entities subject to different enterprise income tax rates

Applicable Not applicable

Name of taxable entity	Income tax rate (%)
China Railway Signal & Communication International Co., Ltd. (中國通號國際有限公司)	16.5
Beijing Xiandai Signal & Communication Engineering Consultant Ltd. (北京現代通號工程諮詢有限公司)	15
Shenyang Railway Signal Co., Ltd. (瀋陽鐵路信號有限責任公司)	15
Tianjin Railway Signal Co., Ltd. (天津鐵路信號有限責任公司)	15
Xi'an Railway Signal Co., Ltd. (西安鐵路信號有限責任公司)	15
Beijing Railway Signal Co., Ltd. (北京鐵路信號有限公司)	15
Shanghai Railway Communication Co., Ltd. (上海鐵路通信有限公司)	15
Shanghai Deuta Electronic & Electrical Equipment Co., Ltd. (上海德意達電子電器設備有限公司)	15
Tianshui Railway Cable Co., Ltd. (天水鐵路電纜有限責任公司)	15
Jiaozuo Railway Cable Co., Ltd. (焦作鐵路電纜有限責任公司)	15
CRSC Research & Design Institute Group Co., Ltd. (北京全路通信信號研究設計院集團有限公司)	15
Beijing Nera Stentofon Communication Equipment Co., Ltd. (北京挪拉斯特芬通信設備有限公司)	15
CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司)	15
Shanghai China Railway Communication & Signal Testing Co., Ltd. (上海中鐵通信信號測試有限公司)	15
CRSC Wanquan Signal Equipment Co., LTD. (通號萬全信號設備有限公司)	15
CASCO Signal Ltd. (卡斯柯信號有限公司)	15
CRSC Communication & Information Group Shanghai Company Ltd. (通號通信信息集團上海有限公司)	15
CRSC Information Industry Co., Ltd. (通號信息產業有限公司)	15
Shanghai Xinhai Information Transportation Information Technology Co., Ltd. (上海新海信通信息技術有限公司)	15
Chengdu Railway Communication Equipment Co., Ltd. (成都鐵路通信設備有限責任公司)	15
CRSCE Beijing Research & Design Experiment Center Ltd. (通號工程局集團北京研究設計實驗中心有限公司)	15

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VI. TAXATION (Continued)

(I) Main taxes and tax rates (Continued)

Name of taxable entity	Income tax rate (%)
CRSC Engineering Bureau Group Information Technology Co., Ltd. (通號工程局集團建設工程有限公司)	15
CRSC Engineering Bureau Group Tianjin Equipment Engineering Ltd. (通號工程局集團天津裝備技術有限公司)	15
CRSC Institute Smart City Research & Design (通號智慧城市研究設計院有限公司)	15
CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司)	15
CRSC (Changsha) Railway Traffic Control Technology Co., Ltd. (通號(長沙)軌道交通控制技術有限公司)	15
CRSC Railway Vehicles Co., Ltd. (通號軌道車輛有限公司)	15
Beijing Guo Tie Hua Chen Communication Technology Co., Ltd. (北京國鐵華晨通信科技有限公司)	15
Changsha Architectural Design Institute Co., Ltd. (長沙市建築設計院有限責任公司)	15
CRSC Guangdong-Hong Kong-Macao (Guangzhou) Transportation Technology Co., Ltd. (通號粵港澳(廣州)交通科技有限公司)	15
CRSC Engineering Group Electric Engineering Co., Ltd. (通號工程局集團電氣工程有限公司)	15
CRSC Hezhou Assembly Construction Co., Ltd. (賀州通號裝配式建築有限公司)	15
Xi'an Quanlutonghao Equipment Research Co., Ltd. (西安全路通號器材研究有限公司)	15
Xi'an Tonghao Railway Signal Product Inspection Station Co., Ltd. (西安通號鐵路信號產品檢驗站有限公司)	20
Kunming Zhongtie Innovation Construction Project Management Ltd. (昆明中鐵創新建設項目管理有限公司)	20
CASCO (Xi'an) Co., Ltd. (卡斯柯(西安)有限公司)	20
CASCO (Wuhan) Co., Ltd. (卡斯柯(武漢)有限公司)	20

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VI. TAXATION (Continued)

(II) Tax preference

Applicable Not applicable

1. Refund-upon-collection policy for VAT for software enterprises

According to the Notice of the State Council on Issuing Several Policies on Further Encouraging the Development of the Software and Integrated Circuit Industries (Guo Fa [2011] No. 4) issued by the State Council, CRSC Research & Design Institute Group Co., Ltd., CASCO Signal Ltd., CRSC Communication & Information Group Company Ltd., and CRSC Wanquan Signal Equipment Co., LTD. enjoy the refund-upon-collection policy for the portion of VAT exceeding 3% for software enterprises.

2. Tax preferential policy for high-new technology enterprises

Beijing Xiandai Signal & Communication Engineering Consultant Ltd. applied and was finally recognised as a high-new technology enterprise in 2014. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 21 October 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

Shenyang Railway Signal Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in July 2021, and obtained the updated high-new technology enterprise certificate on 14 December 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Tianjin Railway Signal Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 9 October 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Xi'an Railway Signal Co., Ltd. applied in 2015 and was finally recognised as a high-new technology enterprise. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 17 December 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. Tax preferential policy for high-new technology enterprises (Continued)

Beijing Railway Signal Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 2 December 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

Shanghai Railway Communication Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 12 November 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

Shanghai Deuta Electronic & Electrical Equipment Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 13 September 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Tianshui Railway Cable Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 16 September 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Jiaozuo Railway Cable Co., Ltd. was finally recognised as a high-new technology enterprise in 2013. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2019, and obtained the updated high-new technology enterprise certificate on 3 December 2019. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2019 to 2021. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and still paid enterprise income tax at the preferential tax rate of 15% in 2022.

CRSC Research & Design Institute Group Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 2 December 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

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VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. Tax preferential policy for high-new technology enterprises (Continued)

Beijing Nera Stentofon Communication Equipment Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 2 December 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

CRSC Communication & Information Group Company Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 2 December 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

Shanghai China Railway Communication & Signal Testing Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2015. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 18 November 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CRSC Wanquan Signal Equipment Co., LTD. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 16 December 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CASCO Signal Ltd. applied and was finally recognised as a high-new technology enterprise in 2014. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 12 November 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

CRSC Communication & Information Group Shanghai Company Ltd. applied and was finally recognised as a high-new technology enterprise in 2014. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 18 November 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. Tax preferential policy for high-new technology enterprises (Continued)

CRSC Information Industry Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2015. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 25 October 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Shanghai Xinhai Information Transportation Information Technology Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2016. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2019, and obtained the updated high-new technology enterprise certificate on 28 October 2019. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2019 to 2021. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and paid enterprise income tax at the preferential tax rate of 15% in 2022.

Chengdu Railway Communication Equipment Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2014. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 11 September 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

CRSCE Beijing Research & Design Experiment Center Ltd. applied and was finally recognised as a high-new technology enterprise in 2015. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 21 December 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CRSC Engineering Bureau Group Construction Engineering Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2016. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and obtained the updated high-new technology enterprise certificate on 18 October 2022. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2022 to 2024.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. Tax preferential policy for high-new technology enterprises (Continued)

CRSC (Changsha) Rail Transit Control Technology Company Limited applied and was finally recognised as a high-new technology enterprise in 2017. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020 and obtained the updated high-new technology enterprise certificate on 11 September 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

CRSC Engineering Bureau Group Tianjin Equipment Engineering Ltd. applied and was finally recognised as a high-new technology enterprise in 2016. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and obtained the updated high-new technology enterprise certificate on 15 November 2022. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2022 to 2024.

CRSC Institute of Smart City Research & Design applied and was finally recognised as a high-new technology enterprise in 2018. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 25 October 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CRSC Railway Vehicles Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2019. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2019 to 2021. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022 and was included in the filing list of second batch of high-new technology enterprise accredited by the Hunan Provincial Accreditation Authority in 2022 (date of issuance: 12 December 2022).

Beijing Guo Tie Hua Chen Communication Technology Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

CRSC Urban Rail Transit Technology Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. Tax preferential policy for high-new technology enterprises (Continued)

Changsha Architectural Design Institute Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

CRSC Guangdong-Hong Kong-Macao (Guangzhou) Transportation Technology Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

CRSC Engineering Group Electric Engineering Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2015. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 9 October 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CRSC Hezhou Assembly Construction Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022.

3. Preferential taxation policies for the western development strategy

According to the Announcement of the Ministry of Finance, the State Taxation Administration and the National Development and Reform Commission on Continuation of the Enterprise Income Tax Policies of Western Development (MOF Announcement [2020] No.23), from 1 January 2021 to 31 December 2030, an enterprise in western area engaged in industries encouraged is subject to the enterprise income tax rate of 15%. Xi'an Railway Signal Co., Ltd. and Xi'an Quanlutonghao Equipment Research Co., Ltd. are eligible for the preferential tax policies related to the western development strategy.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VI. TAXATION (Continued)

(II) Tax preference (Continued)

4. Preferential taxation policies for small low-profit enterprises

According to the Announcement of the State Administration of Taxation on Issues Concerning the Implementation of Preferential Income Tax Policies to Support the Development of Small Low-Profit Enterprises and Individual Business (SAT Announcement [2021] No. 8) and Announcement of the Ministry of Finance and the State Administration of Taxation on Further Implementing the Preferential Income Tax Policies for Small and Micro Enterprises (Announcement No. 13 [2022] of the MOF and the SAT), from 1 January 2022 to 31 December 2024, the portion of annual taxable income of a small low-profit enterprise which does not exceed RMB1 million shall be calculated at a reduced rate of 12.5% as taxable income amount and shall be subject to EIT at 20% tax rate. The portion of annual taxable income of a small low-profit enterprise which exceeds RMB1 million but does not exceed RMB3 million shall be calculated at a reduced rate of 25% as taxable income amount and shall be subject to EIT at 20% tax rate. Xi'an Tonghao Railway Signal Product Inspection Station Co., Ltd., Kunming Zhongtie Innovation Construction Project Management Ltd., CASCO (Xi'an) Co., Ltd. (卡斯柯(西安)有限公司) and CASCO (Wuhan) Co., Ltd. (卡斯柯(武汉)有限公司) were eligible for the preferential tax policies for small low-profit enterprises.

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS

(I) Cash and bank balances

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Cash on hand	567,662.59	455,141.96
Bank deposits	21,816,914,263.80	22,481,508,143.11
Other monetary funds	397,889,411.42	500,621,987.32
Total	22,215,371,337.81	22,982,585,272.39
Including: Total amount deposited abroad	222,080,697.67	1,075,162,755.53
Deposits with finance companies		

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(I) Cash and bank balances (Continued)

The relationship between the Company's monetary funds and cash and cash equivalents is as follows:

Item	Closing balance	Balance at the end of the last year
Closing balance of monetary funds for the period/year	22,215,371,337.81	22,982,585,272.39
Less: Non-pledged/secured and unrestricted time deposits with maturity of three months or above	4,516,562,880.55	4,886,239,178.33
Less: Restricted monetary funds	457,150,025.99	500,621,987.32
Closing balance of cash and cash equivalents for the period/year	<u>17,241,658,431.27</u>	<u>17,595,724,106.74</u>

Note: As at 31 December 2022, the Company's cash and bank balances deposited abroad were RMB222,080,697.67. (31 December 2021: RMB1,075,162,755.53).

As at 31 December 2022, the Company's restricted cash and bank balances were RMB457,150,025.99. (31 December 2021: RMB500,621,987.32), please see Note "VII. (LXXXI)".

Interest income from demand deposits is earned at the bank's interest rate on the demand deposits. The Company determines the period of maturity of short-term time deposit on the basis of its needs for cash and earns the interest income at the bank's corresponding interest rate on the time deposits.

(II) Held-for-trading financial assets

Applicable Not applicable

(III) Derivative financial assets

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IV) Notes receivable

1. Classified presentation of notes receivable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Commercial acceptance notes	1,719,529,983.55	
Less: provision for bad debt	5,158,589.95	
Total	<u>1,714,371,393.60</u>	

2. Notes receivable pledged by the Company at the end of the period

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount pledged at the end of the period
Commercial acceptance notes	<u>218,610,572.55</u>
Total	<u>218,610,572.55</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IV) Notes receivable (Continued)

3. Notes receivable endorsed or discounted by the Company at the end of the period and not yet due on the balance sheet date

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount derecognized at the end of the period	Amount not derecognized at the end of the period
Commercial acceptance notes		604,494,019.30
Total		604,494,019.30

4. Notes transferred to accounts receivable by the Company due to the drawer's failure to perform the contract at the end of the period

Applicable Not applicable

5. Disclosure by classification with the method of provision of bad debts

Applicable Not applicable

Single provision for bad debt:

Applicable Not applicable

Provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IV) Notes receivable (Continued)

6. Provision for bad debt

Applicable Not applicable

7. Write-off of notes receivable for the period

Applicable Not applicable

Other explanation

Applicable Not applicable

(V) Accounts receivable

1. Disclosure by ageing based on the dates of invoice

Applicable Not applicable

Unit: Yuan Currency: RMB

Ageing	Closing gross carrying amount
Within 1 year	16,343,582,721.33
1 to 2 years	4,109,998,298.01
2 to 3 years	1,718,830,007.62
Over 3 years	1,714,307,866.33
Subtotal	23,886,718,893.29
Less: Provision for bad debt	<u>1,214,637,695.74</u>
Total	<u><u>22,672,081,197.55</u></u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

2. Disclosure by the method of provision of bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

Category	Closing gross carrying amount		Closing provision for bad debt		Closing book value	Closing gross carrying amount		Closing provision for bad debt		Opening Book value
	Amount		Percentage of			Amount		Percentage of		
	Amount	Proportion (%)	Amount	provision (%)		Amount	Proportion (%)	Amount	provision (%)	
Single provision for bad debt	676,351,805.51	2.83	62,885,832.31	9.30	613,465,973.20	1,083,646,735.75	5.24	64,217,847.44	5.93	1,019,428,888.31
Provision withdrawn for bad debt on a combination basis	23,210,367,087.78	97.17	1,151,751,863.43	4.96	22,058,615,224.35	19,614,448,882.00	94.76	780,120,452.03	3.98	18,834,328,429.97
Total	23,886,718,893.29	100.00	1,214,637,695.74		22,672,081,197.55	20,698,095,617.75	100.00	844,338,299.47		19,853,757,318.28

Single provision for bad debt:

Applicable Not applicable

31 December 2022

Unit: Yuan Currency: RMB

Name	Closing balance			
	Gross carrying amount	Provision for bad debt	Percentage of provision (%)	Reasons for provision
Single provision for bad debt	676,351,805.51	62,885,832.31	9.30	Note
Total	676,351,805.51	62,885,832.31	9.30	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

2. Disclosure by the method of provision of bad debts (Continued)

31 December 2021

Name	Closing balance			
	Gross carrying amount	Provision for bad debt	Percentage of provision (%)	Reasons for provision
Single provision for bad debt	<u>1,083,646,735.75</u>	<u>64,217,847.44</u>	<u>5.93</u>	<u>Note</u>
Total	<u><u>1,083,646,735.75</u></u>	<u><u>64,217,847.44</u></u>	<u><u>5.93</u></u>	<u><u>/</u></u>

Descriptions of single provision for bad debt:

Applicable Not applicable

Note: The Company shall make provision for bad debts in whole or in part based on its aging and business conditions with other companies.

Provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

2. Disclosure by the method of provision of bad debts (Continued)

Applicable Not applicable

Items of provision on group basis: accounts receivable for which provision for bad debt based on a combination basis by credit risk characteristics

31 December 2022

Unit: Yuan Currency: RMB

Name	Closing balance		
	Accounts receivable	Provision for bad debt	Percentage of provision (%)
Within 1 year	16,069,742,935.48	80,348,714.68	0.50
1 to 2 years	3,996,658,079.58	199,832,903.97	5.00
2 to 3 years	1,682,936,273.45	168,293,627.34	10.00
Over 3 years	1,461,029,799.27	703,276,617.44	48.14
Total	<u>23,210,367,087.78</u>	<u>1,151,751,863.43</u>	<u>/</u>

31 December 2021

Unit: Yuan Currency: RMB

Name	Closing balance		
	Accounts receivable	Accounts receivable	Accounts receivable
Within 1 year	14,497,625,107.33	72,488,125.54	0.50
1 to 2 years	2,952,585,283.00	147,629,264.15	5.00
2 to 3 years	1,189,485,334.89	118,948,533.49	10.00
Over 3 years	974,753,156.78	441,054,528.85	45.25
Total	<u>19,614,448,882.00</u>	<u>780,120,452.03</u>	<u>/</u>

Recognition standards and descriptions of provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

2. Disclosure by the method of provision of bad debts (Continued)

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

3. Provision for bad debt

Applicable Not applicable

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Single provision for bad debt	64,217,847.44	13,498,918.88	5,459,094.01	9,371,840.00	62,885,832.31
Provision withdrawn for bad debt on a combination basis by credit risk characteristics	780,120,452.03	372,697,329.41		1,364,102.83	1,151,751,863.43
Total	<u>844,338,299.47</u>	<u>386,196,248.29</u>	<u>5,459,094.01</u>	<u>10,735,942.83</u>	<u>1,214,637,695.74</u>

Significant amounts recovered or reversed to bad debts in the period:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

4. Write-off of accounts receivable for the period

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Write-off amount
Accounts receivable actually written off	<u>10,735,942.83</u>

Write-off of other significant accounts receivable

Applicable Not applicable

Explanation on the write-off of accounts receivable:

Applicable Not applicable

5. Top five accounts receivable by closing balance of debtors

Applicable Not applicable

31 December 2022

The total amount of top five accounts receivable by closing balance of debtors amounted to RMB1,768,639,080.02 in total, accounting for 7.40% of the total closing balance of accounts receivable. The closing balance of the corresponding provision for bad debt amounted to RMB212,138,690.14 in total.

31 December 2021

The total amount of top five accounts receivable by closing balance of debtors amounted to RMB1,957,739,664.24 in total, accounting for 9.46% of the total closing balance of accounts receivable. The closing balance of the corresponding provision for bad debt amounted to RMB130,774,379.03 in total.

6. Accounts receivable derecognized due to the transfer of financial assets

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

7. Amount of assets and liabilities resulting from transfer of accounts receivable and its continuing involvement

Applicable Not applicable

Other explanation:

Applicable Not applicable

As at 31 December 2022, the Company's gross book value of accounts receivable of RMB465,060,456.80 and gross carrying amount of other non-current assets of RMB4,728,042,641.60 (31 December 2021: other non-current assets of RMB4,426,249,414.22, accounts receivable of RMB201,458,572.34), which were formed by the earning rights of the franchise pledged and all proceeds thereunder, were used to obtain long-term loans of RMB3,464,075,719.17 (31 December 2021: RMB2,336,791,575.20), please refer to "Note VII (LXXXI)" for details.

(VI) Receivable for financing

Applicable Not applicable

1. Receivable for financing

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Bank acceptance bills	652,778,029.27	685,394,281.11
Commercial acceptance bills		1,079,909,469.63
Other credit instruments measured at fair value through other comprehensive income	396,187,742.58	377,689,363.26
Total	1,048,965,771.85	2,142,993,114.00

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VI) Receivable for financing (Continued)

2. Notes receivable pledged by the Company at the end of the period

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Bank acceptance bills	34,059,394.86	8,875,684.59
Commercial acceptance bills		40,000,000.00
Total	<u>34,059,394.86</u>	<u>48,875,684.59</u>

3. Notes receivable endorsed or discounted by the Company at the end of the period and not yet due on the balance sheet date

Unit: Yuan Currency: RMB

Item	At the end of period		At the beginning of period	
	Derecognised	Not derecognised	Derecognised	Not derecognised
Bank acceptance bills	517,617,447.59	123,779,958.94	466,753,794.07	179,573,211.17
Commercial acceptance bills				270,243,426.09
Total	<u>517,617,447.59</u>	<u>123,779,958.94</u>	<u>466,753,794.07</u>	<u>449,816,637.26</u>

The increase/decrease and fair value change of receivables for financing in the period:

Applicable Not applicable

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VII) Prepayments

1. Prepayments set out by aging

Applicable Not applicable

Unit: Yuan Currency: RMB

Aging	Closing balance		Opening balance	
	Amount	Amount Proportion (%)	Amount	Amount Proportion (%)
Within 1 year	922,232,174.09	81.22	740,701,431.28	81.53
1 to 2 years	80,771,114.32	7.11	93,202,191.91	10.26
2 to 3 years	74,723,420.69	6.58	38,248,853.77	4.21
Over 3 years	57,803,886.19	5.09	36,359,377.87	4.00
Total	<u>1,135,530,595.29</u>	<u>100.00</u>	<u>908,511,854.83</u>	<u>100.00</u>

2. Top five prepayments by closing balance of prepaid parties

Applicable Not applicable

31 December 2022

The total amount of top five prepayments by closing balance of prepaid parties amounted to RMB235,149,747.35, accounting for 20.71% of the closing balance of the total prepayments.

31 December 2021

The total amount of top five prepayments by closing balance of prepaid parties amounted to RMB173,030,500.19, accounting for 19.05% of the closing balance of the total prepayments.

Other explanation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Interests receivable	3,628,769.52	
Dividends receivable	6,075,000.00	6,525,000.00
Other receivables	1,569,685,535.44	1,087,070,430.95
Total	1,579,389,304.96	1,093,595,430.95

Other explanation:

Applicable Not applicable

Interest receivable

1. Classification of interest receivable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Time deposits	3,184,111.13	
Entrusted loans		
Bond investment		
others	444,658.39	
Less: Provision for bad debt		
Total	3,628,769.52	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

2. Significant overdue interest

Applicable Not applicable

3. Provision for bad debt

Applicable Not applicable

Other explanation:

Applicable Not applicable

Dividends receivable

1. Dividends receivable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item (or investee)	Closing balance	Opening balance
Siemens Signalling Company Ltd. (西門子信號有限公司)	6,075,000.00	6,525,000.00
Total	6,075,000.00	6,525,000.00

2. Significant dividends receivable aging over 1 year

Applicable Not applicable

3. Provision for bad debt

Applicable Not applicable

Other explanation:

Applicable Not applicable



NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

Other receivables

1. Disclosure by ageing

Applicable Not applicable

Unit: Yuan Currency: RMB

Aging	Closing book balance
Within 1 year	802,293,479.43
1 to 2 years	203,244,683.38
2 to 3 years	115,315,539.90
Over 3 years	614,980,469.57
Subtotal	1,735,834,172.28
Less: Provision for bad debt	<u>166,148,636.84</u>
Total	<u><u>1,569,685,535.44</u></u>

2. Classified by nature

Applicable Not applicable

Unit: Yuan Currency: RMB

Nature of accounts	Closing book balance	Opening Book balance
Performance and tender bonds	1,131,203,828.85	574,478,299.28
Advance payments	172,895,626.84	305,462,203.46
Various deposits	119,739,953.20	125,469,060.56
Others	311,994,763.39	202,514,091.06
Sub-total	1,735,834,172.28	1,207,923,654.36
Less: provision for bad debts of other receivables	<u>166,148,636.84</u>	<u>120,853,223.41</u>
Total	<u><u>1,569,685,535.44</u></u>	<u><u>1,087,070,430.95</u></u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

3. Provision for bad debt

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

	Stage 1 12-month ECL	Stage 2 Lifetime ECL (non-credit impaired)	Stage 3 Lifetime ECL (credit-impaired)	Total
Provision for bad debt				
Amounts due as at				
1 January 2022	31,685,499.23	18,477,101.40	70,690,622.78	120,853,223.41
Amounts due for the period as at				
1 January 2022	-7,622,448.03	-6,325,808.66	13,948,256.69	
– Transferred to stage 2	-4,471,638.28	4,471,638.28		
– Transferred to stage 3	-3,150,809.75	-10,797,446.94	13,948,256.69	
Provision for the period	-10,665,744.16	2,840,320.13	53,196,285.34	45,370,861.31
Reversal for the period			-20,063.90	-20,063.90
Cancellation for the period			-55,383.98	-55,383.98
Other changes				
Amounts as at				
31 December 2022	<u>13,397,307.04</u>	<u>14,991,612.87</u>	<u>137,759,716.93</u>	<u>166,148,636.84</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

3. Provision for bad debt (Continued)

2021

Unit: Yuan Currency: RMB

	Stage 1	Stage 2	Stage 3	
	12-month ECL	Lifetime ECL (non-credit impaired)	Lifetime ECL (credit-impaired)	Total
Provision for bad debt				
Amounts as at				
1 January 2021	43,195,172.95	18,646,010.20	65,884,063.10	127,725,246.25
Amounts due for the period as at				
1 January 2021	-11,247,930.40	-7,398,079.80	18,646,010.20	
- Transferred to stage 1				
- Transferred to stage 2	-11,247,930.40	11,247,930.40	-	-
- Transferred to stage 3	-	-18,646,010.20	18,646,010.20	-
Provision for the period	6,151,714.68	7,229,171.00	26,452,873.88	39,833,759.56
Reversal for the period	-6,413,458.00	-	-	-6,413,458.00
Cancellation for the period	-	-	-40,292,324.40	-40,292,324.40
Amounts as at				
31 December 2021	<u>31,685,499.23</u>	<u>18,477,101.40</u>	<u>70,690,622.78</u>	<u>120,853,223.41</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

3. Provision for bad debt (Continued)

Explanation about obvious changes in gross carrying amounts of other receivables for which loss provision has changed in the period:

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

	Stage 1 12-month ECL	Stage 2 Lifetime ECL (non-credit impaired)	Stage 3 Lifetime ECL (credit-impaired)	Total
Amounts as at				
1 January 2022	1,098,891,380.93	36,232,060.42	72,800,213.01	1,207,923,654.36
Amounts due for the period as at				
1 January 2022	-57,575,105.12	10,013,617.25	47,561,487.87	
- Transferred to stage 1				
- Transferred to stage 2	-35,066,581.95	35,066,581.95		
- Transferred to stage 3	-22,508,523.17	-25,052,964.70	47,561,487.87	
Increase for the period	802,293,479.43		374,028,616.92	1,176,322,096.35
Derecognized	-648,356,194.45		-55,383.98	-648,411,578.43
Cancellation for the period				
Amounts as at				
31 December 2022	<u>1,195,253,560.79</u>	<u>46,245,677.67</u>	<u>494,334,933.82</u>	<u>1,735,834,172.28</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

3. Provision for bad debt (Continued)

2021

Unit: Yuan Currency: RMB

	Stage 1 12-month ECL	Stage 2 Lifetime ECL (non-credit impaired)	Stage 3 Lifetime ECL (credit-impaired)	Total
Amounts as at				
1 January 2021	1,495,263,496.53	23,307,512.74	71,390,615.67	1,589,961,624.94
Amounts due for the period as at				
1 January 2021	-54,626,469.42	12,924,547.68	41,701,921.74	
- Transferred to stage 2	-36,232,060.42	36,232,060.42	-	-
- Transferred to stage 3	-18,394,409.00	-23,307,512.74	41,701,921.74	-
Increase for the period	630,626,810.21	-	-	630,626,810.21
Derecognized	-972,372,456.39	-	-	-972,372,456.39
Cancellation for the period	-	-	-40,292,324.40	-40,292,324.40
Amounts as at				
31 December 2021	<u>1,098,891,380.93</u>	<u>36,232,060.42</u>	<u>72,800,213.01</u>	<u>1,207,923,654.36</u>

Amount of provision for bad debt for the period and basis for evaluating whether credit risk of financial instruments increase significantly:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

4. Provision for bad debt

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Changes in bad debts	120,853,223.41	45,370,861.31	20,063.90	55,383.98	166,148,636.84
Total	120,853,223.41	45,370,861.31	20,063.90	55,383.98	166,148,636.84

2021

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Changes in bad debts	127,725,246.25	39,833,759.56	6,413,458.00	40,292,324.40	120,853,223.41
Total	127,725,246.25	39,833,759.56	6,413,458.00	40,292,324.40	120,853,223.41

Including significant amounts of provision for bad debts recovered or reversed in the period:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

5. Write-off of other receivables for the period

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Write-off amount
Other receivables actually written off	<u>55,383.98</u>

Write-off of other significant receivables:

Applicable Not applicable

Explanation on the write-off of other receivables:

Applicable Not applicable

6. Top five debtors with the largest closing balance of other receivables

Applicable Not applicable

31 December 2022

The total amount of top five debtors with the largest closing balance of other receivables amounted to RMB600,237,485.61 in total, accounting for 34.58% of the total closing balance of other receivables. The closing balance of the corresponding provision for bad debt amounted to RMB75,864,312.08 in total.

31 December 2021

The total amount of top five debtors with the largest closing balance of other receivables amounted to RMB185,147,731.52 in total, accounting for 15.33% of the total closing balance of other receivables. The closing balance of the corresponding provision for bad debt amounted to RMB728,796.04 in total.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

7. Receivables involving government subsidies

Applicable Not applicable

8. Other receivables derecognized due to the transfer of financial assets

Applicable Not applicable

9. Amount of assets and liabilities resulting from transfer of other receivables and its continuing involvement

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IX) Inventories

1. Inventories classification

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for decline in value of inventories/ provision for impairment of contract performance cost	Carrying amount	Gross carrying amount	Provision for decline in value of inventories/ provision for impairment of contract performance cost	Carrying amount
Raw materials	1,022,956,286.06	5,316,687.27	1,017,639,598.79	949,223,792.88	5,362,466.80	943,861,326.08
Work-in progress	689,701,874.24	224,483.41	689,477,390.83	675,132,893.24	252,878.98	674,880,014.26
Finished goods	665,793,212.24	847.85	665,792,364.39	864,524,012.79	847.85	864,523,164.94
Turnover materials	5,854,306.22		5,854,306.22	9,488,266.30	299.08	9,487,967.22
Total	2,384,305,678.76	5,542,018.53	2,378,763,660.23	2,498,368,965.21	5,616,492.71	2,492,752,472.50

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IX) Inventories (Continued)

2. Provision for decline in value of inventories and provision for impairment of contract performance cost

Applicable Not applicable

Unit: Yuan Currency: RMB

Item in 2022	Opening balance	Increase during the period		Decrease during the period		Closing balance
		Provision	Others	Reversal or write-off	Others	
Raw materials	5,362,466.80			45,779.53		5,316,687.27
Work-in progress	252,878.98			28,395.57		224,483.41
Finished goods	847.85					847.85
Turnover materials	299.08			299.08		
Total	5,616,492.71			74,474.18		5,542,018.53

Unit: Yuan Currency: RMB

Item in 2021	Opening balance	Increase during the period		Decrease during the period		Closing balance
		Provision	Others	Reversal or write-off	Others	
Raw materials	5,782,725.14	-	-	420,258.34	-	5,362,466.80
Work-in progress	335,739.16	-	-	82,860.18	-	252,878.98
Finished goods	49,216.54	-	-	48,368.69	-	847.85
Turnover materials	788.27	-	-	489.19	-	299.08
Total	6,168,469.11	-	-	551,976.40	-	5,616,492.71

3. Explanation about inclusion of capitalized amount of the borrowing cost in the closing balance of inventories

Applicable Not applicable

4. Explanation about current amortization amount of contract performance cost

Applicable Not applicable

Other explanation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(X) Contract assets

1. Information of contract assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for impairment	Carrying amount	Gross carrying amount	Provision for impairment	Carrying amount
Completed but not yet settled	38,763,141,992.34	146,053,665.31	38,617,088,327.03	37,501,436,001.48	183,186,502.16	37,318,249,499.32
Total	<u>38,763,141,992.34</u>	<u>146,053,665.31</u>	<u>38,617,088,327.03</u>	<u>37,501,436,001.48</u>	<u>183,186,502.16</u>	<u>37,318,249,499.32</u>

2. Amount of and reason for significant change in carrying amount within the Reporting Period

Applicable Not applicable

3. Provision for impairment of contract assets in the period

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Provision for the period	Reversal for the period	Cancellation or write-off for the period	Others	Reason
Completed but not yet settled	-37,155,672.08			22,835.23	
Total	<u>-37,155,672.08</u>			<u>22,835.23</u>	

Notes: (1) Contract assets of the Company are derived from provision of construction services to customers and recognition of revenue over a period of time. At time of settlement of project-related payments, any such contract asset turns into the unconditional right to collect payments and is transferred into the receivables.

(2) As at 31 December 2022, the expected credit loss rate of the contract assets was 0.38% (31 December 2021: 0.49%)

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(X) Contract assets (Continued)

3. Provision for impairment of contract assets in the period (Continued)

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

Other explanation:

Applicable Not applicable

(XI) Assets held for sale

Applicable Not applicable

(XII) Non-current assets due within one year

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Project quality deposit due within one year	104,421,906.64	52,948,266.17
Less: Provision for bad debt	-169,369.27	-33,345.57
Total	<u>104,252,537.37</u>	<u>52,914,920.60</u>

Significant debt investments and other debt investments at the end of the period:

Not applicable Not applicable

Other explanation

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XIII) Other current assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
VAT input to be deducted	903,887,537.87	1,163,971,696.57
Prepaid corporate income tax	42,026,337.76	16,133,725.80
Others	8,302,340.53	7,071,243.44
Total	954,216,216.16	1,187,176,665.81

(XIV) Debt investment

1. Information of debt investment

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for impairment	Carrying amount	Gross carrying amount	Provision for impairment	Carrying amount
Shandong Railway Development Fund Co., Ltd. (山東鐵路發展基金有限公司)	273,172,183.50		273,172,183.50	273,172,183.50	-	273,172,183.50
Total	273,172,183.50		273,172,183.50	273,172,183.50	-	273,172,183.50

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XIV) Debt investment (Continued)

1. Information of debt investment (Continued)

Note: The Company completed its investment in Shandong Railway Development Fund Co., Ltd. On 28 January 2019, with the investment return to be paid by Shandong Development Fund as per 10% off the benchmark interest rate for more-than-5-year loans issued by PBOC (the prevailing interest rate $4.9\% \times 0.9 = 4.41\%$), and the interest was commenced on a phased basis from the date on which such investment capital was received, subject to adjustment according to interest rate of the central bank in the end period. At the end of the tenth anniversary of the date on which the project cooperation is commenced (i.e., 28 January 2029), Shandong Railway Development Fund Co., Ltd. will receive the equity equivalent to the Company's original capital contribution in lump sum. Therefore, the Company mainly holds the investment for the purpose of obtain contractual cash flows, and cash flows generated on specific dates are solely for the payment of the investment principal and interests incurred from the outstanding amount, and they fall into financial assets measured at amortized cost, therefore, the investment is stated as debt investment.

The Company has assessed that its credit risk has not significantly increased since the initial recognition on the balance sheet date, therefore the Company did not make provision for impairment according to the amount equivalent to the ECL for the next 12 months.

2. Significant debt investments at the end of the period

Applicable Not applicable

3. Provision for impairment

Applicable Not applicable

Amount of provision for impairment for the period and basis for evaluating whether credit risk of financial instruments increase significantly

Applicable Not applicable

Other explanation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XV) Other debt investment

1. Other debt investment

Applicable Not applicable

2. Other significant debt investments at the end of the period

Applicable Not applicable

3. Provision for impairment

Applicable Not applicable

Amount of provision for impairment for the period and basis for evaluating whether credit risk of financial instruments increase significantly

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVI) Long-term receivables

1. Long-term receivables

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance			Discount rate
	Gross carrying amount	Provision for bad debt	Carrying amount	Gross carrying amount	Provision for bad debt	Carrying amount	
Receivables of "Build-Transfer" project (Note)	265,179,426.54	1,177,508.91	264,001,917.63	118,805,273.89	-594,026.37	118,211,247.52	
Project receivables	<u>5,818,505,120.67</u>	<u>172,550,771.54</u>	<u>5,645,954,349.13</u>	<u>3,608,773,013.19</u>	<u>-13,249,352.51</u>	<u>3,595,523,660.68</u>	
Total	<u>6,083,684,547.21</u>	<u>173,728,280.45</u>	<u>5,909,956,266.76</u>	<u>3,727,578,287.08</u>	<u>-13,843,378.88</u>	<u>3,713,734,908.20</u>	/

Note: The Company signed repurchase agreements in relation to municipal engineering investment and construction with the relevant government bodies, under which those bodies authorize companies of the Company undertaking "build-transfer" projects to implement the investment and -financing functions on their behalf to develop municipal projects. Those companies shall, after the completion of the "build-transfer" projects, hand over the projects to such bodies, and then such bodies shall pay the repurchase price within the time limit specified in the repurchase agreement.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVI) Long-term receivables (Continued)

2. Provision for bad debt

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Provision for bad debt	13,843,378.88	159,884,901.57			173,728,280.45
Total	13,843,378.88	159,884,901.57			173,728,280.45

2021

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period				Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	Others	
Provision for bad debt	65,457,591.34	18,233.38	1,725,386.27		-49,907,059.57	13,843,378.88
Total	65,457,591.34	18,233.38	1,725,386.27		-49,907,059.57	13,843,378.88

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVI) Long-term receivables (Continued)

2. Provision for bad debt (Continued)

Amount of provision for bad debt for the period and basis for evaluating whether credit risk of financial instruments increase significantly

Applicable Not applicable

The Company evaluated whether or not the credit risk of the said long-term receivables has been significantly increased since the initial recognition on each balance sheet date. If such credit risk has not significantly increased since the initial recognition, the Company made provisions for loss at the amount equivalent to ECL for the next 12 months; and if the credit risk has significantly increased since the initial recognition but no credit impairment has occurred, the Company made provisions for loss at the amount equivalent to the lifetime ECL.

3. Long-term receivables derecognized due to the transfer of financial assets

Applicable Not applicable

4. Amount of assets or liabilities resulting from transfer of long-term receivables and its continuing involvement

Applicable Not applicable

Other explanation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments

✓ Applicable □ Not applicable

2022

Unit: Yuan Currency: RMB

Investee	Increase/decrease for the period							Closing balance of provision for impairment
	Increase in investment	Decrease in investment	Investment gains/ losses confirmed under equity method	Other comprehensive income adjustment	Other equity changes	Declared and paid cash dividends or profits	Provision for impairment	
I. Joint ventures								
Xian Shtalibau Electric Corp., Ltd. (西安沙利堡电气有限公司)	147,602,671.03		22,670,000.00		25,000,000.00			145,272,671.03
Wenzhou-Hangzhou High-Speed Railway Investment Partnership (LLP) (温州温高铁路投资基金合伙企业(有限合伙))	76,503,772.49							76,503,772.49
CRSC Smart Data Technology (Beijing) Co., Ltd. (睿智数据科技北京有限公司)	5,581,260.25	3,150,000.00	4,523,610.80					13,254,871.05
Subtotal	229,687,703.77	3,150,000.00	27,193,610.80		25,000,000.00			235,031,314.57
II. Associates								
Sijing Integrated Pipeline Construction Co., Ltd. (四平锦合管廊建设股份有限公司)	224,763,946.36							224,763,946.36
Zhuohai Huatong Private Equity Fund Management Enterprise (Limited Partnership) (珠海华通私募基金管理有限公司(有限合伙))	9,083,873.17		294,002.27					9,377,875.44

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments (Continued)

Investee	Opening balance	Increase in investment	Decrease in investment	Investment gains/ losses confirmed under equity method	Increase/decrease for the period			Closing balance	Closing balance of provision for impairment
					Other comprehensive income adjustment	Other equity changes	Declared and paid cash dividends or profits		
Siemens Signalling Company Ltd. (西门子信号有限公司) CSCEC Foshan Joint Investment Co., Ltd. (佛山中建交通聯合投資有限公司)	71,158,626.78			10,179,000.00		12,150,000.00		83,187,626.78	
Tianshui Tram Co., Ltd. (Phase II) (天水有軌電車有限公司二期)	12,616,233.38			27,352,656.09				12,616,233.38	
Beijing Soong Electronic Technology Co., Ltd. (北京森鐘電子科技有限公司)	72,000,000.00	63,250,000.00		6,749.36				162,602,636.09	
Guangdong Ultrust Financial Leasing Co., Ltd. (廣東粵財金融租賃股份有限公司)	2,768,705.07			7,555,000.37				2,775,454.43	
China Tietong Railway Operation Co., Ltd. (中國通達運營有限公司)	344,091,066.75			-1,077,427.32	-40,035.61	1,530,000.00		351,646,087.12	
CRSC Transhui Tram Co., Ltd. (天水通達有軌電車有限公司)	22,270,395.17			23,210,508.79				19,652,932.24	
Tianjin Jingui Huihui Technology Development Co., Ltd. (天津華匯海科技發展有限公司)	206,313,477.05			1,289,153.20				229,623,965.84	
Zhejiang Jiaotou Intelligent Transportation Technology Co., Ltd. (浙江交投智能交通科技有限公司)	2,940,040.90	3,000,000.00		47,111.89				7,229,194.10	
Henan Huazhou Railway Co., Ltd. (河南州鐵路有限公司)	4,800,000.00			-1,599.80				4,897,111.89	
	149,458,777.00							149,457,187.20	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments (Continued)

Investee	Opening balance	Increase/decrease for the period							Closing balance	
		Increase in investment	Decrease in investment	Investment gains/ losses confirmed under equity method	Other comprehensive income adjustment	Other equity changes	Declared and paid cash dividends or profits	Provision for impairment		Other
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯澤優先科技(上海)有限公司)	20,011,106.07			224,011.08			34,273.70			20,200,843.45
China Liantou (Shanghai) Data Intelligent Technology Co., Ltd. (中聯投(上海)數據智能科技(上海)有限公司)	6,249,775.59			37,963.20			200,000.00			6,087,738.79
Subtotal	1,146,536,043.29	66,260,000.00		69,117,119.13		-40,035.61	13,884,273.70			1,269,978,853.11
Total	1,378,223,747.06	69,400,000.00	0	96,310,729.93	0	-40,035.61	38,884,273.70			1,505,010,167.68

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments (Continued)

Investee	Opening balance	Increase/decrease for the period				Declared and paid cash dividends or profits	Closing balance	Closing balance of provision for impairment
		Increase in investment	Decrease in investment	Investment gains confirmed under equity method	Other equity changes			
I. Joint ventures								
Xi'an Schalthau Electric Corp., Ltd. (西安沙爾特電氣有限公司)	153,773,635.03			18,829,036.00		25,000,000.00	147,602,671.03	
Wenzhou-Hangzhou High-Speed Railway Investment Partnership (LLP) (溫州杭溫高鐵投資合夥企業(有限合夥))	76,503,772.49						76,503,772.49	
CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	2,302,117.60	675,000.00		2,604,142.65			5,581,260.25	
Subtotal	232,579,525.12	675,000.00		21,433,178.65		25,000,000.00	229,687,703.77	
II. Associates								
Spring Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)	224,763,946.36						224,763,946.36	
Zhuhai Huatong Private Equity Fund Management Enterprise (Limited Partnership) (珠海華通私募基金管理企業(有限合夥))	9,711,635.41			882,237.76		1,500,000.00	9,093,873.17	
Siemens Signalling Company Ltd. (西門子信號有限公司)	72,797,559.78			11,411,067.00		13,050,000.00	71,158,626.78	
CSCCEC Foshan Joint Investment Co., Ltd. (佛山中建交通聯合投資有限公司)	12,503,152.61			113,080.77			12,616,233.38	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments (Continued)

Investee	Opening balance	Increase/decrease for the period					Closing balance
		Increase in investment	Decrease in investment	Investment gains confirmed under equity method	Other equity changes	Declared and paid cash dividends or profits	
Tianshui Tram Co., Ltd. (Phase II) (天水有軌電車有限公司(二期))		72,000,000.00					72,000,000.00
Beijing Solong Electronic Technology Co., Ltd. (北京索隆電子科技有限公司)	2,760,868.61			7,836.46			2,768,705.07
Guangdong Ultrast Financial Leasing Co., Ltd. (廣東粵財金融租賃股份有限公司)	329,544,657.82			19,046,428.93		4,500,000.00	344,091,086.75
China Tietong Railway Operation Co., Ltd. (中鐵通車運管有限公司)	23,690,581.36			1,025,870.17	-196,056.36	2,250,000.00	22,270,395.17
CRSC Tianshui Tram Co., Ltd. (天水通車有軌電車有限公司)	174,259,545.42			32,053,891.63			206,313,437.05
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津軌匯海科技發展有限公司)		3,000,000.00		-59,959.10			2,940,040.90
Zhejiang Jiactou Intelligent Transportation Technology Co., Ltd. (浙江交投智能交通科技有限公司)		4,800,000.00					4,800,000.00
Henan Huazhou Railway Co., Ltd. (河南滑州鐵路有限公司)		149,360,290.00		98,487.00			149,458,777.00
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	20,000,000.00			13,112.48		2,006.41	20,011,106.07

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments (Continued)

Investee	Opening balance	Increase/decrease for the period					Closing balance	Closing balance of provision for impairment
		Increase in investment	Decrease in investment	Investment gains confirmed under equity method	Other equity changes	Declared and paid cash dividends or profits		
China Liantou (Shanghai) Data Intelligent Technology Co., Ltd. (中聯投(上海)數據智能科技有限公司)	6,000,000.00			249,775.59			6,249,775.59	
FSC Changxing (Zhejiang) Technology Co., Ltd. (甬興暢行(浙江)科技股份有限公司)	421,743.86		275,791.34	-145,952.52				
Subtotal	876,453,691.23	229,160,290.00	275,791.34	64,695,916.17	-196,056.36	21,302,006.41	1,148,536,043.29	
Total	1,109,033,216.35	229,835,290.00	275,791.34	86,129,094.82	-196,056.36	46,302,006.41	1,378,223,747.06	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments (Continued)

Other explanation

Notes:

1. As at 31 December 2022 and 31 December 2021, the ability of investees in which the Company hold long-term equity investments to transfer funds to the Company has not been restricted.
2. For the information of joint ventures or associates for the period, please refer to note “IX. (II)”

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVIII) Other equity instrument investments

1. Other equity instrument investments

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Beijing Yawan High Speed Railway Co., Ltd. (北京雅萬高速鐵路有限公司)	405,810,000.00	405,810,000.00
Ganzhou-Shenzhen Railway (Guangdong) Company Limited (贛深鐵路(廣東)有限公司)	100,000,000.00	100,000,000.00
Beijing Rail Transit Operation Control System National Engineering Research Center Co., Ltd. (北京軌道交通運行控制系統國家工程研究 中心有限公司)	2,141,159.20	2,141,159.20
Hunan Maglev Group Co., Ltd. (湖南磁浮集團 股份有限公司)	100,000,000.00	100,000,000.00
Lunan High Speed Railway Co., Ltd. (魯南高速 鐵路有限公司)	369,637,534.00	369,637,534.00
Taizhou-Hangshaotai High-Speed Railway Investment Management Partnership (LLP) (台州杭紹台高鐵投資管理合夥企業(有限合夥))	147,230,466.00	147,230,466.00
Total	<u>1,124,819,159.20</u>	<u>1,124,819,159.20</u>

2. Information of non-trading equity instrument investment

Applicable Not applicable

Other explanation:

Applicable Not applicable

(XIX) Other non-current financial assets

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XX) Investment properties

Measurement model for investment properties

1. Investment properties measured under cost method

2022

Unit: Yuan Currency: RMB

Item	Buildings	Land use rights	Total
I. Original book value			
1. Opening balance	362,094,307.71	118,614,400.00	480,708,707.71
2. Increase during the current period	100,909,107.56		100,909,107.56
(1) Acquisition			
(2) Inventories/fixed assets/transferred from construction in progress	100,909,107.56		100,909,107.56
3. Decrease during the current period	-1,082,818.14		-1,082,818.14
(1) Disposal	-1,082,818.14		-1,082,818.14
(2) Other transfers			
4. Closing balance	464,086,233.41	118,614,400.00	582,700,633.41
II. Accumulated depreciation and accumulated amortization			
1. Opening balance	163,796,425.34	32,219,736.80	196,016,162.14
2. Increase during the current period	23,431,447.91	2,742,105.28	26,173,553.19
(1) Provision or amortization	13,698,432.23	2,742,105.28	16,440,537.51
(2) Inventories/fixed assets/transferred from construction in progress	9,733,015.68		9,733,015.68
3. Decrease during the current period	-285,366.25		-285,366.25
(1) Disposal	-285,366.25		-285,366.25
(2) Other transfers			
4. Closing balance	187,513,239.50	34,961,842.08	222,475,081.58
III. Impairment provision			
IV. Carrying amount			
1. Closing carrying amount	276,572,993.91	83,652,557.92	360,225,551.83
2. Opening carrying amount	198,297,882.37	86,394,663.20	284,692,545.57

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XX) Investment properties (Continued)

1. Investment properties measured under cost method (Continued)

2021

Unit: Yuan Currency: RMB

Item	Buildings	Land use rights	Total
I. Original book value			
1. Opening balance	240,827,881.92	118,614,400.00	359,442,281.92
2. Increase during the current period	121,266,425.79	–	121,266,425.79
(1) Acquisition	–	–	–
(2) Inventories/fixed assets/ transferred from construction in progress	121,266,425.79	–	121,266,425.79
3. Closing balance	362,094,307.71	118,614,400.00	480,708,707.71
II. Accumulated depreciation and accumulated amortization			
1. Opening balance	118,443,791.43	29,477,631.56	147,921,422.99
2. Increase during the current period	45,352,633.91	2,742,105.24	48,094,739.15
(1) Provision or amortization	15,143,806.11	2,742,105.24	17,885,911.35
(2) Inventories/fixed assets/ transferred from construction in progress	30,208,827.80	–	30,208,827.80
3. Closing balance	163,796,425.34	32,219,736.80	196,016,162.14
III. Carrying amount			
1. Closing carrying amount	198,297,882.37	86,394,663.20	284,692,545.57
2. Opening carrying amount	122,384,090.49	89,136,768.44	211,520,858.93

Note: Investment properties of the Company are the buildings in Mainland China, and these investment properties were leased to third parties under operating leases.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XX) Investment properties (Continued)

2. Information of investment properties to which a certificate of title has not been obtained

Applicable Not applicable

Other explanation

Applicable Not applicable

(XXI) Fixed assets

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Fixed assets	4,580,968,030.17	4,689,690,366.70
Disposal of fixed asset	—	—
Total	<u>4,580,968,030.17</u>	<u>4,689,690,366.70</u>

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXI) Fixed assets (Continued)

Fixed assets

1. Information about fixed assets

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Buildings	Machinery equipment	Means of transportation vehicles	Electronic equipment and others	Total
I. Original book value:					
1. Opening balance	4,816,260,733.53	1,179,230,190.13	430,411,738.71	1,473,488,635.47	7,899,391,297.84
2. Increase during the current period	2,058,821.20	199,022,706.89	4,190,213.69	112,231,671.97	317,503,413.75
(1) Acquisition	664,152.17	160,682,637.45	4,099,925.27	95,923,800.96	261,370,515.85
(2) Transferred from construction in progress	1,394,669.03	38,340,069.44		16,267,248.23	56,001,986.70
(3) Others	-		90,288.42	40,622.78	130,911.20
3. Decrease during the current period	102,499,902.02	22,059,698.63	11,939,715.46	30,446,442.79	166,945,758.90
(1) Disposal or retirement	1,590,794.46	22,059,698.63	11,939,715.46	30,446,442.79	66,036,651.34
(2) Investment properties	100,909,107.56				100,909,107.56
(3) Others					
4. Closing balance	4,715,819,652.71	1,356,193,198.39	422,662,236.94	1,555,273,864.65	8,049,948,952.69
II. Accumulated depreciation					
1. Opening balance	1,062,775,607.10	812,019,593.26	391,057,388.67	943,816,224.05	3,209,668,813.08
2. Increase during the current period	123,305,525.42	85,045,460.19	28,534,227.13	90,674,428.70	327,559,641.44
(1) Provision	123,305,525.42	85,045,460.19	28,504,719.06	90,657,323.21	327,513,027.88
(2) Others	-	-	29,508.07	17,105.49	46,613.56

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXI) Fixed assets (Continued)

Fixed assets (Continued)

1. Information about fixed assets (Continued)

Item	Buildings	Machinery equipment	Means of transportation vehicles	Electronic equipment and others	Total
3. Decrease during the current period	10,610,419.70	20,034,783.37	9,353,146.39	28,281,300.60	68,279,650.06
(1) Disposal or retirement	877,404.02	20,034,783.37	9,353,146.39	28,281,300.60	58,546,634.38
(2) Investment properties	9,733,015.68				9,733,015.68
(3) Others					
4. Closing balance	1,175,470,712.82	877,030,270.08	410,238,469.41	1,006,209,352.15	3,468,948,804.46
III. Provision for impairment					
1. Opening balance	-	32,118.06	-	-	32,118.06
2. Closing balance		32,118.06			32,118.06
IV. Carrying amount					
1. Closing carrying amount	3,540,348,939.89	479,130,810.25	12,423,767.53	549,064,512.50	4,580,968,030.17
2. Opening carrying amount	3,753,485,126.43	367,178,478.81	39,354,350.04	529,672,411.42	4,689,690,366.70

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXI) Fixed assets (Continued)

2021

Unit: Yuan Currency: RMB

Item	Buildings	Machinery equipment	Means of transportation vehicles	Electronic equipment and others	Total
I. Original book value:					
1. Opening balance	4,309,863,261.32	1,055,623,629.34	435,355,546.07	1,338,219,403.97	7,139,061,840.70
2. Increase during the current period	663,835,091.47	131,203,825.61	13,526,412.22	213,689,818.65	1,022,255,147.95
(1) Acquisition	16,470,019.85	50,043,742.97	12,890,420.82	175,507,583.96	254,911,767.60
(2) Transferred from construction in progress	647,365,071.62	81,160,082.64	635,991.40	38,182,234.69	767,343,380.35
3. Decrease during the current period	157,437,619.26	7,597,264.82	18,470,219.58	78,420,587.15	261,925,690.81
(1) Disposal or retirement	36,171,193.47	7,597,264.82	18,470,219.58	78,420,587.15	140,659,265.02
(2) Investment properties	121,266,425.79	–	–	–	121,266,425.79
4. Closing balance	4,816,260,733.53	1,179,230,190.13	430,411,738.71	1,473,488,635.47	7,899,391,297.84
II. Accumulated depreciation					
1. Opening balance	989,829,488.90	723,024,585.59	372,340,512.07	849,604,105.05	2,934,798,691.61
2. Increase during the current period	114,267,328.83	100,834,968.49	49,819,184.13	126,657,655.91	391,579,137.36
(1) Provision	114,267,328.83	100,834,968.49	49,819,184.13	126,657,655.91	391,579,137.36
3. Decrease during the current period	41,321,210.63	11,839,960.82	31,102,307.53	32,445,536.91	116,709,015.89
(1) Disposal or retirement	11,112,382.83	11,839,960.82	31,102,307.53	32,445,536.91	86,500,188.09
(2) Investment properties	30,208,827.80	–	–	–	30,208,827.80
4. Closing balance	1,062,775,607.10	812,019,593.26	391,057,388.67	943,816,224.05	3,209,668,813.08
III. Provision for impairment					
1. Opening balance	–	32,118.06	–	–	32,118.06
2. Closing balance	–	32,118.06	–	–	32,118.06
IV. Carrying amount					
1. Closing carrying amount	3,753,485,126.43	367,178,478.81	39,354,350.04	529,672,411.42	4,689,690,366.70
2. Opening carrying amount	3,320,033,772.42	332,566,925.69	63,015,034.00	488,615,298.92	4,204,231,031.03

Notes:

- As at 31 December 2022 and 31 December 2021, none of main fixed assets for production and operation of the Company became temporarily idle.
- As at 31 December 2022 and 31 December 2021, the Company had no fixed assets with title restriction.
- As of the approval date of this financial statement, the Company was applying for title certificate and handling registration or transfer procedures for houses and buildings with book values totaling RMB1,388,716,231.83 as of 31 December 2022. The management of the Company believed that the Company has the right to legally and effectively occupy and use the above-mentioned houses, and also believed that the above matters will not have any significant adverse impact on the overall financial position of the Company as at 31 December 2022.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXI) Fixed assets (Continued)

2. Temporarily-idle fixed assets

Applicable Not applicable

3. Fixed assets leased in through financial leases

Applicable Not applicable

4. Fixed assets leased out through operating leases

Applicable Not applicable

5. Fixed assets for which title certificates have not been obtained

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Carrying amount	Reason for not having the certificate of title
Houses and buildings	<u>1,388,716,231.83</u>	<u>In process</u>

Other explanation:

Applicable Not applicable

Disposal of fixed assets

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Construction in progress	891,536,403.93	800,282,649.47
Construction materials		—
Total	<u>891,536,403.93</u>	<u>800,282,649.47</u>

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress (Continued)

Construction in progress

1. Construction in progress

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for impairment	Carrying amount	Gross carrying amount	Provision for impairment	Carrying amount
Technology upgrade of rail transportation safety control system				10,287,385.88		10,287,385.88
CRSC Changsha Industrial Park Project	26,753,204.70		26,753,204.70	28,451,298.93		28,451,298.93
One Center Tower II (壹中心 2 號樓) Renovation Project	657,621,681.63		657,621,681.63	623,899,559.94		623,899,559.94
Industrial Project for Deeply Autonomous Train Control System of High-Speed Railway (高速鐵路深度自主化列控系統產業化項目)	24,672,735.10		24,672,735.10			
The Research on Electromagnetic Environmental Effects of Rail Transportation and Construction of Test Platform	13,474,005.54		13,474,005.54			
CRSC Electrochemical Science and Technology Mansion (通號電化科創大廈)	85,744,917.80		85,744,917.80	63,345,958.30		63,345,958.30
Others	83,269,859.16		83,269,859.16	74,298,446.42		74,298,446.42
Total	891,536,403.93		891,536,403.93	800,282,649.47		800,282,649.47

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress (Continued)

2. Changes in important projects under construction for the current period

✓ Applicable □ Not applicable

2022

Unit: Yuan Currency: RMB

Project name	Opening balance	Increase during the period	Transferred into fixed assets during the period	Other decrease during the period	Closing balance	Proportion of project investment to budget (%)	Source of funds
One Center Tower II (壹中心 2 號樓) Renovation Project	623,899,559.94	33,722,121.69			657,621,681.63	99.27	Self-raised funds
CRSC Electrochemical Science and Technology Mansion (通號電化科創大廈)	63,345,958.30	22,398,959.50			85,744,917.80	14.00	Self-raised funds
CRSC Changsha Industrial Park Project	28,451,298.93	2,432,934.63	-4,131,028.86		26,753,204.70	94.45	Self-raised funds
Industrial Project for Deeply Autonomous Train Control System of High- Speed Railway (高速鐵 路深度自主化列控系統 產業化項目)		24,672,735.10			24,672,735.10	70.00	Self-raised funds
The Research on Electromagnetic Environmental Effects of Rail Transportation and Construction of Test Platform		13,474,005.54			13,474,005.54	75.00	Self-raised funds
Technology upgrade of rail transportation safety control system	10,287,385.88		-10,287,385.88				Self-raised funds
Others	74,298,446.42	50,554,984.70	-41,583,571.96		83,269,859.16		
Total	<u>800,282,649.47</u>	<u>147,255,741.16</u>	<u>-56,001,986.70</u>		<u>891,536,403.93</u>		/

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress (Continued)

2. Changes in important projects under construction for the current period (Continued)

2021

Unit: Yuan Currency: RMB

Project name	Opening balance	Increase during the period	Transferred into fixed assets during the period	Transferred into intangible assets during the period	Transferred into long-term prepaid expenses during the period	Closing balance	Proportion of total project investment in the budget (%)	Source of fund
Technology upgrade of rail transportation safety control system	85,566,760.59	6,785,393.47	-82,064,768.18	-	-	10,287,385.88	100.00	Equity fund
CRSC Changsha Industrial Park Project	25,617,684.61	2,833,614.32	-	-	-	28,451,298.93	94.45	Equity fund
One Center Tower II (壹中心 2 號樓) Renovation Project	1,225,522,120.84	52,002,760.23	653,625,321.13	-	-	623,899,559.94	99.22	Equity fund
CRSC Electrochemical Science and Technology Mansion (通號電化科創大廈)	19,620,273.34	43,725,684.96	-	-	-	63,345,958.30	10.56	Equity fund
Others	64,979,148.07	47,598,073.57	-31,653,291.04	-3,525,000.00	-3,100,484.18	74,298,446.42	/	Equity fund
Total	1,421,305,987.45	152,945,526.55	-767,343,380.35	-3,525,000.00	-3,100,484.18	800,282,649.47	/	/

- (1) As at 31 December 2022 and 31 December 2021, the Company had no construction in progress with title restriction.
- (2) As at 31 December 2022 and 31 December 2021, the Company had no construction in progress required to make impairment provision.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress (Continued)

3. Provision for impairment of construction in progress made during the period

Applicable Not applicable

Other explanation

Applicable Not applicable

4. Construction materials

Construction materials

Applicable Not applicable

(XXIII) Productive biological assets

1. Productive biological assets measured under cost method

Applicable Not applicable

2. Productive biological assets measured at fair value

Applicable Not applicable

Other explanation

Applicable Not applicable

(XXIV) Oil and gas assets

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXV) Right-of-use assets

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Buildings	Machinery equipment	Means of transportation vehicles	Total
I. Original book value:				
1. Opening balance	377,413,880.51		1,731,001.25	379,144,881.76
2. Increase during the current period	79,456,699.10	3,401,363.71		82,858,062.81
3. Decrease during the current period	23,150,812.07		676,057.95	23,826,870.02
4. Closing balance	433,719,767.54	3,401,363.71	1,054,943.30	438,176,074.55
II. Accumulated depreciation				
1. Opening balance	205,684,793.18		832,631.52	206,517,424.70
2. Increase during the current period	77,639,146.52	56,689.40	45,805.48	77,741,641.40
3. Decrease during the current period	19,368,204.00		676,057.95	20,044,261.95
4. Closing balance	263,955,735.70	56,689.40	202,379.05	264,214,804.15
III. Provision for impairment				
IV. Carrying amount				
1. Closing carrying amount	169,764,031.84	3,344,674.31	852,564.25	173,961,270.40
2. Opening carrying amount	171,729,087.33		898,369.73	172,627,457.06

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXV) Right-of-use assets (Continued)

2021

Unit: Yuan Currency: RMB

Item	Buildings	Means of transportation vehicles	Total
I. Original book value			
1. Opening balance	272,143,300.07	1,731,001.25	273,874,301.32
2. Increase during the current period	106,093,251.14	–	106,093,251.14
3. Decrease during the current period	822,670.70	–	822,670.70
4. Closing balance	377,413,880.51	1,731,001.25	379,144,881.76
II. Accumulated depreciation			
1. Opening balance	133,527,884.09	786,826.04	134,314,710.13
2. Increase during the current period	72,831,070.82	45,805.48	72,876,876.30
3. Decrease during the current period	674,161.73	–	674,161.73
4. Closing balance	205,684,793.18	832,631.52	206,517,424.70
III. Carrying amount			
1. Closing carrying amount	171,729,087.33	898,369.73	172,627,457.06
2. Opening carrying amount	138,615,415.98	944,175.21	139,559,591.19



NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVI) Intangible assets

1. Information about intangible assets

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Land use rights	Patents	Software	Unfinished contract	Customer relationships	Total
I. Original book value						
1. Opening balance	2,451,378,126.02	835,733,248.41	372,303,772.76	169,921,119.24	244,325,834.78	4,073,662,101.21
2. Increase during the current period		202,267,201.62	44,292,576.61			246,559,778.23
(1) Acquisition		4,800.00	34,072,249.08			34,077,049.08
(2) Internal R&D		201,815,986.42	7,848,877.77			209,664,864.19
(3) Others		446,415.20	2,371,449.76			2,817,864.96
3. Decrease during the current period	2,897,721.49					2,897,721.49
(1) Disposal	2,897,721.49					2,897,721.49
4. Closing balance	2,448,480,404.53	1,038,000,450.03	416,596,349.37	169,921,119.24	244,325,834.78	4,317,324,157.95
II. Accumulated amortization						
1. Opening balance	444,258,023.74	392,387,871.09	347,085,474.39	169,921,119.24	190,297,671.48	1,543,950,159.94
2. Increase during the current period	50,960,448.67	101,296,907.45	30,990,141.20		27,014,081.64	210,261,578.96
(1) Provision	50,960,448.67	101,296,907.45	30,990,141.20		27,014,081.64	210,261,578.96
3. Decrease during the current period	634,991.17					634,991.17
(1) Disposal	634,991.17					634,991.17
4. Closing balance	494,583,481.24	493,684,778.54	378,075,615.59	169,921,119.24	217,311,753.12	1,753,576,747.73
III. Provision for impairment						
1. Opening balance						
2. Increase during the current period						
(1) Provision						
3. Decrease during the current period						
(1) Disposal						
4. Closing balance						
IV. Carrying amount						
1. Closing carrying amount	1,953,896,923.29	544,315,671.49	38,520,733.78		27,014,081.66	2,563,747,410.22
2. Opening carrying amount	2,007,120,102.28	443,345,377.32	25,218,298.37	-	54,028,163.30	2,529,711,941.27

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVI) Intangible assets (Continued)

1. Information about intangible assets (Continued)

2021

Unit: Yuan Currency: RMB

Item	Land use rights	Patents	Software	Unfinished contract	Customer relationships	Total
I. Original book value						
1. Opening balance	2,451,378,126.02	644,286,691.29	344,277,693.65	169,921,119.24	244,325,834.78	3,854,189,464.98
2. Increase during the current period	-	194,905,362.92	30,880,516.50	-	-	225,785,879.42
(1) Acquisition	-	6,889,877.03	26,058,342.67	-	-	32,948,219.70
(2) Transferred from development expenditure	-	188,015,485.89	1,297,173.83	-	-	189,312,659.72
(3) Transferred from construction in progress	-	-	3,525,000.00	-	-	3,525,000.00
3. Decrease during the current period	-	3,458,805.80	2,854,437.39	-	-	6,313,243.19
(1) Disposal	-	3,458,805.80	2,854,437.39	-	-	6,313,243.19
4. Closing balance	2,451,378,126.02	835,733,248.41	372,303,772.76	169,921,119.24	244,325,834.78	4,073,662,101.21
II. Accumulated amortization						
1. Opening balance	393,269,528.30	320,376,951.68	300,141,696.61	169,921,119.24	163,283,589.84	1,346,992,885.67
2. Increase during the current period	50,988,495.44	75,462,453.42	47,340,896.91	-	27,014,081.64	200,805,927.41
(1) Provision	50,988,495.44	75,462,453.42	47,340,896.91	-	27,014,081.64	200,805,927.41
3. Decrease during the current period	-	3,451,534.01	397,119.13	-	-	3,848,653.14
(1) Disposal	-	3,451,534.01	397,119.13	-	-	3,848,653.14
4. Closing balance	444,258,023.74	392,387,871.09	347,085,474.39	169,921,119.24	190,297,671.48	1,543,950,159.94
III. Carrying amount						
1. Closing carrying amount	2,007,120,102.28	443,345,377.32	25,218,298.37	-	54,028,163.30	2,529,711,941.27
2. Opening carrying amount	2,058,108,597.72	323,909,739.61	44,135,997.04	-	81,042,244.94	2,507,196,579.31

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVI) Intangible assets (Continued)

1. Information about intangible assets (Continued)

2021 (Continued)

Notes:

- (1) As at 31 December 2022 and 31 December 2021, the Company had no intangible assets with title restriction.
- (2) As at 31 December 2022, the intangible assets derived from internal research and development accounted for 4.65% of the closing carrying amount of intangible assets (31 December 2021: 7.48%).

As of the approval date of this financial statement, the Company has obtained the title certificates and completed the procedures for registration for the land use rights as at 31 December 2022.

2. Information about land use rights for which a certificate of title has not been obtained

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVII) Development expenditure

✓ Applicable □ Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period		Decrease during the period			Closing balance
		Internal development expenditure	Others	Recognised as intangible assets	Transferred to profit or loss for the period	Others	
Development expenditure	213,250,203.11	398,939,370.16		209,664,864.19	214,524,167.26		188,000,541.82
Total	<u>213,250,203.11</u>	<u>398,939,370.16</u>		<u>209,664,864.19</u>	<u>214,524,167.26</u>		<u>188,000,541.82</u>

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Decrease during the period		Closing balance
		Internal development expenditure	Recognised as intangible assets	Transferred to profit or loss for the period	
Development expenditure	<u>139,208,125.21</u>	<u>720,842,161.43</u>	<u>189,312,659.72</u>	<u>457,487,423.81</u>	<u>213,250,203.11</u>

Other explanation

The Company took the project defense as well as evaluation and review of expert team after the establishment of the development projects as the starting point for capitalization, and each R&D project was executed normally according to the progress of R&D milestones.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVIII) Goodwill

1. Original carrying amount of goodwill

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Name of investee or matters resulting in goodwill	Opening balance	Increase during the period Arising from business combination	Decrease during the period Disposal	Closing balance
CRSC CASCO	201,027,354.70	-	-	201,027,354.70
Changsha Architectural Design Institute Co., Ltd (長沙市建築設計院有限責任 公司) ("Changsha Design Institute")	37,429,932.37	-	-	37,429,932.37
Zhengzhou Zhongyuan CRSC (Zhengzhou) Zhong'an Engineering Co., Ltd. (中國鐵路通 信信號(鄭州)中安工程有限公司) ("Zhengzhou Zhong'an")	30,525,980.16	-	-	30,525,980.16
CRSC Wanquan Signal Equipment Co., LTD. (通號萬全信號設備有限 公司) ("CRSC Wanquan")	27,673,509.65	-	-	27,673,509.65
CRSC First Construction Co., Ltd. (通號建設集團第一工程有限公司) ("First Construction")	3,865,524.80	-	-	3,865,524.80
CRSC First Construction Co., Ltd. (通號建設集團第一工程有限公司) ("First Construction")	3,802,223.24	-	-	3,802,223.24
Shanghai Deuta Electronic & Electrical Equipment Co., Ltd. (上海德意達電 子電器設備有限公司) ("Shanghai Deuta")	669,345.89	-	-	669,345.89
Others	330,257.77	-	-	330,257.77
Total	305,324,128.58	-	-	305,324,128.58

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVIII) Goodwill (Continued)

1. Original carrying amount of goodwill (Continued)

2021

Unit: Yuan Currency: RMB

Name of investee or matters resulting in goodwill	Opening balance	Increase during the period Arising from business combination	Decrease during the period Disposal	Closing balance
CRSC CASCO	201,027,354.70	–	–	201,027,354.70
Changsha Architectural Design Institute Co., Ltd (長沙市建築設計院有限責任 公司) (“Changsha Design Institute”)	37,429,932.37	–	–	37,429,932.37
Zhengzhou Zhongyuan CRSC (Zhengzhou) Zhong’an Engineering Co., Ltd. (中國鐵路通 信信號(鄭州)中安工程有限公司) (“Zhengzhou Zhong’an”)	30,525,980.16	–	–	30,525,980.16
CRSC Wanquan	27,673,509.65	–	–	27,673,509.65
CRSC First Construction Co., Ltd. (通號建設集團第一工程有限公司) (“First Construction”)	3,865,524.80	–	–	3,865,524.80
CRSC First Construction Co., Ltd. (通號建設集團第一工程有限公司) (“First Construction”)	3,802,223.24	–	–	3,802,223.24
Shanghai Deuta Electronic & Electrical Equipment Co., Ltd. (上海德意達電 子電器設備有限公司) (“Shanghai Deuta”)	669,345.89	–	–	669,345.89
Others	330,257.77	–	–	330,257.77
Total	305,324,128.58	–	–	305,324,128.58

2. Provision for impairment of goodwill

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVIII) Goodwill (Continued)

3. Information about the asset group or combination of asset groups to which the goodwill belongs

Applicable Not applicable

4. Explain the process of goodwill impairment test, key parameters (e.g. forecast period growth rate, stable period growth rate, profit rate, discount rate, forecast period, etc. in case of present value of expected future cash flow, if applicable) and the recognition method of goodwill impairment loss

Applicable Not applicable

The Company allocates the carrying amount of goodwill of CRSC CASCO to the asset group that can benefit from the synergies of the business combination, and performs impairment test on this basis. The recoverable amount of the asset group is determined based on the higher of its net fair value less costs of disposal and the present value of estimated future cash flows of the asset group; indicating that the asset group is not impaired if either of which is more than the carrying amount of the asset group.

The asset group of CRSC CASCO in this year is consistent with the asset group determined at the acquisition date and the goodwill impairment test in previous years. The determination of an asset group is based on whether the main cash inflow of the asset group is independent of other assets, as well as the way for the enterprise management to manage production and operation activities, and the decision-making method for the continued use or disposal of assets. In this year, CRSC CASCO confirmed that CRSC CASCO asset group portfolio was the smallest unit of asset groups with the combination of goodwill and its relevant assets based on the cash flow generated from goodwill. The cash flow generated from this asset group is independent of other assets or other asset groups, and the recoverable amount of the asset group is the present value of the estimated future cash flows of CRSC CASCO. The amounts of key assumptions of the asset group related to impairment tests were consistent with the Company's historical experience and external information. The key assumptions made by management in determining the present value of the cash flow forecast are as follows:

	31 December 2022	31 December 2021
Forecast period	5 years	5 years
Discount rate	15.16%	15.04%
Average growth rate of income in the forecast period	2.00%	4.00%

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVIII) Goodwill (Continued)

4. Explain the process of goodwill impairment test, key parameters (e.g. forecast period growth rate, stable period growth rate, profit rate, discount rate, forecast period, etc. in case of present value of expected future cash flow, if applicable) and the recognition method of goodwill impairment loss (Continued)

As at 31 December 2022 and 31 December 2021, the goodwill of the CRSC CASCO asset group has not been impaired and therefore no provision for impairment was required.

The Company conducted impairment test on the allocation of goodwill resulting from the acquisition of Zhengzhou Zhong'an, Zhengzhou Zhongyuan and Changsha Design Institute to the asset group. The combination of asset groups is the combination which the goodwill combined with smallest asset groups related to it, and the cash flow generated from this asset group was independent from other assets or other asset groups, which was consistent with the combination of asset groups determined at the date of purchase and during the impairment test for prior years. The recoverable amount was determined according to the present value of the expected future cash flows of those subsidiaries, and the expected future cash flows were determined according to the cash flow forecast based on the 5-year financial budget approved by the management. The pre-tax discount rates used in the cash flow forecast were 14.88%, 14.88% and 14.01% respectively (14.05%, 14.05% and 14.81% respectively in 2021). After testing, the management of the Company believes that the goodwill generated by the acquisition of Zhengzhou Zhong'an, Zhengzhou Zhongyuan and Changsha Design Institute has not been impaired, so no provision for impairment is required.

Assumptions were used to calculate the present value of the expected future cash flows of Zhengzhou Zhong'an, Zhengzhou Zhongyuan and Changsha Design Institute as at 31 December 2022 and 31 December 2021. The following details the key assumptions made by the management in determining the cash flow forecast for goodwill impairment test:

Budget gross margin – The determination basis was to appropriately increase the average gross margin that was realized in the year before the budget year on the basis of the expected efficiency improvement and the expected market development.

Discount rate – The discount rate adopted was the pre-tax discount rate that reflects the specific risks of the relevant asset group.

The amounts of key assumptions of the asset group related to impairment tests were consistent with the Company's historical experience and external information.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVIII) Goodwill (Continued)

5. Impact of goodwill impairment test

Applicable Not applicable

Other explanation

Applicable Not applicable

(XXIX) Long-term prepaid expenses

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Amortisation for the period	Other deduction	Closing balance
Costs of improvements to fixed assets under operating leases	50,007,280.33	62,117,401.63	53,946,716.45		58,177,965.51
Total	50,007,280.33	62,117,401.63	53,946,716.45		58,177,965.51

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Transferred from construction in progress	Amortisation for the period	Closing balance
Costs of improvements to fixed assets under operating leases	52,132,184.27	19,909,111.56	3,100,484.18	25,134,499.68	50,007,280.33
Total	52,132,184.27	19,909,111.56	3,100,484.18	25,134,499.68	50,007,280.33

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXX) Deferred tax assets/liabilities

1. Deferred tax assets not offset

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance		Opening balance	
	Deductible temporary difference	Deferred income tax assets	Deductible temporary difference	Deferred income tax assets
Provision for impairment of assets	1,750,308,264.26	374,068,256.34	1,203,514,009.49	264,049,363.06
Recognition of lease liabilities	177,874,906.78	32,006,755.02	162,800,666.72	29,294,300.98
Unrealized profits in intra-group transactions	64,388,077.44	16,097,019.36	117,051,523.38	28,262,880.84
Deferred income	121,631,813.87	18,244,772.08	160,098,912.68	26,988,834.46
Estimated liabilities	52,385,422.33	8,014,636.27	54,521,980.83	9,011,389.65
Unpaid employee benefits payable	57,967,291.93	11,371,459.36	48,020,478.00	9,521,795.02
Others	57,598,727.25	14,283,282.07	14,810,520.52	2,890,647.38
Total	2,282,154,503.86	474,086,180.50	1,760,818,091.62	370,019,211.39

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXX) Deferred tax assets/liabilities (Continued)

2. Deferred tax liabilities not offset

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance		Opening balance	
	Taxable temporary difference	Deferred income tax liabilities	Taxable temporary difference	Deferred income tax liabilities
Asset valuation appreciation of business combination not under common control	82,267,000.19	16,946,328.45	108,907,821.80	27,226,955.45
Recognition of right-of-use assets	173,961,270.40	27,833,803.26	181,494,017.69	29,039,042.83
Depreciation of fixed assets	97,379,975.50	14,606,996.33	46,562,831.77	6,984,424.77
Floating profit and loss in portion of positions of copper futures	1,147,350.00	172,102.50	179,100.00	26,865.00
Others	48,046,379.80	12,042,853.87		
Total	<u>402,801,975.89</u>	<u>71,602,084.41</u>	<u>337,143,771.26</u>	<u>63,277,288.05</u>

3. Deferred tax assets or liabilities stated on a net basis after offset

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXX) Deferred tax assets/liabilities (Continued)

4. Breakdown of unrecognised deferred tax assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Deductible temporary difference	17,781,950.90	33,392,975.11
Deductible loss	388,763,146.27	210,418,204.81
Total	406,545,097.17	243,811,179.92

5. Deductible loss for which no deferred tax assets are recognised will become due in the following years

Applicable Not applicable

Unit: Yuan Currency: RMB

Year	Closing balance	Opening balance	Remarks
2022		100,020,681.17	
2023	29,434,526.41	62,742,917.19	
2024	16,533,026.26	13,098,485.21	
2025	32,248,171.52	22,378,632.72	
2026	80,296,496.37	12,177,488.52	
2027	42,440,943.59		
2028	23,797,531.72		
2029	39,512,549.27		
2030	44,389,191.09		
2031	19,602,818.29		
2032	60,507,891.75		
Total	388,763,146.27	210,418,204.81	/

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXI) Other non-current assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for impairment	Carrying amount	Gross carrying amount	Provision for impairment	Carrying amount
Project quality deposit	290,595,597.80	4,002,634.26	286,592,963.54	253,265,977.92	1,583,032.59	251,682,945.33
Prepayment for fixed assets	335,695.00		335,695.00	37,721,630.55	-	37,721,630.55
Construction period/PPP project payment without collection right	5,742,420,235.72	51,820,012.33	5,690,600,223.39	4,765,401,032.26	50,309,099.96	4,715,091,932.30
Total	6,033,351,528.52	55,822,646.59	5,977,528,881.93	5,056,388,640.73	51,892,132.55	5,004,496,508.18

Other explanation:

Note:

As at 31 December 2022, the Company's book value of other non-current assets of RMB4,728,042,641.60 and book value of receivables of RMB465,060,456.80 (31 December 2021: other non-current assets of RMB4,426,249,414.22 and receivables of RMB201,458,572.34), which were formed by the earning rights of the franchise pledged and all proceeds thereunder were used to obtain long-term loans of RMB3,464,075,719.17 (31 December 2021: RMB2,336,791,575.20). See Note "VII. (LXXXI)" for details.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXII) Short-term borrowings

1. Breakdown of short-term borrowings

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Pledged borrowings	252,669,967.41	48,875,684.59
Credit borrowings	8,500,000.00	26,754,000.00
Total	261,169,967.41	75,629,684.59

Notes:

- As at 31 December 2022, the book value of bank acceptance bills and commercial acceptance bills pledged by the Company were RMB34,059,394.86 and RMB218,610,572.55, respectively, which was used to obtain short-term loans of RMB252,669,967.41. As at 31 December 2021, the book value of bank acceptance bills and commercial acceptance bills pledged by the Company was RMB8,875,684.59 and RMB40,000,000.00, respectively, which was used to obtain short-term loans of RMB48,875,684.59. Please see note "VII. (LXXXI)".
- As at 31 December 2022 and 31 December 2021, the Company had no unpaid overdue short-term borrowing balance payable.

2. Overdue but unpaid short-term borrowings

Applicable Not applicable

Major overdue but unpaid short-term borrowings:

Applicable Not applicable

Other explanation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXIII) Financial liabilities held-for-trading

Applicable Not applicable

(XXXIV) Derivative financial liabilities

Applicable Not applicable

(XXXV) Bills payable

1. Breakdown of bills payable

Applicable Not applicable

Unit: Yuan Currency: RMB

Type	Closing balance	Opening balance
Commercial acceptance bills	1,477,540,520.22	1,378,390,031.99
Bank acceptance bills	<u>782,613,750.58</u>	<u>922,404,421.22</u>
Total	<u><u>2,260,154,270.80</u></u>	<u><u>2,300,794,453.21</u></u>

As of 31 December 2022 and 31 December 2021, the Company did not have overdue but unpaid bills payable.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXVI) Accounts payable

1. Accounts payable by aging on recording dates

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Within 1 year	32,360,518,932.24	38,334,305,236.02
1 to 2 years	9,728,128,194.22	4,640,322,277.65
2 to 3 years	4,125,561,674.48	2,070,833,881.05
Over 3 years	3,673,911,102.79	1,409,735,473.80
Total	<u>49,888,119,903.73</u>	<u>46,455,196,868.52</u>

2. Major accounts payable aged over one year

Applicable Not applicable

As at 31 December 2022, the total of the top five accounts payable aged over one year amounted to RMB578,745,897.94.

As at 31 December 2021, the total of the top five accounts payable aged over one year amounted to RMB647,646,905.46.

Other explanation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXVII) Receipts in advance

1. Breakdown of advance receipts

Applicable Not applicable

2. Major advance receipts aged over one year

Applicable Not applicable

Other explanation

Applicable Not applicable

(XXXVIII) Contract liabilities

1. Breakdown of contract liabilities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Advances	2,607,444,876.57	1,761,791,337.26
Incomplete project, settled	5,097,276,345.68	5,476,554,721.50
Total	<u>7,704,721,222.25</u>	<u>7,238,346,058.76</u>

2. Amount of and reason for significant change in carrying amount within the Reporting Period

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Change in amount	Reasons for change
Advances	845,653,539.31	Differences between the progress of collection and the progress of revenue recognition
Incomplete project, settled	<u>-379,278,375.82</u>	Differences between the progress of collection and the progress of revenue recognition
Total	<u>466,375,163.49</u>	/

Note: The contract liabilities of RMB4,530,261,848.04 included in the carrying amount as at 31 December 2021 have been transferred to revenue in 2022.

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXIX) Employee benefits payable

1. Breakdown of employee benefits payable

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Decrease during the period	Closing balance
I. Short-term benefits	582,411,623.25	5,160,488,795.41	5,129,579,753.35	613,320,665.31
II. Post-employment benefits (defined contribution plan)	30,370,965.95	661,288,465.36	654,204,277.69	37,455,153.62
III. Dismissal benefits	50,396.79	5,631,009.21	5,681,406.00	
IV. Other benefits due within one year	44,769,000.00	37,404,000.00	42,328,000.00	39,845,000.00
Total	<u>657,601,985.99</u>	<u>5,864,812,269.98</u>	<u>5,831,793,437.04</u>	<u>690,620,818.93</u>

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Decrease during the period	Closing balance
I. Short-term benefits	529,364,508.45	4,894,522,660.26	4,841,475,545.46	582,411,623.25
II. Post-employment benefits (defined contribution plan)	22,799,554.90	659,077,523.00	651,506,111.95	30,370,965.95
III. Dismissal benefits	50,396.79	1,960,064.64	1,960,064.64	50,396.79
IV. Other benefits due within one year	47,921,000.00	41,951,000.00	45,103,000.00	44,769,000.00
Total	<u>600,135,460.14</u>	<u>5,597,511,247.90</u>	<u>5,540,044,722.05</u>	<u>657,601,985.99</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXIX) Employee benefits payable (Continued)

2. Breakdown of short-term remunerations

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Decrease during the period	Closing balance
I. Wages, bonuses, allowances and subsidies	111,073,752.54	3,826,255,785.53	3,865,875,538.14	71,453,999.93
II. Employee welfare benefits	250,443,668.84	306,523,795.61	244,141,699.61	312,825,764.84
III. Social insurance premiums	59,414,423.39	360,945,455.18	357,899,766.93	62,460,111.64
Including: Medical insurance premiums	58,664,167.65	340,673,892.25	337,973,813.95	61,364,245.95
Industrial injury insurance premiums	375,693.73	15,785,184.19	15,481,001.16	679,876.76
Maternity insurance premiums	374,562.01	4,486,378.74	4,444,951.82	415,988.93
IV. Housing provident fund	2,229,973.50	369,316,083.68	368,745,428.42	2,800,628.76
V. Labor union funds and staff education funds	158,857,951.26	98,929,555.72	94,679,960.85	163,107,546.13
VI. Other short-term remunerations	391,853.72	198,518,119.69	198,237,359.40	672,614.01
Total	582,411,623.25	5,160,488,795.41	5,129,579,753.35	613,320,665.31

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXIX) Employee benefits payable (Continued)

2. Breakdown of short-term remunerations (Continued)

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Decrease during the period	Closing balance
I. Wages, bonuses, allowances and subsidies	82,657,923.75	3,567,987,999.28	3,539,572,170.49	111,073,752.54
II. Employee welfare benefits	237,875,376.84	318,522,343.22	305,954,051.22	250,443,668.84
III. Social insurance premiums	55,108,900.96	366,060,138.66	361,754,616.23	59,414,423.39
Including: Medical insurance premiums	53,670,433.98	343,002,652.05	338,008,918.38	58,664,167.65
Industrial injury insurance premiums	538,972.72	15,669,457.04	15,832,736.03	375,693.73
Maternity insurance premiums	899,494.26	7,388,029.57	7,912,961.82	374,562.01
IV. Housing provident fund	3,283,173.65	358,512,245.25	359,565,445.40	2,229,973.50
V. Labor union funds and staff education funds	150,197,946.72	103,927,623.92	95,267,619.38	158,857,951.26
VI. Other short-term remunerations	241,186.53	179,512,309.93	179,361,642.74	391,853.72
Total	<u>529,364,508.45</u>	<u>4,894,522,660.26</u>	<u>4,841,475,545.46</u>	<u>582,411,623.25</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXIX) Employee benefits payable (Continued)

3. Breakdown of defined contribution plan

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Decrease during the period	Closing balance
1. Basic pension insurance	16,583,744.38	492,163,963.31	484,843,446.03	23,904,261.66
2. Unemployment insurance	586,299.43	16,845,150.86	17,133,503.91	297,946.38
3. Enterprise annuity payment	13,200,922.14	152,279,351.19	152,227,327.75	13,252,945.58
Total	<u>30,370,965.95</u>	<u>661,288,465.36</u>	<u>654,204,277.69</u>	<u>37,455,153.62</u>

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Decrease during the period	Closing balance
1. Basic pension insurance	11,201,815.15	479,528,601.79	474,146,672.56	16,583,744.38
2. Unemployment insurance	674,629.12	17,445,471.62	17,533,801.31	586,299.43
3. Enterprise annuity payment	10,923,110.63	162,103,449.59	159,825,638.08	13,200,922.14
Total	<u>22,799,554.90</u>	<u>659,077,523.00</u>	<u>651,506,111.95</u>	<u>30,370,965.95</u>

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XL) Taxes payable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Value-added tax	512,832,538.35	500,379,362.36
Enterprise income tax	247,583,704.01	292,286,097.41
Individual income tax	102,337,644.72	72,253,279.61
Urban maintenance and construction tax	16,826,734.30	16,469,037.53
Property tax	2,776,384.16	2,081,581.39
Educational surcharge	12,599,319.35	12,494,768.05
Land use tax	1,206,864.00	1,186,917.27
Others	3,739,679.91	2,491,627.79
Total	<u>899,902,868.80</u>	<u>899,642,671.41</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLI) Other payables

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Interest payable		
Dividends payable	118,347,201.50	
Other payables	1,366,728,778.59	1,063,620,223.11
Total	1,485,075,980.09	1,063,620,223.11

Other explanation:

Applicable Not applicable

Interest payable

1. Classified presentation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLI) Other payables (Continued)

Dividends payable

1. *Classified presentation*

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
China Railway Zhengzhou Group Co., Ltd.	117,216,300.00	
Eltak AS	529,872.00	
Zenitel Norway AS	458,280.00	
Hangzhou Tianyue Win-Win Corporate Management Partnership (Limited Partnership) (杭州天悦共赢企业管理合夥企業(有限合夥))	142,749.50	
Total	<u>118,347,201.50</u>	

Other payables

1. *Breakdown of other payables by nature*

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Deposits and margins	746,181,270.86	528,577,321.17
Current payments	294,065,046.01	315,903,956.33
Acquisition of fixed assets	137,087,512.54	172,688,933.51
Public facility maintenance funds	18,663,526.25	18,891,114.03
Others	170,731,422.93	27,558,898.07
Total	<u>1,366,728,778.59</u>	<u>1,063,620,223.11</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLI) Other payables (Continued)

Other payables (Continued)

2. Major other payables aged over one year

Applicable Not applicable

- (1) As at 31 December 2022, the total of the top five other accounts payable aged over one year amounted to RMB91,137,731.94.
- (2) As at 31 December 2021, the total of the top five other accounts payable aged over one year amounted to RMB78,208,306.64.

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Within 1 year	848,872,303.09	863,525,097.36
1 to 2 years	344,376,071.63	95,618,390.96
2 to 3 years	78,139,763.23	62,825,011.45
Over 3 years	95,340,640.64	41,651,723.34
Total	<u>1,366,728,778.59</u>	<u>1,063,620,223.11</u>

Other explanation:

Applicable Not applicable

(XLII) Liabilities held for sale

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIII) Non-current liabilities due within one year

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Long-term borrowings due within one year	1,145,289,546.40	226,069,092.80
Long-term payables due within one year	32,003,740.26	37,438,695.03
Lease liabilities due within one year	59,801,371.37	65,052,808.37
Total	<u>1,237,094,658.03</u>	<u>328,560,596.20</u>

See Note “VII. (XLV)” for details of long-term borrowings due within one year, see Note “VII. (XLVII)” for details of lease liabilities due within one year, and see Note “VII. (XLVIII)” for details of long-term payables due within one year.

(XLIV) Other current liabilities

Other current liabilities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Estimated liabilities	23,673,452.22	20,990,155.96
Output VAT to be transferred	791,848,155.22	455,083,428.53
Total	<u>815,521,607.44</u>	<u>476,073,584.49</u>

Increase or decrease in short-term bonds payable:

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLV) Long-term borrowings

1. Breakdown of long-term borrowings

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Balance	4,436,075,719.17	3,353,791,575.20
Pledged borrowings	3,464,075,719.17	2,336,791,575.20
Credit borrowings	972,000,000.00	1,017,000,000.00
Less: Long-term borrowings due within one year	1,145,289,546.40	226,069,092.80
Pledged borrowings	345,289,546.40	226,069,092.80
Credit borrowings	800,000,000.00	
Long-term borrowings due after one year	3,290,786,172.77	3,127,722,482.40
Pledged borrowings	3,118,786,172.77	2,110,722,482.40
Credit borrowings	172,000,000.00	1,017,000,000.00
Total	<u>3,290,786,172.77</u>	<u>3,127,722,482.40</u>

Description of long-term borrowing classification:

Notes:

- As at 31 December 2022, the Company's book value of other non-current assets of RMB4,728,042,641.60 and book value of accounts receivable of RMB465,060,456.80 (31 December 2021: other non-current assets of RMB4,426,249,414.22, and accounts receivable of RMB201,458,572.34) derived from the pledged income right in and to the franchise and all proceeds thereunder were used to obtain long term loans of RMB3,464,075,719.17 (31 December 2021: RMB2,336,791,575.20), including the amounts due within one year of RMB345,289,546.40.
- As at 31 December 2022, the Company's credit borrowings amounted to RMB800,000,000.00 and RMB172,000,000.00 were the credit borrowings from the Export-Import Bank of China by the head office of the Company and the credit borrowings from the Bank of Chengdu were guaranteed by the Company's third-tier subsidiary First Construction for its subsidiary Yibin Tonghao Hongshun Project Management Co., Ltd., respectively, including the amounts due within one year of RMB800,000,000.00. For the details of long-term borrowings due within one year, please see Note "VII. (XLIII)".

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLV) Long-term borrowings (Continued)

1. Breakdown of long-term borrowings (Continued)

Other explanations, including interest rate range:

Applicable Not applicable

The above borrowings are bank borrowings made with variable annual interest rates ranging from 2.90% to 5.39% (31 December 2021 ranged from 4.90% to 5.39%). As at 31 December 2022, the long-term borrowing balance due within one to two years was RMB24,000,000.00, the long-term borrowing balance due within two to five years was RMB442,947,076.77, and the long-term borrowing balance due over five years was RMB2,823,839,096.00. (As at 31 December 2021, the long-term borrowing balance due within one to two years was nil, the long-term borrowing balance due within two to five years was RMB43,450,000.00, and the long-term borrowing balance due over five years was RMB781,216,111.20).

(XLVI) Bonds payable

1. Bonds payable

Applicable Not applicable

2. Increase or decrease in bonds payable (excluding preferred shares, perpetual bonds and other financial instruments classified as financial liabilities)

Applicable Not applicable

3. Explanation about the conditions and timing of conversion of convertible corporate bonds

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLVI) Bonds payable (Continued)

4. Explanation about other financial instruments classified as financial liabilities

Basic information on preferred shares, perpetual bonds and other financial instruments that are outstanding at the end of the period

Applicable Not applicable

Statement on changes in preferred shares, perpetual bonds and other financial instruments that are outstanding at the end of the period

Applicable Not applicable

Explanation about basis for classifying other -financial instruments as financial liabilities:

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLVII) Lease liabilities

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Lease liabilities	177,874,906.78	162,800,666.72
Reclassified as non-current liabilities		
due within one year	59,801,371.37	65,052,808.37
Lease liabilities, net	118,073,535.41	97,747,858.35
Total	118,073,535.41	97,747,858.35

Other explanation:

The book value of lease liabilities and its changes for the year are as follows:

	Closing balance	Opening balance
Opening balance for the year	162,800,666.72	125,631,000.71
Increase for the year	83,501,138.62	106,093,251.14
Interest expense	11,045,192.88	8,797,303.53
Decrease for the year – modification of lease	-824,916.95	-476,775.63
Decrease for the year – lease payments	-78,647,174.49	-77,244,113.03
Closing balance for the year	177,874,906.78	162,800,666.72

Note: For the details of lease liabilities due within one year, please see Note “VII (XLIV)”.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLVIII) Long-term payables

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Long-term payables	58,629,829.67	62,593,424.21
Special payables		
Total	<u>58,629,829.67</u>	<u>62,593,424.21</u>

Other explanation:

Applicable Not applicable

Long-term payables

1. Breakdown of long-term payables by nature

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Closing balance
Construction quality guarantee deposits	90,633,569.93	100,032,119.24
Less: Long-term payables due within one year	<u>32,003,740.26</u>	<u>37,438,695.03</u>
Total	<u>58,629,829.67</u>	<u>62,593,424.21</u>

Other explanation:

Special payables

2. Breakdown of special payables by nature

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable

Applicable Not applicable

1. Statement on long-term employee benefits payable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Net liabilities under defined benefit plans (supplemental retirement benefit)	529,374,000.00	554,500,000.00
Long-term dismissal benefits (internal retirement plan)	14,078,000.00	21,044,000.00
Less: Remunerations payable within one year	39,845,000.00	44,769,000.00
Total	503,607,000.00	530,775,000.00

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable (Continued)

2. Changes in defined benefit plans

Present value of obligations under defined benefit plans:

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
I. Opening balance	575,544,000.00	622,005,000.00
II. The defined benefit cost included in the current profit and loss	11,801,000.00	23,483,000.00
1. Current service costs	-	-
2. Past service costs	-1,854,000.00	-
3. Settlement gains (losses indicated by "-")	-2,859,000.00	4,090,000.00
4. Net interests	16,514,000.00	19,393,000.00
III. The defined benefits cost included in other comprehensive income	-1,565,000.00	-24,841,000.00
1. Actuarial gains (losses indicated by "-")	-1,565,000.00	-24,841,000.00
2. Others	-	-
IV. Other changes	-42,328,000.00	-45,103,000.00
1. Consideration paid at settlement	-	-
2. Benefits paid	-42,328,000.00	-45,103,000.00
3. Others	-	-
V. Closing balance	<u>543,452,000.00</u>	<u>575,544,000.00</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable (Continued)

2. Changes in defined benefit plans (Continued)

Plan assets:

Applicable Not applicable

Net liabilities (net assets) under defined benefit plans

Applicable Not applicable

Explanation about impacts of the details of the defined benefit plan and its associated risks on the Company's future cash flow, timing, and uncertainty:

Applicable Not applicable

Note: The Company pays supplementary retirement benefits for its employees in Mainland China who retired on and before 31 December 2012 in addition to the contributions made to statutory insurance plans. Such supplementary retirement benefits are defined benefit plans. These plans include monthly pension benefits, medical reimbursement benefits, annual medical insurance premiums, and funeral benefits for employees who are retired. The Company's obligations in respect of supplementary retirement benefits are determined by estimating the amount of obligations that the Company is committed to paying to the employees after their retirement using actuarial techniques. The amount of the subsidy is determined based on the period during which the employee serves the Company and the relevant subsidy and welfare policy.

Some employees of the Company have gone through internal retirement. The internal retirement payables are accrued in the relevant legal entities within the Company during the period in which the Company has entered into relevant agreements/documents with relevant employees or informing individual employees of the specific internal retirement terms.

The specific terms of internal retirement vary depending on factors such as the position of the relevant employee, length of service and the region of service.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable (Continued)

2. Changes in defined benefit plans (Continued)

Plan assets: (Continued)

The plan is subject to interest rate risk, risk of changes in life expectancy of pension beneficiaries, and stock market risks.

Such supplementary retirement benefits are discounted with the discount rate which determined by referring to the yield rate of the PRC treasury bonds with the maturity date similar to the period of the obligations assumed by the Company at the end of the Reporting Period. The service cost and net interest income and expenditures from the supplementary retirement benefits are recorded in the profit or loss for the current period when incurred, while the changes in liabilities from the remeasurement of supplementary retirement benefits are recorded in other comprehensive income.

No planned asset has been established for the defined benefit plan by the Company as at 31 December 2022 and 31 December 2021.

The actuarial method and key assumption adopted for the calculation of the Company's supplementary retirement benefits and internal retirement payables in each year/period are as follows:

Name of the independent actuary: Towers Watson Consulting (Shenzhen) Co., Ltd. (韜睿惠悅管理諮詢(深圳)有限公司), Wu Haichuan;

Qualifications: Member of the Society of Actuaries, member of the American Academy of Actuaries, fellow of China Association of Actuaries and Chartered Enterprise Risk Analyst;

Actuarial method: The Company has adopted expected accumulated benefit unit method in its annual actuarial valuation, and the rolling method in its interim actuarial valuation;

Key assumption: The annual growth rate of average medical costs, the annual growth rate of unreimbursed funeral costs, the annual growth rate of supplementary pension benefits for retired personnel, the annual growth rate of testament grant benefits, the annual growth rate of benefits for internal retired personnel and the death rate remain unchanged.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable (Continued)

2. Changes in defined benefit plans (Continued)

The following table shows the main actuarial assumptions used on the balance sheet date:

Item	31 December 2022	31 December 2021
Discount rate	3.00%	3.00%
Mortality rate	Average mortality rate of residents in Mainland China	Average mortality rate of residents in Mainland China
Average life expectancy	16	16
Annual growth rate of average medical expenses	8.00%	8.00%
Growth rate of supplementary pension benefits for retired personnel	3.00%	3.00%
Annual growth rate of benefits for internal retired personnel	4.50%	4.50%

Explanation on the material actuarial assumptions and sensitivity analysis results of defined benefit plans

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable (Continued)

2. Changes in defined benefit plans (Continued)

The following table provides a quantitative sensitivity analysis on the key assumptions used:

Item	Increase (%)	(Decrease)/increase	Decrease (%)	Increase/(decrease)
		in obligations under		in obligations under
		defined benefit plans		defined benefit plans
Discount rate	0.25	-14,441,000.00	0.25	15,419,000.00
Annual growth rate of average medical expenses	1.00	27,073,000.00	1.00	-22,622,000.00

The above sensitivity analysis is to infer the impact of reasonable change occurring to the key assumptions on the balance sheet date on the obligations under the defined benefit plans. Sensitivity analysis is made on the basis of changes in significant assumptions while other assumptions remain unchanged. Since changes in assumptions are often not isolated from each other, sensitivity analysis might not represent actual changes in the obligations under defined benefit plans.

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(L) Estimated liabilities

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening Balance	Closing balance	Cause of formation
Product quality guarantee	44,409,443.04	42,272,884.54	
Pending onerous contracts	10,112,537.79	10,112,537.79	
Less: Estimated liabilities due within one year	20,990,155.96	23,673,452.22	
Total	33,531,824.87	28,711,970.11	/

2022

Unit: Yuan Currency: RMB

	2022	2022	2022
	Product quality guarantee deposits (note)	Pending onerous contracts and others	Total
Opening balance for the year	44,409,443.04	10,112,537.79	54,521,980.83
Increase for the year	48,591,659.60		48,591,659.60
Reversal for the year	-25,260,267.69		-25,260,267.69
Use for the year	-25,467,950.41		-25,467,950.41
Closing balance for the year	42,272,884.54	10,112,537.79	52,385,422.33
Including: estimated liabilities due within one year	23,673,452.22	—	23,673,452.22
	18,599,432.32	10,112,537.79	28,711,970.11

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(L) Estimated liabilities (Continued)

2021

Unit: Yuan Currency: RMB

	2021	2021	2021
	Product quality guarantee deposits (note)	Pending onerous contracts and others	Total
Opening balance for the year	50,831,899.20	10,847,823.53	61,679,722.73
Increase for the year	16,828,259.84	–	16,828,259.84
Reversal for the year	-375,811.31	-735,285.74	-1,111,097.05
Use for the year	-22,874,904.69	–	-22,874,904.69
Closing balance for the year	44,409,443.04	10,112,537.79	54,521,980.83
Including: estimated liabilities due within one year	<u>20,990,155.96</u>	<u>–</u>	<u>20,990,155.96</u>
	<u>23,419,287.08</u>	<u>10,112,537.79</u>	<u>33,531,824.87</u>

Note: The Company estimates the quality guarantee deposits according to the sales revenue and the estimated warranty rate taking into account the different stages of the product life cycle of different products. The estimated rate of warranty occurrence is based on the historical experience data of the actual occurrence of warranty for the same type of products, and may be estimated according to significant changes due to the different stages of product life cycle of different products and similar products. As at the balance sheet date, the quality guarantee deposits that the Company expects to incur in the future under the above method shall be included into the profit or loss for the period.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LI) Deferred income

Deferred income situation

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Government grants related to assets	70,263,540.42	5,710,000.00	7,765,525.24	68,208,015.18
Government grants related to income	89,835,372.26	152,845,625.50	95,871,419.48	146,809,578.28
Total	<u>160,098,912.68</u>	<u>158,555,625.50</u>	<u>103,636,944.72</u>	<u>215,017,593.46</u>

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Government grants related to assets	73,362,003.10	–	3,098,462.68	70,263,540.42
Government grants related to income	77,572,429.65	63,938,079.36	51,675,136.75	89,835,372.26
Total	<u>150,934,432.75</u>	<u>63,938,079.36</u>	<u>54,773,599.43</u>	<u>160,098,912.68</u>

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LII) Other non-current liabilities

Applicable Not applicable

(LIII) Share capital

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Changes for the period (+, -)	Closing balance
CRSC Group	6,686,069,771.51		6,686,069,771.51
China National Machinery Industry Corporation (中國機械工業集團有限公司)	63,507,192.00		63,507,192.00
China Chengtong Holdings Group Limited (中國誠通控股集團有限公司)	63,507,192.00		63,507,192.00
China Guoxin Holding Co., Ltd. (中國國新控股有限責任公司)	63,507,192.00		63,507,192.00
CICC Jiacheng Investment Management Co., Ltd. (中金佳成投資管理有限公司)	26,070,000.00		26,070,000.00
National Council for Social Security Fund (全國社保基金理事會)	178,982,000.00		178,982,000.00
Overseas-listed H shares	1,708,175,652.49		1,708,175,652.49
Domestic-listed A shares	1,800,000,000.00		1,800,000,000.00
Total	<u>10,589,819,000.00</u>		<u>10,589,819,000.00</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LIII) Share capital (Continued)

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Changes for the period (+, -)	Closing balance
CRSC Group	6,604,426,424.00	81,643,347.51	6,686,069,771.51
China National Machinery Industry Corporation (中國機械工業集團有限公司)	63,507,192.00		63,507,192.00
China Chengtong Holdings Group Limited (中國誠通控股集團有限公司)	63,507,192.00		63,507,192.00
China Guoxin Holding Co., Ltd. (中國國新控股有限責任公司)	63,507,192.00		63,507,192.00
CICC Jiacheng Investment Management Co., Ltd. (中金佳成投資管理有限公司)	26,070,000.00		26,070,000.00
National Council for Social Security Fund (全國社保基金理事會)	178,982,000.00		178,982,000.00
Overseas-listed H shares	1,789,819,000.00	-81,643,347.51	1,708,175,652.49
Domestic-listed A shares	1,800,000,000.00		1,800,000,000.00
Total	<u>10,589,819,000.00</u>		<u>10,589,819,000.00</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LIV) Other equity instruments

1. Basic information on preferred shares, perpetual bonds and other financial instruments that are outstanding at the end of the period

Applicable Not applicable

As at 31 December 2022, the details of the Company's outstanding perpetual bonds are as follows:

Outstanding financial instruments	Issue date	Accounting classification	Dividend rate or interest rate	Issue price	Number	Amount	Expiry date or renewal status	Condition of conversion	Transformation status
2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited	15 December 2021	Perpetual bonds	3.32%	100.00	28,000,000.00	2,800,000,000.00	Unexpired	None	No
Total				100.00	28,000,000.00	2,800,000,000.00			

As at 31 December 2021, the details of the Company's outstanding perpetual bonds are as follows:

Outstanding financial instruments	Issue date	Accounting classification	Dividend rate or interest rate	Issue price	Number	Amount	Expiry date or renewal status	Condition of conversion	Transformation status
2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited	15 December 2021	Perpetual bonds	3.32%	100.00	28,000,000.00	2,800,000,000.00	Unexpired	None	No
Total				100.00	28,000,000.00	2,800,000,000.00			

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LIV) Other equity instruments (Continued)

2. Statement on changes in preferred shares, perpetual bonds and other financial instruments that are outstanding at the end of the period

Applicable Not applicable

Unit: Yuan Currency: RMB

Outstanding financial instruments	Beginning of the period		Increase for the period		Decrease for the period		End of the period	
	Number	Carrying	Number	Carrying	Number	Carrying	Number	Carrying
		amount		amount		amount		amount
Perpetual bonds	28,000,000	2,796,935,660.38					28,000,000	2,796,935,660.38
Total	<u>28,000,000</u>	<u>2,796,935,660.38</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u>28,000,000</u>	<u>2,796,935,660.38</u>

Changes (increase or decrease) during the period, reasons for such changes and basis for relevant accounting treatment of other equity instruments:

Applicable Not applicable

Other explanations:

Applicable Not applicable

Note:

The Company issued 2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited in the amount of RMB2,800,000,000.00 on 15 December 2021. The net proceeds raised after deducting the underwriting expenses of RMB3,064,339.62 for the Medium-term Notes was RMB2,796,935,660.38. The Company recorded the Medium-term Notes with its net proceeds from the issuance net off underwriting expenses and included in other equity instruments. The initial investment period is 3 years, and the interest rate of the initial investment period is fixed at 3.32%. The Company has the right to choose to defer the interest payment. After the expiration, the Company has the right to choose renewal; the reset rate during the renewal period jumped 300 basis points based on the annual interest rate applicable to the previous investment period.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LV) Capital reserve

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Capital premium (share capital premium)	15,538,873,267.94			15,538,873,267.94
Fiscal appropriation	8,670,000.00			8,670,000.00
Acquisition of minority interest of subsidiaries	9,240,638.86			9,240,638.86
Adjustment on long-term equity under interest method	660,686.75		40,035.61	620,651.14
Others	406,663,539.95			406,663,539.95
Total	<u>15,964,108,133.50</u>		<u>40,035.61</u>	<u>15,964,068,097.89</u>

(LVI) Treasury stocks

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LVII) Other comprehensive income

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Amount before income tax during the period	Amount for the period			Less: Income tax expenses	Amount attributable to the parent company after tax	Amount attributable to the minority shareholders after tax	Closing balance
			Less: Amount transferred to profit or loss from other comprehensive income	Less: Amount transferred to retained earnings from other comprehensive income	Less: Amount transferred to retained earnings from other comprehensive income				
I. Other comprehensive income not reclassified into profit or loss	-208,221,000.00	1,565,000.00				1,565,000.00		-206,656,000.00	
Including: Changes of the re-measurement of defined benefit plan	-208,221,000.00	1,565,000.00				1,565,000.00		-206,656,000.00	
II. Other comprehensive income reclassified to profit or loss	24,585,347.32	-16,534,172.13				-16,773,824.74	239,652.61	7,811,522.58	
Including: Other comprehensive income that may be transferred to profit or loss under equity method									
Changes in fair value of receivables financing	4,692,421.18	-877,922.66				-1,117,575.27	239,652.61	3,574,845.91	
Hedging reserve arising from cash flows	20,697,985.28	-17,353,786.82				-17,353,786.82		3,344,198.46	
Differences on translation of foreign currency financial statements	-805,059.14	1,697,537.35				1,697,537.35		892,478.21	
Total other comprehensive income	-183,635,652.68	-14,969,172.13				-15,208,824.74	239,652.61	-198,844,477.42	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LVII) Other comprehensive income (Continued)

Item	Closing balance of last year	Amount before income tax during the period	Amount for last period			Less: income tax expenses	Amount attributable to the parent company after tax	Amount attributable to the minority shareholders after tax	Closing balance
			Less: Amount transferred to profit or loss from other comprehensive income	Less: Amount transferred to retained earnings from other comprehensive income	Less: Amount transferred to retained earnings from other comprehensive income				
I. Other comprehensive income not reclassified into profit or loss	-233,062,000.00	24,841,000.00				24,841,000.00		-208,221,000.00	
Including: Changes of the re-measurement of defined benefit plan	-233,062,000.00	24,841,000.00				24,841,000.00		-208,221,000.00	
II. Other comprehensive income reclassified to profit or loss	25,371,392.87	-784,149.35				-786,045.55	1,896.20	24,585,347.32	
Including: Hedging reserve arising from cash flows	21,772,817.52	-1,074,832.24				-1,074,832.24		20,697,985.28	
Differences on translation of foreign currency financial statements	-501,228.13	-303,831.01				-303,831.01		-805,059.14	
Changes in fair value of receivables financing	4,099,803.48	594,513.90				592,617.70	1,896.20	4,692,421.18	
Total other comprehensive income	<u>-207,690,607.13</u>	<u>24,056,850.65</u>				<u>24,054,954.45</u>	<u>1,896.20</u>	<u>-183,635,652.68</u>	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LVIII) Special reserve

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Safety production expenses	<u>267,880,349.13</u>	<u>420,048,073.14</u>	<u>344,434,223.10</u>	<u>343,494,199.17</u>
Total	<u>267,880,349.13</u>	<u>420,048,073.14</u>	<u>344,434,223.10</u>	<u>343,494,199.17</u>

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Safety production expenses	<u>306,215,150.31</u>	<u>383,119,362.80</u>	<u>421,454,163.98</u>	<u>267,880,349.13</u>
Total	<u>306,215,150.31</u>	<u>383,119,362.80</u>	<u>421,454,163.98</u>	<u>267,880,349.13</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LIX) Surplus reserve

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Statutory surplus reserve	<u>1,811,324,694.45</u>	<u>231,644,115.72</u>		<u>2,042,968,810.17</u>
Total	<u>1,811,324,694.45</u>	<u>231,644,115.72</u>		<u>2,042,968,810.17</u>

2021

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Statutory surplus reserve	<u>1,597,958,257.98</u>	<u>213,366,436.47</u>	–	<u>1,811,324,694.45</u>
Total	<u>1,597,958,257.98</u>	<u>213,366,436.47</u>	–	<u>1,811,324,694.45</u>

Description of surplus reserve, including changes in the period and reason for the changes:

According to the Company Law and the Articles of Association of the Company, the Company shall withdraw statutory surplus reserve fund at 10% of its net profit. If the accumulative amount of the statutory surplus reserve is more than 50% of the Company's registered capital, the statutory surplus reserve fund shall no longer be withdrawn.

After the Company withdraws the statutory surplus reserve fund, it can withdraw discretionary surplus reserve fund. Upon approval, the discretionary surplus reserve can be used to make up for losses of the preceding year or increase share capital.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LX) Retained earnings

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Current period	Last period
Retained earnings at the end of last period before adjustment	12,308,220,568.86	11,512,862,059.38
Total amount of retained earnings at the beginning of the adjustment period (increase +, decrease -)		—
Retained earnings at the beginning of the period after adjustment	12,308,220,568.86	11,512,862,059.38
Add: Net profits attributable to owners of the parent during the current period	3,633,640,258.62	3,274,672,689.28
Less: Appropriation to statutory surplus reserve	231,644,115.72	213,366,436.47
Appropriation to discretionary surplus reserve		
Accrual of general risk reserves		
Dividend payables of ordinary shares	1,800,269,230.00	2,117,963,800.00
Dividend of ordinary shares converted into share capital		
Dividends paid to other equity holders	92,960,000.00	118,143,333.33
Appropriation to employee reward and welfare fund	31,511,574.00	29,840,610.00
Others		—
Retained earnings at the end of the period	<u>13,785,475,907.76</u>	<u>12,308,220,568.86</u>

Notes:

- (1) In accordance with the resolution at the 2021 annual general meeting of Company, on 11 June 2022, the Company declared dividends for the remaining distributable profits as of 31 December 2021, and distributed cash dividend of RMB0.17 per share (including tax), with total amount of RMB1,800,269,230.00.
- (2) Appropriation to employee reward and welfare fund for the current period resulted in a decrease of RMB31,511,574.00 in retained earnings.
- (3) Dividends paid to other equity holders for the current period resulted in a decrease of RMB92,960,000.00 in retained earnings.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales

1. Revenue and costs of sales

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period		Amount incurred during the previous period	
	Revenue	Cost	Revenue	Cost
Principal operations	39,818,754,300.00	30,366,694,766.32	37,995,464,971.24	29,589,474,872.44
Other operations	384,453,473.29	314,046,819.77	362,832,137.54	257,400,798.90
Total	<u>40,203,207,773.29</u>	<u>30,680,741,586.09</u>	<u>38,358,297,108.78</u>	<u>29,846,875,671.34</u>

Revenue is presented as follows:

Unit: Yuan Currency: RMB

	2022	2021
Rail transportation control system	29,408,391,368.97	28,081,473,559.38
Equipment manufacturing	5,575,023,023.62	5,593,359,700.72
System implementation	14,076,059,317.09	12,868,789,308.02
Design and integration	9,757,309,028.26	9,619,324,550.64
Construction contracting	10,729,797,684.06	10,211,703,641.11
Others	65,018,720.26	65,119,908.29
	<u>40,203,207,773.29</u>	<u>38,358,297,108.78</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales (Continued)

1. Revenue and costs of sales (Continued)

Cost of sales is listed as follows:

Unit: Yuan Currency: RMB

	2022	2021
Rail transportation control system	21,231,816,680.78	20,615,607,750.80
Equipment manufacturing	3,422,790,768.16	3,421,823,804.96
System implementation	12,149,977,685.25	11,271,853,009.22
Design and integration	5,659,048,227.37	5,921,930,936.62
Construction contracting	9,428,340,154.55	9,193,313,039.98
Others	20,584,750.76	37,954,880.56
	<u>30,680,741,586.09</u>	<u>29,846,875,671.34</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales (Continued)

2. Revenue generated from contracts

Applicable Not applicable

2022

Unit: Yuan Currency: RMB

Contract type	Rail transportation control system	Construction contracting	Others	Total
By region of operation				
China	27,904,938,390.46	10,729,797,684.06	65,018,720.26	38,699,754,794.78
Other countries and regions	1,503,452,978.51			1,503,452,978.51

2021

Unit: Yuan Currency: RMB

Contract type	Rail transportation control system	Construction contracting	Others	Total
By region of operation				
China	26,976,569,092.59	10,211,703,641.11	65,119,908.29	37,253,392,641.99
Other countries and regions	1,104,904,466.79	-	-	1,104,904,466.79
Total	<u>28,081,473,559.38</u>	<u>10,211,703,641.11</u>	<u>65,119,908.29</u>	<u>38,358,297,108.78</u>

Explanation of revenue generated from contracts:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales (Continued)

3. Details of performance obligation

✓ Applicable Not applicable

2022

Unit: Yuan Currency: RMB

	Rail transportation control system	Construction contracting	Others	Total
Time of revenue recognition				
Revenue recognised at a certain point of time	5,575,023,023.62		65,018,720.26	5,640,041,743.88
Revenue recognised within a certain period of time	<u>23,833,368,345.35</u>	<u>10,729,797,684.06</u>		<u>34,563,166,029.41</u>
Total	<u><u>29,408,391,368.97</u></u>	<u><u>10,729,797,684.06</u></u>	<u><u>65,018,720.26</u></u>	<u><u>40,203,207,773.29</u></u>

2021

Unit: Yuan Currency: RMB

	Rail transportation control system	Construction contracting	Others	Total
Time of revenue recognition				
Revenue recognised at a certain point of time	4,498,099,623.97		65,119,908.29	4,563,219,532.26
Revenue recognised within a certain period of time	<u>23,583,373,935.41</u>	<u>10,211,703,641.11</u>		<u>33,795,077,576.52</u>
Total	<u><u>28,081,473,559.38</u></u>	<u><u>10,211,703,641.11</u></u>	<u><u>65,119,908.29</u></u>	<u><u>38,358,297,108.78</u></u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales (Continued)

4. Explanation about allocation to the remaining performance obligations

Applicable Not applicable

Other explanation:

Typically, the construction contracts or service rendering contracts provided by the Group as a whole constitutes a single performance obligation and is a performance obligation performed within a certain period of time. As of 31 December 2022, some of the Group's construction contracts or service rendering contract are still in the process of performance. The transaction price allocated to the outstanding (or partially outstanding) performance obligations is related to the performance progress of the corresponding construction contract or service rendering contract, and will be recognized as revenue on the basis of the performance progress in the future performance period of the corresponding construction contract or service rendering contract.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXII) Taxes and surcharges

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Urban maintenance and construction tax	80,180,473.67	87,212,479.95
Educational surcharge	59,722,491.91	65,416,528.73
Property tax	57,874,205.18	57,410,972.66
Land use tax	10,637,570.58	11,570,661.30
Stamp duty	25,424,336.37	27,744,625.80
Others	7,695,529.65	4,331,388.42
Total	<u>241,534,607.36</u>	<u>253,686,656.86</u>

(LXIII) Selling and distribution expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Employee benefits	521,875,083.04	495,162,695.14
Sales service expenses	136,195,807.98	132,025,500.76
Office and rental expenses	28,362,880.81	30,046,029.59
Tendering expenses	49,496,689.45	46,132,049.80
Depreciation and amortization expenses	6,032,515.92	6,335,783.89
Others	70,148,329.58	87,069,798.24
Total	<u>812,111,306.78</u>	<u>796,771,857.42</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXIV) General and administrative expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Employee benefits	1,429,725,243.28	1,353,667,745.85
Safety production expenses	208,351,889.52	177,618,771.59
Depreciation and amortization expenses	287,595,401.34	241,217,142.00
Office and rental expenses	187,453,539.36	166,467,716.28
Travel costs and business entertainment expenses	45,092,085.74	54,648,452.28
Others	131,776,314.92	123,362,191.27
Total	<u>2,289,994,474.16</u>	<u>2,116,982,019.27</u>

Explanation on others:

The audit fees of the Group for the year was RMB6,360,000.00 (2021: RMB9,150,000.00).

(LXV) Research and development expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Labor expenses	1,029,009,234.86	978,785,273.66
Materials expenses	177,208,907.38	205,408,476.85
Testing and processing expenses	139,792,112.54	98,145,585.43
Depreciation and amortization expenses	78,076,419.04	86,110,668.19
Administrative expenses	65,399,624.22	69,087,991.24
Travel costs	34,333,263.13	34,687,867.46
Others	165,991,035.46	166,269,040.37
Total	<u>1,689,810,596.63</u>	<u>1,638,494,903.20</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXVI) Finance costs

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Interest expense	110,995,320.48	94,342,569.44
Less: Interest income	407,442,103.32	482,214,091.74
Exchange loss	-116,087,250.19	33,061,151.72
Financial institutions commissions	174,550,503.73	42,428,616.33
Total	<u>-237,983,529.30</u>	<u>-312,381,754.25</u>

(LXVII) Other income

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Government grants	361,030,269.21	336,893,708.75
Additional deduction of input tax	938,018.84	
Withholding of personal income tax fees	4,855,057.85	
VAT directly exempted	978.66	
Total	<u>366,824,324.56</u>	<u>336,893,708.75</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXVII) Other income (Continued)

Other explanation:

Government grants credited to other income:

Item	Amount incurred during the period	Amount incurred during the previous period
Government grants related to assets		
Other grants	6,959,552.89	1,289,503.65
Government grants related to income		
Refund of taxes	144,115,082.55	155,186,020.42
Other grants	209,955,633.77	180,418,184.68
Total	<u>361,030,269.21</u>	<u>336,893,708.75</u>

(LXVIII) Investment income

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Income from long-term equity investments under the equity method	96,310,729.93	86,129,094.82
Investment income from disposal of long-term equity investments	-	381,153.40
Dividend income from debt investments during the holding period	11,364,993.67	11,364,993.67
Realized gain (loss) from ineffective portion of cash flow hedges	2,650,493.61	1,254,059.81
Investment income generated from debt restructuring	12,168,420.51	14,204,713.31
Others	-898,981.44	577,068.49
Total	<u>121,595,656.28</u>	<u>113,911,083.50</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXIX) Gains on net exposure hedges

Applicable Not applicable

(LXX) Gains on changes in fair value

Applicable Not applicable

(LXXI) Credit impairment losses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Losses from bad debts of bills receivable	5,158,589.95	
Losses from bad debts of accounts receivable	380,737,154.28	161,945,192.51
Losses from bad debts of other receivables	45,350,797.41	33,420,301.56
Losses from bad debts of long-term receivables	159,884,901.57	-1,707,152.89
Reversal/(losses) from bad debts of non-current assets due within one year	136,023.70	-202,460.57
Reversal/(losses) from bad debts of retention money in other non-current assets	3,930,514.04	1,446,159.99
Losses from impairment of receivables financing	-877,922.66	594,513.90
Total	<u>594,320,058.29</u>	<u>195,496,554.50</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXII) Losses from impairment of assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Losses from decline in value of inventories and impairment losses on contract performance cost	-29,369.65	-275,772.34
Contract asset impairment losses	-37,155,672.08	65,004,542.56
Total	<u>-37,185,041.73</u>	<u>64,728,770.22</u>

(LXXIII) Gains on disposal of assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period
Gains on disposal of fixed assets	-1,005,999.02	35,918,865.82
Gains on disposal of intangible assets	30,605,932.68	30,510.25
Total	<u>29,599,933.66</u>	<u>35,949,376.07</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXIV) Non-operating income

Information about non-operating income

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period	Amount included in current non-recurring profit or loss
Income from damage and scrapping of non-current assets	584,856.40		584,856.40
Government grants	8,970,852.07	4,228,959.03	8,970,852.07
Compensation payments	4,516,921.68	5,372,226.23	4,516,921.68
Accounts payable	15,393,017.03	20,111,170.32	15,393,017.03
Others	18,815,242.14	15,114,542.48	18,815,242.14
Total	48,280,889.32	44,826,898.06	48,280,889.32

(LXXV) Non-operating expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount incurred during the period	Amount incurred during the previous period	Amount included in current non-recurring profit or loss
Total losses from disposal of non-current assets	4,349,752.52	1,303,916.09	4,349,752.52
Including: losses from disposal of fixed assets	4,349,752.52	1,303,916.09	4,349,752.52
External donation	595,000.00	10,660,200.00	595,000.00
Lawsuit compensation		350,500.00	
Others	4,932,834.30	2,996,697.89	4,932,834.30
Total	9,877,586.82	15,311,313.98	9,877,586.82

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXVI) Income tax expenses

1. Table for income tax expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Current income tax expenses	737,792,019.18	641,172,724.26
Deferred income tax expenses	-95,742,172.75	-60,170,627.96
Total	<u>642,049,846.43</u>	<u>581,002,096.30</u>

2. Adjustment process for accounting profit and income tax

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Total profit	4,742,693,708.16	4,273,912,182.62
Income tax at the statutory/applicable income tax rate	1,185,673,427.04	1,068,478,045.66
Effect of different tax rates for subsidiaries	-320,388,495.04	-289,648,928.04
Effect of non-deductible cost, expenses and loss	26,434,709.17	31,978,261.78
Tax effect of deductible losses and deductible temporary differences not recognized	5,408,209.73	4,757,693.85
Utilization of the tax effect of deductible losses and temporary differences not recognized in previous years	-2,445,919.99	-119,073.17
Tax effect of additional deductions	-179,151,216.38	-121,276,672.25
Adjustment on the income tax prevailing in previous period	-26,527,532.65	-80,966,092.03
Effect of non-taxable income	-7,624,815.27	-10,668,865.79
Profit and loss attributable to joint ventures and associates	-24,077,682.48	-21,532,273.71
Others	-20,142,677.68	-
Income tax expenses	<u>642,049,846.43</u>	<u>581,002,096.30</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXVI) Income tax expenses (Continued)

2. Adjustment process for accounting profit and income tax (Continued)

Notes: The Group's income tax has been provided at the applicable rate on the estimated profits assessable arising in the PRC during the period. Taxes on profits assessable elsewhere have been calculated at the applicable rates of tax prevailing in the countries/regions in which the Group operates, based on existing legislation, interpretations and practices in respect thereof.

Share of tax attributable to joint ventures and associates in 2022 was RMB24,077,682.48 (2021: RMB21,532,273.71). These shares of tax are included in the "income from investments in joint ventures and associates" in the consolidated income statement.

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXVII) Other comprehensive income

Applicable Not applicable

Please refer to Note VII. (LVII) for details

(LXXVIII) Items in statement of cash flows

1. Other cash received related to operating activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Income from other businesses	279,986,800.77	405,665,474.28
Government grants	271,833,867.44	232,081,956.26
Interest income	229,417,038.23	172,305,219.74
Others	57,562,063.14	22,515,673.96
Total	<u>838,799,769.58</u>	<u>832,568,324.24</u>

2. Other cash paid related to operating activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Research and development expenses	548,391,679.60	573,598,961.35
Safety production expenses	208,351,889.52	177,618,771.59
Travel and business hospitality expenses	79,425,348.87	54,648,452.28
Others	779,116,908.08	556,554,650.03
Total	<u>1,615,285,826.07</u>	<u>1,362,420,835.25</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXVIII) Items in statement of cash flows (Continued)

3. Other cash received related to investment activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Futures margin	18,508,756.41	
Interest income	164,750,954.22	309,908,872.00
Total	183,259,710.63	309,908,872.00

4. Other cash paid related to investment activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Futures margin		17,537,919.08
Total		17,537,919.08

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXVIII) Items in statement of cash flows (Continued)

5. Other cash received related to fund-raising activities

Applicable Not applicable

6. Other cash paid relating to fund-raising activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Rental expenses and others	<u>1,495,908,382.53</u>	<u>303,214,723.13</u>
Total	<u><u>1,495,908,382.53</u></u>	<u><u>303,214,723.13</u></u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXIX) Supplementary information to the statement of cash flows

1. Supplementary information to the statement of cash flows

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Supplementary information	Amount for the current period	Amount for the previous period
1. Adjustment of net profit to cash flow of operating activities:		
Net profit	4,100,643,861.73	3,692,910,086.32
Add: assets impairment provision	-37,185,041.73	64,728,770.22
Credit impairment losses	594,320,058.29	195,496,554.50
Depreciation and amortization of investment properties	16,440,537.51	17,885,911.35
Depreciation of fixed assets, oil and gas assets, productive biological assets	327,513,027.88	391,579,137.36
Amortization of right-of-use assets	77,684,511.77	72,876,876.30
Amortization of intangible assets	210,261,578.96	200,805,927.41
Amortization of long-term prepaid expenses	53,946,716.45	25,134,499.68
Loss from disposal of fixed assets, intangible assets and other long-term assets (income as sign "-")	-29,599,933.66	-35,949,376.07
Loss from scrap of fixed assets (income as sign "-")	3,764,896.12	
Loss from fair value change (income as sign "-")		
Financial costs (income as sign "-")	261,762,054.03	-188,746,471.26
Investment loss (income as sign "-")	-121,595,656.28	-113,911,083.50
Decrease in deferred income tax assets (increase as sign "-")	-104,066,969.11	-81,828,619.22
Increase in deferred income tax liabilities (decrease as sign "-")	-8,324,796.36	21,657,991.26
Decrease in special reserve	76,291,823.01	-37,422,858.45
Decrease in inventories (increase as sign "-")	114,063,286.45	-3,013,282.38
Decrease in operating receivables (increase as sign "-")	-4,911,199,201.36	-3,351,416,709.14
Increase in operating payables (decrease as sign "-")	1,413,968,945.85	1,897,914,136.68
Others	43,471,961.33	
Net cash flow generated from operating activities	2,082,161,660.88	2,768,701,491.06
2. Significant investment and financing activities not involving cash receipts and payments:		
Conversion of debt into capital		
Convertible corporate bonds due within one year		
Fixed assets acquired under financing leases		
3. Net change in cash and cash equivalents:		
Ending Balance of Cash	17,241,658,431.27	17,595,724,106.74
Less: opening balance of cash	17,595,724,106.74	18,184,861,073.07
Add: closing balance of cash equivalents		
Less: opening balance of cash equivalents		
Net increase in cash and cash equivalents	-354,065,675.47	-589,136,966.33

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXIX) Supplementary information to the statement of cash flows (Continued)

2. Net cash paid to acquire subsidiaries during the period

Applicable Not applicable

3. Net cash received from disposal of subsidiaries during the period

Applicable Not applicable

4. Composition of cash and cash equivalents

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
I. Cash	17,241,658,431.27	17,595,724,106.74
Including: Cash on hand	567,662.59	455,141.96
Bank deposits available for payment	17,241,090,768.68	17,595,268,964.78
Other monetary funds available for payment		
Funds deposited with the central bank that are available for payment		
II. Cash equivalents		
Including: Bond investment due within three months		
III. Closing balance of cash and cash equivalents	17,241,658,431.27	17,595,724,106.74
Including: Cash and cash equivalents with restrictions on use by the parent or subsidiaries within the Group		

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXX) Notes to items in statement of changes in owner's equity

Explanation of the name of "Others" item that adjusted the closing balance at the end of last year and the amount of adjustment, etc.:

Applicable Not applicable

(LXXXI) Assets with restricted ownership or right of use

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing carrying amount	Closing carrying amount of last year	Reasons for Restrictions
Monetary funds	457,150,025.99	500,621,987.32	Acceptance bill deposits, guarantee letter deposits and others
Bills receivable	218,610,572.55		Pledged borrowings
Receivables for financing	34,059,394.86	48,875,684.59	Pledged borrowings
Accounts receivable	465,060,456.80	201,458,572.34	Pledged borrowings
Other non-current assets	4,728,042,641.60	4,426,249,414.22	Pledged borrowings
Total	<u>5,902,923,091.80</u>	<u>4,676,583,671.15</u>	<u>/</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXII) Foreign currency monetary items

1. Foreign currency monetary items

Applicable Not applicable

Unit: Yuan

Item	Ending balance of foreign currency	Exchange rate	Ending balance in RMB equivalent
Monetary funds	–	–	524,344,621.28
US Dollar	10,227,044.91	6.9646	71,227,276.98
Euro	17,930,799.83	7.4229	133,098,534.06
HK Dollar	245,262,667.55	0.8933	219,085,783.04
Indian Rupee	756,705.58	0.0842	63,714.61
Others	8,517,815,156.05		100,869,312.59
Accounts receivable	–	–	38,600,343.23
US Dollar	5,542,363.27	6.9646	38,600,343.23
Accounts payable	–	–	53,460.27
US Dollar	<u>7,676.00</u>	<u>6.9646</u>	<u>53,460.27</u>

2. Notes on the overseas operating entities, including, for significant overseas operating entities, the necessary disclosure of main overseas operating places, functional currency and selection basis, as well as reasons for changes of the functional currency

Applicable Not applicable

(LXXIII) Hedging

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXXIV) Government grants

1. Basic information of government grants

Applicable Not applicable

Unit: Yuan Currency: RMB

Type	Amount	Item reported	Amount included in current profits or loss
Government grants related to assets			
Other research grants	5,957,395.08	Other income/ non-operating income	5,957,395.08
Demolition grants	1,808,130.16	Other income/ non-operating income	1,808,130.16
Government grants related to income			
Refund of taxes	144,115,082.55	Other income	144,115,082.55
Other research grants	209,955 633.77	Other income	209,955 633.77

2. Return of government grants

Applicable Not applicable

Other explanation:

(LXXXV) Others

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXXV) Others (Continued)

1. As lessee

Item	Amount for the current period	Amount for the last period
Interest expense on lease liabilities	10,125,376.63	4,479,715.18
Short-term lease expense under simplified approach included in the current profit or loss on the cost of the relevant asset	89,540,384.62	101,847,861.67
Lease expense of low-value assets (except short-term lease expense of low-value assets) under simplified approach included in the cost of the relevant asset or the current profit or loss	875,615.14	4,153,742.04
Variable lease payments not included in the measurement of lease liabilities included in the current profit or loss on the cost of the relevant asset Including: Portion arising from the sale and leaseback transaction		
Income from sublease of right-of-use assets	200,624.47	388,545.18
Total cash outflows relating to leases	138,351,192.79	145,960,981.04
Profit or loss arising from the sale and leaseback transaction		
Cash inflow from the sale and leaseback transaction		
Cash outflow from the sale and leaseback transaction		

The Company's potential future cash outflows that are not included in the measurement of lease liabilities are primarily derived from leases that are committed but have not yet commenced.

The Company's expected future cash outflows relating to leases that are committed but have not yet commenced are as follows:

Remaining lease term	Undiscounted lease payments
Within 1 year	48,939,313.31
1 to 2 years	45,582,953.25
2 to 3 years	29,997,255.37
Over 3 years	8,767,206.36
Total	<u>133,286,728.29</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXXV) Others (Continued)

2. As lessor

Operating lease

	Amount for the current period	Amount for the last period
Recurring rental income		
Including: Income related to variable lease payments that are not included in lease receipts	25,880,383.80	22,241,973.82

The undiscounted lease receipts to be received after the balance sheet date are as follows:

Remaining lease term	Amount for the current period	Amount for the last period
Within 1 year	3,987,054.37	3,647,297.61
1 to 2 years	3,291,382.84	2,623,507.33
2 to 3 years	3,296,621.21	3,039,941.24
Over 3 years	2,497,161.04	4,720,921.24
Total	13,072,219.46	14,031,667.42

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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VIII. CHANGES ON SCOPE OF CONSOLIDATION

(I) Business combination of entities not under common control

Applicable Not applicable

(II) Business combination of entities under common control

Applicable Not applicable

(III) Reverse takeover

Applicable Not applicable

(IV) Disposal of subsidiaries

Whether or not the loss of control occurs immediately after a single disposal of investment in the subsidiaries

Applicable Not applicable

Other explanation:

Applicable Not applicable

(V) Changes in scope of consolidation due to other reasons

Applicable Not applicable

In 2022, the scope of consolidation increased by 1 subsidiary as compared with the previous year, including 3 subsidiaries newly established and 2 subsidiaries deregistered. The details are as follows:

1. On 18 May 2022, CRSC CASCO and CRSCS, second-tier subsidiaries of the Company, established a new subsidiary, CASCO Signal (Xi'an) Co., Ltd. (卡斯柯信號(西安)有限公司) with 65% and 35% equity investment.
2. On 20 July 2022, CRSC CASCO and CRSCS, second-tier subsidiaries of the Company, established a new subsidiary, CASCO Signal (Xuzhou) Co., Ltd. (卡斯柯信號(徐州)有限公司) with 65% and 35% equity investment.
3. On 16 August 2022, the Company and CRSC Group established CRSC Group Finance Limited (通號集團財務有限公司) with 95% and 5% equity investment.
4. On 8 October 2022, CRSCE, a second-tier subsidiary of the Company, deregistered its wholly-owned subsidiary, CRSC Engineering Bureau Group Information Technology Co., Ltd. (通號工程局集團信息技術有限公司).
5. On 12 December 2022, the Company deregistered its wholly-owned subsidiary, CRSC (Beijing) Rail Industry Group Co., Ltd. (通號(北京)軌道工業集團有限公司).

(VI) Others

Applicable Not applicable

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Year ended 31 December 2022

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IX. INTERESTS IN OTHER ENTITIES

(I) Interests in subsidiaries

1. Composition of enterprise group

✓ Applicable □ Not applicable

Name of subsidiaries	Type of the corporate	Places of principal activities	Place of registration	Nature of business	Paid-in capital	Shareholding percentage of the Group (%)		Means of acquisition
						Direct	Indirect	
CRSC (Xi'an) Rail Industry Group Co., Ltd. (通號(西安)軌道交通工業集團有限公司)	limited liability company	Xi'an	Xi'an	Equipment manufacturing	2,148,657,600.00	100.00	-	Incorporation
CRSC Cables Company Ltd. (通號電纜集團有限公司)	limited liability company	Zhengzhou	Zhengzhou	Equipment manufacturing	347,500,000.00	100.00	-	Incorporation
Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. (北京全路通信信號研究設計院集團有限公司)	limited liability company	Beijing	Beijing	Design integration	2,010,000,000.00	100.00	-	Incorporation
CASCO Signal Ltd. (卡斯柯信號有限公司)	limited liability company	Shanghai	Shanghai	Design integration	600,000,000.00	51.00	-	Business combination not under common control
CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司)	limited liability company	Beijing	Beijing	Design integration	232,749,317.00	100.00	-	Incorporation
CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司)	limited liability company	Beijing	Beijing	Design integration	100,000,000.00	100.00	-	Incorporation
China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (中國鐵路通信信號上海工程局集團有限公司)	limited liability company	Shanghai	Shanghai	System delivery service and design integration	1,500,000,000.00	100.00	-	Incorporation
CRSC Engineering Group Company Ltd. (通號工程局集團有限公司)	limited liability company	Beijing	Beijing	System delivery service	1,095,000,000.00	100.00	-	Incorporation
CRSC International Holdings Company Limited (通號國際控股有限公司)	limited liability company	Beijing	Beijing	Design integration	463,000,000.00	100.00	-	Incorporation
CRSC Innovation Investment Co., Ltd. (通號創新投資有限公司)	limited liability company	Beijing	Beijing	Investment management	3,000,000,000.00	100.00	-	Incorporation
CRSC (Changsha) Rail Transit Control Technology Company Limited (通號(長沙)軌道交通控制技術有限公司)	limited liability company	Changsha	Changsha	System delivery service	1,228,750,000.00	100.00	-	Incorporation
CRSC Construction Group Co., Ltd. (通號建設集團有限公司)	limited liability company	Changsha	Changsha	General engineering contracting	1,100,060,000.00	100.00	-	Incorporation
Zhengzhou Zhongyuan Railway Engineering Co., Ltd. (鄭州中原鐵道工程有限責任公司)	limited liability company	Zhengzhou	Zhengzhou	General engineering contracting and system delivery service	384,904,540.27	65.00	-	Business combination not under common control
CRSC (Zhengzhou) Electrification Bureau Co., Ltd. (通號(鄭州)電氣化局有限公司)	limited liability company	Zhengzhou	Zhengzhou	General engineering contracting		65.00	-	Business combination not under common control
CRSC Jishou Huatai Pipeline Project Management Co., Ltd. (吉首通號華泰管廊項目管理有限責任公司)	limited liability company	Jishou	Jishou	Project management of engineering and operation and maintenance	580,000,000.00	90.00	-	Incorporation

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(I) Interests in subsidiaries (Continued)

1. Composition of enterprise group (Continued)

Name of subsidiaries	Type of the corporate	Places of principal activities	Place of registration	Nature of business	Paid-in capital	Shareholding percentage of the Group (%)		Means of acquisition
						Direct	Indirect	
CRSC Jishou Tengda Project Management Co., Ltd. (吉首通號騰達項目管理有限責任公司)	limited liability company	Jishou	Jishou	Project management of engineering and operation and maintenance	450,000,000.00	90.00	-	Incorporation
China Railway Signal & Communication International Co., Ltd. (中國通號國際有限公司)	limited liability company	Hong Kong, the PRC	Hong Kong, the PRC	Technical exchange and trade	2,581,200.00	100.00	-	Incorporation
CRSC (Jiangsu) Smart City Construction & Development Co., Ltd. (通號(江蘇)智慧城市建設開發有限公司)	limited liability company	Taixing	Taixing	Design integration	400,000,000.00	88.00	2.00	Incorporation
CRSC (Beijing) Tendering Company Ltd. (通號(北京)招標有限公司)	limited liability company	Beijing	Beijing	Bidding agency	5,000,000.00	100.00	-	Incorporation
CRSC Group Finance Limited (通號集團財務有限公司)	limited liability company	Beijing	Beijing	Financial services company	2,000,000,000.00	95.00	-	Incorporation

Notes:

- All the companies above are limited liability companies.
- For changes on major subsidiaries for the year, please refer to Note "VIII. Changes on scope of consolidation".
- The Articles of Association stipulate that CRSC CASCO is a Sino-foreign joint venture, with the Board as its highest authority, and the proportion of voting rights is calculated according to the proportion of seats on the Board. The Board of CRSC CASCO consists of seven members, including four from CRSC.

2. Significant non-wholly owned subsidiaries

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of subsidiary	Shareholding percentage of non-controlling shareholders	Current profits and losses attributable to non-controlling shareholders	Current dividends declared and paid to non-controlling shareholders	Ending balance of interest of non-controlling shareholders
CRSC CASCO	49%	-409,689,373.26	302,758,456.00	1,005,250,088.32

Explanations for the inconsistency of shareholding percentage of non-controlling shareholders of subsidiaries with proportion of their voting rights:

Applicable Not applicable

Other explanations:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(I) Interests in subsidiaries (Continued)

3. Main financial information of significant non-wholly owned subsidiaries

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Name of subsidiary	Closing balance				Total liabilities	
	Current assets	Non-current assets	Total assets	Current liabilities		Non-current liabilities
CRSC CASCO	5,331,917,150.06	1,230,903,570.04	6,562,820,720.10	4,439,620,418.21	87,019,801.20	4,526,640,219.41
Name of subsidiary	Opening balance				Total liabilities	
CRSC CASCO	4,785,508,190.31	1,253,851,192.69	6,039,359,383.00	4,044,577,772.59	101,034,454.59	4,145,612,227.18
Name of subsidiary	Amount for the current period			Amount for the previous period		
	Revenue	Net profit	Total comprehensive income	Revenue	Net profit	Total comprehensive income
CRSC CASCO	4,504,904,430.45	874,082,582.64	874,543,303.68	4,205,399,745.45	739,429,768.37	739,429,768.37
			1,071,624,759.99			840,467,746.93

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Year ended 31 December 2022

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(I) Interests in subsidiaries (Continued)

4. Major restrictions on the use of assets of the Group and repayment of debts of the Group

Applicable Not applicable

5. Financial support or other support provided for structured entities included in the scope of consolidated financial statements

Applicable Not applicable

Other explanations:

Applicable Not applicable

6. Transaction in which the share of shareholder's interests in the subsidiary changes while control over the subsidiary remaining unchanged

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(II) Interests in the joint venture or associate

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Name of joint ventures or associates	Places of principal activities	Place of registration	Nature of business	Shareholding percentage of the Group (%)		Accounting method for Investments of joint ventures or associates	If it is strategic for the activities of the Group
				Direct	Indirect		
Joint ventures							
Wenzhou-Hangwen High-Speed Railway Investment Partnership (LLP) (溫州杭溫高鐵投資合夥企業(有限合夥))	Wenzhou City	Wenzhou City	Commercial services	29.99		Equity method	Yes
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特實電氣有限公司)	Xi'an City	Xi'an City	Manufacturing of product		50.00	Equity method	Yes
CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	Beijing City	Beijing City	Technology development		45.00	Equity method	Yes
Associates							
CSCEC Foshan Joint Investment Co., Ltd. (佛山中建交通聯合投資有限公司)	Guangzhou City	Guangzhou City	Investment project construction	11.00		Equity method Equity method	Yes Yes
Siping Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)	Siping City	Siping City	Project contracting	20.00		Equity method	Yes
Guangdong Utrust Financial Leasing Co., Ltd. (廣東粵財金融租賃股份有限公司)	Guangzhou City	Guangzhou City	Financial leasing	30.00		Equity method	Yes
CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	Tianshui City	Tianshui City	Project contracting	35.63		Equity method	Yes
Siemens Signalling Company Ltd. (西門子信號有限公司)	Xi'an City	Xi'an City	Manufacturing of product		30.00	Equity method	Yes
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	Beijing City	Beijing City	Technology development		20.00	Equity method	Yes
Henan Huazhou Railway Co., Ltd. (河南滑州鐵路有限公司)	Anyang City	Anyang City	Project contracting		44.00	Equity method	Yes
Zhuhai Huatong Private Equity Fund Management Enterprise (Limited Partnership) (珠海華通私募基金管理企業(有限合夥))	Zhuhai City	Zhuhai City	Equity investment management		40.00	Equity method	Yes
Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	Tianshui City	Tianshui City	Project contracting		36.00	Equity method	Yes
Zhejiang Jiaotou Intelligent Transportation Technology Co., Ltd. (浙江交投智能交通科技有限公司)	Hangzhou City	Hangzhou City	Technology development		40.00	Equity method	Yes
Beijing Solong Electronic Technology Co., Ltd. (北京索隆電子科技有限公司)	Beijing City	Beijing City	Manufacturing of product		49.00	Equity method	Yes
China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	Wenzhou City	Wenzhou City	Rail transit operation		30.00	Equity method	Yes
China Liantou (Shanghai) Data Intelligent Technology Co., Ltd. (中聯投(上海)數據智能科技有限公司)	Shanghai City	Shanghai City	Data technology		20.00	Equity method	Yes
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)	Tianjin City	Tianjin City	Rail transit operation		20.00	Equity method	Yes

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(II) Interests in the joint venture or associate (Continued)

1. Significant joint ventures or associates

Applicable Not applicable

2. Main financial information of significant joint ventures

Applicable Not applicable

3. Main financial information of significant associates

Applicable Not applicable

4. Summary of financial information of insignificant joint ventures and associates

Applicable Not applicable

Unit: Yuan Currency: RMB

	Balance at end of the period/amount incurred in the period	Balance at beginning of the period/ amount incurred in the previous period
Joint ventures:		
Total book value of investment	235,031,314.57	229,687,703.77
Total amount of the following items calculated on the basis of shareholding percentage		
– Net profit	27,193,610.80	21,433,178.65
– Total comprehensive income	27,193,610.80	21,433,178.65
Associates:		
Total book value of investment	1,269,978,853.11	1,148,536,043.29
Total amount of the following items calculated on the basis of shareholding percentage		
– Net profit	69,117,119.13	64,695,916.17
– Total comprehensive income	69,117,119.13	64,695,916.17

5. Explanation for the significant restrictions on the ability of joint ventures or associates to transfer funds to the Company

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(II) Interests in the joint venture or associate (Continued)

6. Excessive loss incurred by joint ventures or associates

Applicable Not applicable

7. Unrecognised commitments related to investments in joint ventures

Applicable Not applicable

8. Contingent liabilities related to investments in joint ventures or associates

Applicable Not applicable

9. Significant joint operation

Applicable Not applicable

(III) Interests in structured entities not included in the scope of consolidated financial statements

Explanation about structured entities not included in the scope of consolidated financial statements:

Applicable Not applicable

(IV) Others

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(X) RISKS RELATED TO FINANCIAL INSTRUMENTS

✓ Applicable Not applicable

(I) Category of financial instruments

Financial assets:

Item	Measured at amortized cost	Measured at fair value through other comprehensive income		Total
		Standards	Designated	
Cash and bank balances	22,215,371,337.81			22,215,371,337.81
Bills receivable	1,714,371,393.60			1,714,371,393.60
Receivables for financing		1,048,965,771.85		1,048,965,771.85
Accounts receivable	22,672,081,197.55			22,672,081,197.55
Other receivables	1,579,389,304.96			1,579,389,304.96
Debt investment	273,172,183.50			273,172,183.50
Other equity instrument investments			1,124,819,159.20	1,124,819,159.20
Long-term receivables	5,909,956,266.76			5,909,956,266.76
Financial assets included in other non-current assets	5,690,600,223.39			5,690,600,223.39
Total	60,054,941,907.57	1,048,965,771.85	1,124,819,159.20	62,228,726,838.62

Financial liabilities:

Item	Measured at amortized cost	Measured at fair value through other comprehensive income	Total
Short-term borrowings	261,169,967.41		261,169,967.41
Bills payable	2,260,154,270.80		2,260,154,270.80
Accounts payable	49,888,119,903.73		49,888,119,903.73
Other payables	1,485,075,980.09		1,485,075,980.09
Employee benefits payable (cash payment)	690,620,818.93		690,620,818.93
Long-term borrowings	3,290,786,172.77		3,290,786,172.77
Financial liabilities in non-current liabilities due within one year	1,237,094,658.03		1,237,094,658.03
Lease liabilities	118,073,535.41		118,073,535.41
Long-term payables	58,629,829.67		58,629,829.67
Total	59,289,725,136.84		59,289,725,136.84

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(X) RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(I) Category of financial instruments (Continued)

Transferred financial assets that are not derecognized in their entirety

As at 31 December 2022, the book value of bank acceptance bills and commercial acceptance bills that the Company has endorsed or discounted to suppliers for settlement of trade payables were RMB123,779,958.94 and RMB604,494,019.30 respectively (31 December 2021: RMB179,573,211.17 and RMB270,243,426.09). The Company believed that almost all risks and rewards have been retained, including related default risks. Therefore, it continued to recognise the full carrying amounts of the Endorsed Bills and the associated trade payables settled. Subsequent to the endorsement, the Company no longer reserves the right to use it, including the right to sell, transfer or pledge it to other third parties. The aggregate carrying amount of the trade payables settled by the endorsed bills as at 31 December 2022 was RMB728,273,978.24 (31 December 2021: RMB449,816,637.26).

Transferred financial assets that are derecognised in their entirety in which continuing involvement exists

As at 31 December 2022, the book value of bank acceptance bills that the Company has endorsed to suppliers for settlement of trade payables was RMB517,617,447.59 (31 December 2021: RMB466,753,794.07).

As at 31 December 2022, the derecognized bills had a maturity of one to twelve months. In accordance with the Law of Negotiable Instruments, the holders of the derecognized bills have the right of recourse against the Company if the accepting banks default (the "Continuing Involvement"). In the opinion of the Company, the Company has transferred substantially all risks and rewards relating to the Derecognised Bills. Accordingly, it has derecognised the carrying amounts of such Derecognised Bills and the associated trade payables settled. The maximum exposure to loss from the Company's Continuing Involvement in the Derecognised Bills and the undiscounted cash flows to repurchase these Derecognised Bills is equal to their carrying amounts. In the opinion of the Company, the fair values of the Company's Continuing Involvement in the Derecognised Bills are not significant.

In 2022, the Company did not recognise any profit or loss on the date of transfer of the derecognised bills. The Company had no current or accumulated gains or expenses related to continuing involvement of financial assets which had been derecognized. The endorsement happened evenly throughout the year.

(II) Risk of financial instruments

The Company is faced with risks of various financial instruments in daily activities, which mainly include credit risk, liquidity risk and market risk (including exchange rate risk, interest rate risk and commodity price risk). The main financial instruments of the Company include monetary funds, equity investment, borrowings, receivables for financing and accounts receivable, bills payable and accounts payable and others. The risks associated with these financial instruments and the risk management strategies adopted by the Company to mitigate these risks are described below.

The Board of Directors shall be responsible for planning and establishing the risk management framework of the Company, formulating the Company's risk management policies and relevant guidelines, and supervising the implementation of risk management measures. The Company has developed risk management policies to identify and analyze risks faced by the Company. These risk management policies specify specific risks and cover many aspects such as market risk, credit risk and liquidity risk management. The Company periodically evaluates changes in the market environment and the Company's business activities to determine whether to update risk management policies and systems. The risk management of the Company shall be carried out by the Risk Management Committee in accordance with the policies approved by the Board of Directors. The Risk Management Committee works closely with other business units of the Company to identify, assess and mitigate risks. The internal audit department of the Company conducts regular audits on risk management control and procedures and reports the audit results to the Company's Audit Committee.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(X) RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

The Company diversifies the risk of financial instruments through appropriate diversification of investments and business portfolios, and reduces the risk of concentration in any single industry, specific region or specific counterparty by formulating appropriate risk management policies.

1. Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation.

The Company only deals with recognized and reputable third parties. According to the Company's policy, credit review is required for all customers who seek to carry out credit-based transactions. In addition, the Company continuously monitors the balance of accounts receivable to ensure that the Company is not exposed to significant bad debt risks. For transactions that are not settled in the functional currency of the relevant business entity, the Company does not provide credit-based transactions unless specifically approved by the credit control department of the Company.

Since the counterparties of monetary funds and bank acceptance bills receivable are banks with good reputation and high credit ratings, these financial instruments have low credit risk.

Financial assets of the Company include monetary funds, receivables for financing, accounts receivable, other receivables, debt investments, other equity instrument investments, long-term receivables, and financial assets included in other non-current assets. The credit risk of these financial assets originates from the default of the counterparty. The maximum risk exposure is equal to the book value of these instruments.

As the Company only deals with recognized and reputable third parties, no collateral is required. Credit risk is centrally managed by customers/counterparties, geographic region and industry. Customers owing accounts receivable to the Company were widely engaged in different sectors and industries, therefore, there was no concentration of significant credit risks within the Company. The Company did not hold any collateral or other credit enhancement against the balance of accounts receivable.

Criteria for judgment of significant increase in credit risk

On each balance sheet date, the Company assessed whether or not the credit risk of relevant financial instruments has increased significantly since initial recognition. In determining whether or not the credit risk has increased significantly since the initial recognition, the Company considered that the reasonable and reliable information could be obtained without unnecessary extra costs or efforts, including qualitative and quantitative analysis based on the Company's historical data, external credit risk rating and forward-looking information. Based on a single financial instrument or a combination of financial instruments with similar credit risk characteristics, the Company compared the risk of default of financial instruments as at the balance sheet date with the risk of default on the initial recognition date to determine the changes in the default risk of financial instruments during their lifetime.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(X) RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

1. Credit risk (Continued)

Criteria for judgment of significant increase in credit risk (Continued)

The Company believed that the credit risk of financial instruments has increased significantly when one or more of the following quantitative and qualitative criteria or upper limit indicators are triggered:

- The quantitative criteria are satisfied if the probability of default for the remaining lifetime on the reporting date rises by more than a certain proportion compared with the probability of default at time of the initial recognition;
- Qualitative criteria mainly comprise material adverse changes in the debtor's business or financial position, and alert list of customers;
- The upper limit indicator is defined as the debtor's contract payment (including principal and interest) has been overdue for more than 30 days.

Definition of assets with credit impairment

In order to determine whether or not credit impairment has occurred, the Company adopted the definition criteria consistent with the internal credit risk management objectives for relevant financial instruments, while considering both quantitative and qualitative indicators. When the Company evaluated whether or not the debtor suffers from credit impairment, it mainly considered the following factors:

- the issuer or debtor is in material financial difficulties;
- the debtor violates the contract, such as default or overdue payment of interest or principal, etc.;
- the creditor gives concessions that it would not make under any other circumstance based on economic or contractual considerations related to the debtor's financial difficulties;
- the debtor is likely to go bankrupt or undergo other financial restructuring;
- difficulties of the issuer or debtor result in the disappearance of the active market of the financial asset;
- purchase or generate a financial asset at a substantial discount, which reflects the fact that credit impairment has occurred.

Credit impairment of financial assets might be caused by the combined action of multiple events, but not necessarily by separately identifiable events.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(X) RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

1. Credit risk (Continued)

Parameters for measuring expected credit loss

Depending on whether credit risk has increased significantly and whether credit impairment has occurred, the Company measures impairment provision for different assets with the expected credit loss for 12 months or the lifetime period, respectively. The key parameters for expected credit loss measurement include default probability, default loss rate and default risk exposure. Considering the quantitative analysis and forward-looking information of historical statistical data (such as counterparty ratings, guarantees and collateral types, repayment methods and others), the Company establishes a default probability, default loss rate and default risk exposure model.

The relevant definitions are as follows:

- Probability of default (PD) refers to the possibility that the debtor will not be able to fulfill its obligations of repayment over the next 12 months or throughout the entire remaining lifetime. The Company's PD is adjusted based on the results of the historical mobility model of receivables, taking into account the forward-looking information to reflect the debtor's PD under the current macroeconomic environment;
- Loss given default (LGD) refers to the Company's expectation of the extent of the loss resulting from the default exposure. Depending on the type of counterparty, the method and priority of the recourse, and the type of collaterals, the LGD varies. The LGD is the percentage of loss of risk exposure at the time of default, calculated over the next 12 months or over the entire remaining lifetime;
- Exposure at default (EAD) is the amount that the Company should be reimbursed at the time of the default in the next 12 months or throughout the entire remaining lifetime.

The assessment of a significant increase in credit risk and the calculation of ECL both involve forward-looking information. Through the analysis of historical data, the Company identified the key economic indicators that affect the credit risk of each business type and ECL.

Please see Notes VII. (V), (VI), (VIII), (X), (XII), (XIV), (XVI) and (XXXI) for the quantitative data of credit risk exposure of the Company due to receivables, receivables for financing, other receivables, contract assets, non-current assets due within one year, debt investments, long-term receivables and other non-current assets.

2. Liquidity risk

The Company monitors its risk of deficiency of funds using a recurring liquidity planning tool. This tool considers the maturity of both its financial instruments and estimated cash flows from the Company's operations.

The Company sets its objective as maintaining a balance between continuity of funding and flexibility through the use of several financing methods such as notes settlement and bank borrowings, as well as optimizing financing structure through the combination of long and short-term financing. The Company has obtained banking facilities from several commercial banks to fund the working capital requirements and capital expenditure.

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(X) RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

2. Liquidity risk (Continued)

31 December 2021

Unit: Yuan Currency: RMB

Item	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
Short-term borrowings	75,629,684.59	-	-	-	75,629,684.59
Bills payable	2,300,794,453.21	-	-	-	2,300,794,453.21
Accounts payable	46,455,196,868.52	-	-	-	46,455,196,868.52
Other payables	1,063,620,223.11	-	-	-	1,063,620,223.11
Lease liabilities	68,675,160.21	47,223,410.28	61,455,727.59	-	177,354,289.08
Long-term borrowings (including maturity within 1 year)	226,069,092.80	-	43,450,000.00	3,084,272,482.40	3,353,791,575.20
Interest on long-term and short-term borrowings	163,916,813.99	158,370,476.21	460,176,875.81	552,853,051.44	1,335,317,217.45
Long-term payables (including maturity within 1 year)	37,438,695.03	62,593,424.21	-	-	100,032,119.24

Management of the Company monitors the liquidity position of the Company on an ongoing basis to ensure the availability of sufficient liquid funds to meet all obligations as they fall due and to make the most efficient use of the Company's financial resources.

The table below summarizes the maturity profile of the Company's financial liabilities and lease liabilities based on the undiscounted contractual cash flows:

Item	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
Short-term borrowings	261,169,967.41				261,169,967.41
Bills payable	2,260,154,270.80				2,260,154,270.80
Accounts payable	49,888,119,903.73				49,888,119,903.73
Other payables	1,366,728,778.59				1,366,728,778.59
Lease liabilities	68,141,726.23	89,815,559.25	24,483,238.96	17,333,939.37	199,774,463.81
Long-term borrowings (including maturity within 1 year)	1,145,289,546.40	24,000,000.00	442,947,076.77	2,823,839,096.00	4,436,075,719.17
Interest on long-term and short-term borrowings	186,373,851.39	156,041,333.01	576,899,190.72	432,197,781.89	1,351,512,157.01
Long-term payables (including maturity within 1 year)	32,003,740.26	58,629,829.67			90,633,569.93

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(X) RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

3. Market risk

(1) Interest rate risk

The Company's exposure to the risk of changes in market interest rates relates primarily to the Company's borrowings and bank current deposit in large amount with floating interest rates.

The Company regularly reviews and monitors the mix of fixed and floating interest rate in order to manage its interest rate risk. Borrowings and monetary funds are stated at amortized cost and are not revalued on a periodic basis. Floating rate interest income and expenses are credited/charged to the profit or loss as earned/incurred.

As at 31 December 2022, floating interest rate loans and fixed interest rate loans accounted for 81.87% and 18.13% of the Company's borrowings respectively. Management would adjust the floating rate assets based on changes in the market interest rates to reduce the significant impact arising from interest rate risk.

If there was a general increase/decrease in the interest rate of borrowings with floating interest rates by 1%, with all other variables held constant, the consolidated net profits and other comprehensive income, net of tax would have decreased/increased by approximately RMB29,191,842.65 in 2022 (2021: RMB9,576,718.41), and there is no impact on other components of the consolidated equity, except for retained earnings, of the Company. The sensitivity analysis above has been determined assuming that the change in interest rates had occurred as at 31 December 2022 and the exposure to interest rate risk has been applied to those financial instruments in existence at that date. The estimated 1% of increase or decrease represents management's assessment of a reasonably possible change in interest rates over the period from the year until the date of balance sheet of the next year.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(X) RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

3. Market risk (Continued)

(1) Interest rate risk (Continued)

If there was a general increase/decrease in the interest rates of demand deposit of bank with floating interest rates by 0.1 percentage point, with all other variables held constant, the consolidated net profits and other comprehensive income, net of tax would have increased/decreased by approximately RMB9,832,754.73 in 2022 (2021: RMB12,852,687.00), and there is no impact on other components of the consolidated equity, except for retained earnings, of the Company. The sensitivity analysis above has been determined assuming that the change in interest rates had occurred as at 31 December 2022 and the exposure to interest rate risk has been applied to those financial instruments in existence at that date. The estimated 0.1 percentage point of increase or decrease represents management's assessment of a reasonably possible change in interest rates over the period from the year until the date of balance sheet of the next year.

(2) Foreign currency risk

As a result of its significant business operations in Mainland China, the Company's revenue, expenses and over 95% of the financial assets and liabilities are denominated in RMB. The effect of the fluctuations in the exchange rates of RMB against foreign currencies on the Company's results of operations is therefore minimal and the Company has not entered into any hedging transactions as at 31 December 2022 and 31 December 2021 in order to reduce the Company's exposure to foreign currency risk in this regard.

The following table demonstrates the sensitivity analysis on the foreign currency risk, reflecting the influence of reasonable possible change in the exchange rates of the United States dollar and Hong Kong dollar, with all other variables held constant, on the Company's net profit net of tax.

Item	Increase/(decrease) in United States dollar exchange rate	Increase/(decrease) in net profit or loss	Increase/(decrease) in total shareholder's equity
Depreciation of RMB against United States dollar	5%	4,129,141.96	4,129,141.96
Appreciation of RMB against United States dollar	(5%)	-4,129,141.96	-4,129,141.96

Item	Increase/(decrease) in Hong Kong dollar exchange rate	Increase/(decrease) in net profit or loss	Increase/(decrease) in total shareholder's equity
Depreciation of RMB against Hong Kong dollar	5%	8,227,453.88	8,227,453.88
Appreciation of RMB against Hong Kong dollar	(5%)	-8,227,453.88	-8,227,453.88

The sensitivity analysis above has been determined assuming that the change in foreign exchange rates had occurred as at 31 December 2022 and 31 December 2021 and the exposure to foreign currency risk has been applied to those monetary assets and liabilities in existence at that date. The estimated percentage increase or decrease represents management's assessment of a reasonable possible change in foreign exchange rates over the period from the year until the date of balance sheet of the next year.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(X) RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(III) Capital management

The Company's primary objectives for capital management are to safeguard the Company's ability to continue as a going concern and keep the capital ratio at a healthy level, so that it can support business development and maximize the value of Shareholders.

The Company manages its capital structure and makes adjustments to it in light of changes in economic conditions and the risk characteristics of the underlying assets. In order to maintain or adjust the capital structure, the Company may adjust the profit distribution to Shareholders, return capital to Shareholders, issue new shares or sell assets to reduce debts. The Company is not bound by external compulsory capital requirements. In 2022 and 2021, no changes were made in the objectives, policies or processes for managing capital.

The Company manages its capital through gearing ratio, which is total liabilities divided by total assets. The gearing ratios of the Company as at the balance sheet date are as follows:

Item	31 December 2022	31 December 2021
Total assets	116,806,544,483.88	108,942,588,838.30
Total liabilities	69,528,809,483.31	63,571,212,916.84
Gearing ratio	59.52%	58.35%

(XI) DISCLOSURE OF FAIR VALUE

(I) Closing fair value of assets and liabilities measured at fair value

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing fair value			Total
	Level-1 fair value measurement	Level-2 fair value measurement	Level-3 fair value measurement	
I. Continuous measurement of fair value				
Receivables for financing		1,048,965,771.85		1,048,965,771.85
Other equity instrument investments			1,124,819,159.20	1,124,819,159.20
Total		1,048,965,771.85	1,124,819,159.20	2,173,784,931.05

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(XI) DISCLOSURE OF FAIR VALUE (Continued)

(II) Fair value valuation (Continued)

The management has assessed the cash and bank balances, accounts receivable, receivables for financing, other receivables, bills payable, accounts payable and other payables. In each case, the fair value and book value are similar due to short remaining period.

On each balance sheet date, the Company analyzes the changes in the value of financial instruments and determines the key inputs to which the valuation applies.

The fair values of long-term receivables, long-term loans, long-term payables, and bonds payable determined by discounting the future cash flows using rates currently available for other instruments with similar terms, credit risk and remaining maturities. As at 31 December 2022 and 31 December 2021, the fair value of long-term receivables and long-term payables was similar to the book value, and the Company's own non-performance risk for long-term and short-term loans was assessed to be insignificant.

For financial instruments traded in an active market, the Company determines its fair value based on its active market quotation; and for financial instruments that are not traded in an active market, the Company uses valuation techniques to determine their fair values. The valuation models used are mainly cash flow discount models and market comparable company models. The input values of valuation techniques mainly include risk-free interest rates, benchmark interest rates, exchange rates, credit spreads, liquidity premiums, EBITDA multipliers, and lack of liquidity discounts etc.

The Company signed the derivative financial instrument contracts with more than one counterparties (mainly refer to financial institutions with higher credit rating). Derivative financial instruments are measured using the valuation techniques of forward pricing, swap model and present value method. The model covers multiple input values of observable market, including credit quality of counterparty, spot and forward exchange rate and interest rate curve. As at 31 December 2022, the market-to-market value of the derivative financial assets is the net value after offsetting the credit valuation of default risk attributable to derivative instrument counterparty after adjustment. The change of counterparty credit risk had no significant impact on the assessment on hedging effectiveness of the designated derivative hedging instrument in the hedging relationship and other financial instrument measured at fair value.

Other investments in equity instruments held by the Company which are measured at level 3 fair value represent the equity in unlisted companies held by the Company. As the operating environment, operating conditions and financial position of the invested entity have not changed significantly, the Company measures the investment cost as a reasonable estimate of fair value.

(III) Adjustment and level transformation of fair value

As at 31 December 2022, there was no transfer of the fair value measurement of financial assets and financial liabilities between Level 1 and Level 2, nor was there any transfer to or out of Level 3.

(IV) Basis for determining the market value of continuous and non-continuous Level-1 fair value measurement items

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XI) DISCLOSURE OF FAIR VALUE (Continued)

(V) Qualitative and quantitative information of valuation techniques and important parameters used in continuous and non-continuous Level-2 fair value measurement items

Applicable ✓ Not applicable

(IV) Qualitative and quantitative information of valuation techniques and important parameters used in continuous and non-continuous Level-3 fair value measurement items

Applicable ✓ Not applicable

(VII) Information on adjustment between opening and closing book values and sensitivity analysis of unobservable parameters for continuous Level-3 fair value measurement items

Applicable ✓ Not applicable

(VIII) Reason for conversion for transfer between levels during the current period for continuous fair value measurement items, and policies for determination of time point of the conversion

Applicable ✓ Not applicable

(IX) Changes in valuation techniques during the current period and reason for such change

Applicable ✓ Not applicable

(X) Fair value of financial assets and financial liabilities not measured at fair value

Applicable ✓ Not applicable

(XI) Others

Applicable ✓ Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS

(I) Parent of the Company

Applicable Not applicable

Unit: 0'000 Yuan Currency: RMB

Name of the parent	Place of registration	Nature of business	Registered capital	Shareholding percentage of the parent to the Company (%)	Percentage of voting right of the parent to the Company (%)
CRSC Group	Beijing	Railway communication, signal power and production of automatic control equipment	1,000,000	62.69	62.69

The ultimate holding company of the Company is CRSC Group.

(II) Subsidiaries of the Company

For details of the subsidiaries of the Company, refer to Note IX. (I).

Applicable Not applicable

(III) Details of the joint ventures and associates of the Company

For details of significant joint ventures or associates of the Company, see Note IX. (II).

Applicable Not applicable

Applicable Not applicable

Other explanation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(IV) Other related parties

Applicable Not applicable

Name of other related parties	Relationship between other related parties and the Company
Beijing CRSC Construction and Development Co., Ltd. (北京通號建設開發有限公司)	Joint venture of the Parent
Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	Joint venture of the Parent
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Associate of the subsidiary under control of the ultimate holding company
Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)	Associate of the subsidiary under control of the ultimate holding company
Tianshui Tonghao Electric Power Equipment Co., Ltd. (天水通號電力設備有限公司)	Associate of the subsidiary under control of the ultimate holding company
Beijing Erqi Communication Factory Co., Ltd. (北京二七通信工廠有限公司)	Subsidiary under control of the ultimate holding company
Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	Subsidiary under control of the ultimate holding company
Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	Subsidiary under control of the ultimate holding company
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	Subsidiary under control of the ultimate holding company
Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	Subsidiary under control of the ultimate holding company
CRSC Real Estate Co., Ltd. (通號置業有限公司)	Subsidiary under control of the ultimate holding company
CRSC Foshan Real Estate Co., Ltd. (通號佛山置業有限公司)	Subsidiary under control of the ultimate holding company
CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	Subsidiary under control of the ultimate holding company
Alstom Investment (Shanghai) Co., Ltd. (阿爾斯通投資(上海)有限公司)	Minority shareholder having material influence on subsidiary of the Group
ALSTOM Signaling Inc.	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport SA-Aix en Provence	Related party of a minority shareholder having material influence on subsidiary of the Group

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(IV) Other related parties (Continued)

Name of other related parties	Relationship between other related parties and the Company
ALSTOM Transport SA-Villeurbanne	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Ferroviaria S.p.A	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Transport India Limited	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Transport (S) Pte Ltd.	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Transport Australia Pty. Ltd	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Hong Kong Ltd	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Brasil Energia e transporte Ltda	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Transport Mexico, S.A. de C.V.	Related party of a minority shareholder having material influence on subsidiary of the Company
Citadis Israel LTD	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Transport SA (Romania)	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Transport Spain Limited	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM (USA)	Related party of a minority shareholder having material influence on subsidiary of the Company
ALSTOM Transport SA-Saint Ouen	Related party of a minority shareholder having material influence on subsidiary of the Company

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions

1. Related party transactions of purchasing or selling goods and rendering or receiving services

Statement on procurement of goods/receipt of services

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Related parties	Contents of related party transactions	Amount for the current period	Amount for the last period
Siemens Signalling Company Ltd. (西門子信號有限公司)	Procurement of goods	42,608,914.02	32,315,152.94
Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	Procurement of goods	32,802,689.22	43,040,048.14
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Procurement of goods	27,289,476.93	41,507,580.17
ALSTOM Transport SA-Saint Ouen	Procurement of goods	16,214,539.71	298,255,651.98
ALSTOM Signaling Inc.	Procurement of goods	16,105,915.29	8,818,186.49
ALSTOM Transport SA-Villeurbanne	Procurement of goods	12,739,168.43	30,455,042.83
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)	Procurement of goods	10,134,614.52	
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	Procurement of goods	2,086,069.45	3,209,291.53
Xi'an Xinlong Railway Technology Co. Ltd. (西安鑫隆鐵路科技有限責任公司)	Procurement of goods		18,471,580.17
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	Procurement of goods	472,756.69	812,917.77
China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	Procurement of goods	380,070.00	811,273.00
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	Procurement of goods	54,789.20	51,961.07
Alstom Investment (Shanghai) Co., Ltd. (阿爾斯通投資(上海)有限公司)	Procurement of goods		6,592,218.40
CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	Procurement of goods		3,241,628.96

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

1. Related party transactions of purchasing or selling goods and rendering or receiving services (Continued)

Statement on procurement of goods/receipt of services (Continued)

Unit: Yuan Currency: RMB

Related parties	Contents of related party transactions	Amount for the current period	Amount for the last period
ALSTOM Transport SA-Aix en Provence	Procurement of goods		1,249,860.01
Beijing Erqi Communication Factory Co., Ltd. (北京二七通信工廠有限公司)	Procurement of goods		64,953.41
ALSTOM Transport SA-Saint Ouen	Technology service	150,081,082.41	265,466,093.65
ALSTOM Signaling Inc.	Technology service	11,092,586.09	
ALSTOM Transport SA-Villeurbanne	Technology service	11,512,910.58	14,346,098.11
Alstom Investment (Shanghai) Co., Ltd. (阿爾斯通投資(上海)有限公司)	Technology service	13,095,126.11	3,916,650.01
ALSTOM Transport SA-Aix en Provence	Technology service		846,751.96
Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	Receipt of service	8,909,203.31	771,152.82
China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	Receipt of service	1,741,994.09	
Siemens Signalling Company Ltd. (西門子信號有限公司)	Receipt of service	79,600.00	248,070.80
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	Receipt of service	17,699.12	
CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	Receipt of service		22,854,453.62
Alstom Investment (Shanghai) Co., Ltd. (阿爾斯通投資(上海)有限公司)	Receipt of service		2,675,568.39
Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	Receipt of service		419,825.68

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

1. Related party transactions of purchasing or selling goods and rendering or receiving services (Continued)

Statement on sales of goods/provision of services (Continued)

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Related parties	Contents of related party transactions	Amount for the current period	Amount for the last period
Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	Sale of goods	53,982,300.89	–
Siemens Signalling Company Ltd. (西門子信號有限公司)	Sale of goods	34,087,172.36	56,486,173.37
ALSTOM Transport Australia Pty Limited	Sale of goods	26,420,660.05	–
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Sale of goods	13,372,523.90	8,169,828.40
ALSTOM Transport SA-Saint Ouen	Sale of goods	10,754,655.00	19,834,655.00
ALSTOM Transport SA (Romania)	Sale of goods	3,112,767.00	–
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	Sale of goods	1,634,654.88	–
Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	Sale of goods	768,794.61	11,041,680.86
ALSTOM Transport (S) Pte Ltd	Sale of goods	522,983.00	–
ALSTOM Transport India Limited	Sale of goods	505,672.00	7,935,750.00
Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	Sale of goods	–	518,867.92
ALSTOM HONG KONG LTD.	Sale of goods	240,000.00	–
China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	Sale of goods	118,407.08	–
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	Sale of goods	47,575.22	–
CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	Sale of goods	–	106,194,690.30
ALSTOM Brasil Energia e transporte Ltda	Sale of goods	–	27,110,354.61

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

1. Related party transactions of purchasing or selling goods and rendering or receiving services (Continued)

Statement on sales of goods/provision of services (Continued)

Unit: Yuan Currency: RMB

Related parties	Contents of related party transactions	Amount for the current period	Amount for the last period
Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)	Sale of goods	–	8,243,678.86
ALSTOM Ferroviaria S.p.A	Sale of goods	–	914,050.00
CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	Provision of services	273,794,325.50	583,308.49
Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	Provision of services	241,488,265.42	–
Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	Provision of services	139,133,644.91	7,294,327.73
CRSC Real Estate Co., Ltd. (通號置業有限公司)	Provision of services	65,893,351.46	130,258,250.29
CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	Provision of services	40,770,753.27	58,343,908.68
CRSC Foshan Real Estate Co., Ltd. (通號佛山置業有限公司)	Provision of services	20,600,000.00	103,746,009.88
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	Provision of services	1,194,992.30	660,230.83
Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	Provision of services	358,490.57	–
China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司)	Provision of services	270,906.17	584,913.79
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	Provision of services	17,312.97	–
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Provision of services	59,433.96	–

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Year ended 31 December 2022

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(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

1. Related party transactions of purchasing or selling goods and rendering or receiving services (Continued)

Statement on sales of goods/provision of services (Continued)

Unit: Yuan Currency: RMB

Related parties	Contents of related party transactions	Amount for the current period	Amount for the last period
Siemens Signalling Company Ltd. (西門子信號有限公司)	Provision of services	–	905,377.11
Siemens Signalling Company Ltd. (西門子信號有限公司)	Technology transfers	849,008.89	918,582.99

Note 1: The prices of the goods and services between the Company and related parties were determined by both parties through negotiation with referring to market prices and other factors.

Explanation about related party transactions of purchasing or selling goods and rendering or receiving services

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

2. Connected entrusted management/contracting and entrusted management/outsourcing

Statement on entrusted management/contracting by the Company:

Applicable Not applicable

Description of connected custody/contracting

Applicable Not applicable

Statement on entrusted management/outsourcing by the Company

Applicable Not applicable

Description of connected management/outsourcing

Applicable Not applicable

3. Leases with related parties

The Company as lessor:

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of lessee	Type of leased assets	Rental income recognized in current period	Rental income recognized in the previous period
Schaltbau	House	2,433,302.75	2,433,302.75
Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)	House		1,509,838.54
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	House	175,774.16	471,421.10

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

3. Leases with related parties (Continued)

The Company as lessee:

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of lessor	Type of leased assets	Short-term lease and low-value asset lease expense under simplified approach (if applicable)		Variable lease payments not included in the measurement of the lease liabilities (if applicable)		Rental expenses		Interest expense of lease liabilities		Right-of-use asset acquired	
		Amount for the current period	Amount for the last period	Amount for the current period	Amount for the last period	Amount for the current period	Amount for the last period	Amount for the current period	Amount for the last period	Amount for the current period	Amount for the last period
Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	House	185,274.29	392,495.24								

Explanation about leases with related parties

Applicable Not applicable

Note 1: Related party transactions in connection with the above items also constitute connected transactions or continuing connected transactions as defined in Chapter 14A of the Listing Rules of the Hong Kong Stock Exchange.

Note 2: The prices of the house rental between the Company and related parties were determined by both parties through negotiation with referring to market prices.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

4. Related guarantee

The Company as a guarantor

Applicable Not applicable

The Company as a secured party

Applicable Not applicable

Description of related guarantee

Applicable Not applicable

5. Capital lending to/borrowing from related parties

Applicable Not applicable

6. Asset transfer and debt restructuring of related parties

Applicable Not applicable

7. Emolument of key management

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Emolument of key management	<u>10,653,042.17</u>	<u>8,285,703.72</u>

Key management comprise executive directors, supervisors, independent non-executive directors and senior management.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

7. Emolument of key management (Continued)

Directors' and supervisors' remuneration

2021

Unit: Yuan Currency: RMB

	Position	Remuneration	Basic salaries	Performance-based bonuses	(I) Total	(II) Social Insurance	(III) Annuity	Total Remunerations and Benefits
					Pre-tax Remunerations			(before tax)= (I) + (II) + (III)
ZHOU Zhiliang (周志亮)	Executive Director and the Chairman	-	234,396.00	511,788.00	746,184.00	130,029.22	51,201.80	927,415.02
XU Zongxiang (徐宗祥)	Executive Director and President	-	234,396.00	511,788.00	746,184.00	130,029.22	52,868.80	929,082.02
YANG Yongsheng (楊永勝)	Former Executive Director	-	210,960.00	352,996.00	563,956.00	130,029.22	47,257.20	741,242.42
YAO Guiqing (姚桂清)	Independent Non-executive Director	100,000.00	-	-	100,000.00	-	-	100,000.00
CHEN Jin'en (陳津恩)	Former Independent Non-executive Director	80,000.00	-	-	80,000.00	-	-	80,000.00
CHAN Ka Keung Peter (陳嘉強)	Former Independent Non-executive Director	139,008.00	-	-	139,008.00	-	-	139,008.00
GUO Yonghong (郭永宏)	Non-executive Director	-	-	-	-	-	-	-
KONG Ning (孔寧)	Chairman of the Supervisory Committee	-	166,400.00	251,943.00	418,343.00	130,029.22	36,172.40	584,544.62
LI Tienan (李鐵南)	Shareholder Representative Supervisor	-	-	-	-	-	-	-
CHEN Shikui (陳世奎)	Former Employee Representative Supervisor	-	156,000.00	342,000.00	498,000.00	130,029.22	22,876.72	650,905.94

Unit: Yuan Currency: RMB

	Amount for the current period	Amount for the last period
Directors' and supervisors' remuneration	4,787,069.77	4,152,198.02

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

7. Emolument of key management (Continued)

Directors' and supervisors' remuneration (Continued)

During the year, the names of directors and supervisors and their remunerations were as follows:

2022

Unit: Yuan Currency: RMB

Position	Fees	Basic salaries	Performance-based bonuses	(I) Total Pre-tax Remunerations	(II) Social Insurance	(III) Annuity	Total Remunerations and Benefits (before tax)= (I)+(II)+(III)
ZHOU Zhiliang (周志亮) Executive Director and the Chairman	-	240,204.00	1,060,532.00	1,300,736.00	139,277.76	55,356.96	1,495,370.72
XU Zongxiang (徐宗祥) Executive Director and President	-	240,204.00	948,079.00	1,188,283.00	139,277.76	55,356.96	1,382,917.72
ZHANG Quan (張權) Executive Director	-	72,060.00	72,060.00	144,120.00	49,254.08	17,054.08	210,428.16
YANG Yongsheng (楊永勝) Former Executive Director	-	105,480.00	755,180.00	860,660.00	65,396.64	23,458.96	949,515.60
YAO Guiqing (姚桂清) Independent Non-executive Director	100,000.00	-	-	100,000.00	-	-	100,000.00
YAO Cho Fai Andrew (姚祖輝) Independent Non-executive Director	125,340.00	-	-	125,340.00	-	-	125,340.00
FU Junyuan (傅俊元) Independent Non-executive Director	50,000.00	-	-	50,000.00	-	-	50,000.00
CHEN Jini'en (陳津恩) Former Independent Non-executive Director	30,000.00	-	-	30,000.00	-	-	30,000.00
CHAN Ka Keung Peter (陳嘉強) Former Independent Non-executive Director	62,668.00	-	-	62,668.00	-	-	62,668.00
GUO Yonghong (郭永宏) Non-executive Director	-	-	-	-	-	-	-
KONG Ning (孔寧) Chairman of the Supervisory Committee	-	192,000.00	227,760.00	419,760.00	139,277.76	32,813.76	591,851.52
YANG Yang (楊揚) Employee Representative Supervisor	-	220,000.00	-	220,000.00	128,378.32	32,915.03	381,293.35
LI Tienan (李鐵南) Shareholder Representative Supervisor	-	-	-	-	-	-	-
CHEN Shikui (陳世奎) Former Employee Representative Supervisor	-	16,000.00	8,000.00	24,000.00	10,899.44	2,045.85	36,945.29

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

7. Emolument of key management(Continued)

Directors' and supervisors' remuneration (Continued)

Notes:

1. The total pre-tax remunerations include basic salary, seniority wage, post salary, performance-based salary, bonus, and meeting allowance, etc.
2. The remunerations for 2022 includes term incentive income from 2019 to 2021 (XU Zongxiang served for 26 months during the term of office from 2019 to 2021, less than three years).
3. ZHANG Quan was appointed as executive Director in August 2022, and the above-mentioned remuneration and benefits is the total amount for his term of office from September to December.
4. Mr. GUO Yonghong was appointed as non-executive Director in March 2021. He received no emoluments for the year ended 31 December 2022, because he did not receive any remuneration in the capacity as non-executive Director.
5. YAO Cho Fai Andrew and FU Junyuan were appointed as an independent non-executive Director in February 2022, and the above-mentioned remuneration and benefits is the total amount for their terms of office from March to December.
6. In July 2022, YANG Yongsheng ceased to serve as executive Director.
7. In February 2022, CHEN Jin'en and CHAN Ka Keung Peter ceased to serve as independent non-executive Director.

YANG Yang was appointed as employee representative supervisor in February 2022, and the above-mentioned remuneration and benefits is the total amount for her term of office from February to December.
8. Ms. LI Tienan was appointed as a supervisor in February 2020. She received no emoluments for the year ended 31 December 2021, because she did not receive any remuneration in the capacity as supervisor.
9. YANG Yang was appointed as employee representative supervisor in February 2022, and the above-mentioned remuneration and benefits is the total amount for her term of office from February to December.
10. In February 2022, CHEN Shikui ceased to serve as employee representative supervisor.

An analysis of the number of five highest paid employees within the Company for the year is as follows:

	2022	2021
Non-director and non-supervisor employees	<u>5</u>	<u>5</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

7. Emolument of key management(Continued)

Directors' and supervisors' remuneration (Continued)

Details of the remuneration of the above non-director and non-supervisor highest paid employees are as follows:

Unit: Yuan Currency: RMB

	2022	2021
Basic salary	2,535,021.00	5,351,500.00
Performance bonus	4,595,834.70	7,444,537.00
Total pre-tax remunerations	7,130,855.70	12,796,037.00
Social insurance premium and housing provident fund	722,089.28	692,804.45
Supplementary pension insurance	237,262.44	387,022.80
	<u>8,090,207.42</u>	<u>13,875,864.25</u>

The number of non-director and non-supervisor highest paid employees whose remuneration fell within the following bands is as follows:

	2022	2021
Nil to HK\$1,000,000	–	–
HK\$1,000,001 to HK\$1,500,000	1	–
HK\$1,500,001 to HK\$2,000,000	3	–
HK\$2,000,001 to HK\$2,500,000	–	–
HK\$2,500,001 to HK\$3,000,000	1	–
HK\$3,000,001 to HK\$3,500,000	–	5
	<u>5</u>	<u>5</u>

8. Other related party transactions

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties

1. Receivables

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Project name	Related Parties	Closing balance	Opening balance
		Book balance	Book balance
Accounts receivable	CRSC Foshan Real Estate Co., Ltd. (通號佛山置業有限公司)	270,478,117.58	297,105,277.45
	CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	223,364,552.80	292,863,059.33
	CRSC Real Estate Co., Ltd. (通號置業有限公司)	81,207,832.22	151,581,441.45
	Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	40,716,302.73	
	Siping Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)	40,053,876.28	29,101,565.00
	Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	37,235,921.67	
	CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	11,039,721.40	21,079,606.28
	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	6,286,930.23	17,886,991.23
	Siemens Signalling Company Ltd. (西門子信號有限公司)	5,668,983.32	15,583,230.76
	Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	1,847,160.00	
	ALSTOM Transport India Limited	952,347.84	238,423.70
	China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司)	287,160.54	
	ALSTOM Transport (S) Pte Ltd	164,889.00	
	China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	127,800.00	
	ALSTOM Transport SA-Saint Ouen	80,391.00	
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	23,760.00	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties (Continued)

1. Receivables (Continued)

Unit: Yuan Currency: RMB

Project name	Related Parties	Closing balance	Opening balance
		Book balance	Book balance
	ALSTOM Transport SA (Romania)	16.00	
	Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)		820,684.96
	Tianshui Tonghao Electric Power Equipment Co., Ltd. (天水通號電力設備有限公司)		43,067.00
	ALSTOM Transport Mexico, S.A. de C.V.		29,136.00
	Sub-total	719,535,762.61	826,332,483.16
	Less: provision for bad debts of accounts receivable	10,926,805.96	476,265.63
	Total	708,608,956.65	825,856,217.53
Dividends receivable	Siemens Signalling Company Ltd. (西門子信號有限公司)	6,075,000.00	6,525,000.00
Prepayments	ALSTOM Transport SA-Saint Ouen	30,370,662.61	
	Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	2,055,834.67	1,613,217.82
	Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	20,887.72	26,870.64
	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	3,900.00	
	Siemens Signalling Company Ltd. (西門子信號有限公司)		130,000.00
	Total	32,451,285.00	1,770,088.46
Other receivables	Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	2,222,766.76	169,382.27
	Siemens Signalling Company Ltd. (西門子信號有限公司)	649,774.21	327,224.79
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特賽電氣有限公司)	285,358.28	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties (Continued)

1. Receivables (Continued)

Unit: Yuan Currency: RMB

Project name	Related Parties	Closing balance	Opening balance
		Book balance	Book balance
	CRSC Real Estate Co., Ltd. (通號置業有限公司)	314,943.80	333,518.00
	CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	32,134.56	
	CRSC Foshan Real Estate Co., Ltd. (通號佛山置業有限公司)	17,301.18	
	Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	10,000.00	10,000.00
	China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司)		16,662,394.89
	Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)		293,628.00
	Beijing CRSC Construction and Development Co., Ltd. (北京通號建設開發有限公司)		71,997.70
	Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)		42,220.80
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)		32,518.97
	Sub-total	3,532,278.79	17,942,885.42
	Less: provision for bad debts of other receivables	22,051.44	
	Total	3,510,227.35	17,942,885.42

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties (Continued)

2. Payable

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Project name	Related parties	Book balance at the end of the period	Book balance at the beginning of the period
Accounts payable	Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	132,845,757.18	127,637,286.06
	ALSTOM Transport SA-Saint Ouen	82,545,944.04	51,350,265.10
	ALSTOM Signaling Inc.	52,779,024.61	61,726,905.50
	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	32,954,805.20	46,487,403.44
	Siemens Signalling Company Ltd. (西門子信號有限公司)	13,684,417.69	7,078,456.70
	Alstom Investment (Shanghai) Co., Ltd. (阿爾斯通投資(上海)有限公司)	2,963,223.11	
	Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)	1,700,412.61	
	ALSTOM Transport SA-Villeurbanne	1,195,269.63	7,329,590.68
	China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	908,553.36	811,273.00
	Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)		3,401,783.59
	Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	262,954.81	279,770.00
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	256,751.53	291,826.38
	ALSTOM Ferroviaria S.p.A.	83,048.45	
	Beijing Erqi Communication Factory Co., Ltd. (北京二七通信工廠有限公司)	64,953.41	64,953.41
	CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)		12,176,481.32
	Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)		125,544.17
	ALSTOM Transport SA-Aix en Provence		59,553.43
	Total	322,245,115.63	318,821,092.78

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties (Continued)

2. Payable (Continued)

Project name	Related parties	Book balance at the end of the period	Book balance at the beginning of the period
Contract liabilities	CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	8,390,102.80	
	ALSTOM Transport SA-Saint Ouen	4,238,125.56	4,380,561.06
	ALSTOM Transport Australia Pty Limited	975,045.42	110,357.99
	ALSTOM Transport (S) Pte Ltd.	206,954.00	131,815.00
	ALSTOM Transport India Limited	46,105.06	11,938.55
	Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)		7,294,327.73
	Citadis Israel LTD		2,126,404.67
	Siemens Signalling Company Ltd. (西門子信號有限公司)		577,400.00
	ALSTOM Transport Mexico, S.A. de C.V.		29,120
	Total	13,856,332.84	14,661,925.00
Other payables	China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司)	777,896.85	11,477,274.05
	Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	697,728.66	562,248.95
	China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	186,783.90	
	CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	103,461.75	
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)		64,925.15
	Zhuhai Huatong Private Equity Fund Management Enterprise (Limited Partnership) (珠海華通私募基金管理企業(有限合夥))		12,257.84
	Total	1,765,871.16	12,116,705.99
	Bills payable	Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	1,500,000.00
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)		100,000.00	
Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)			2,900,000.00
Total		1,600,000.00	2,900,000.00

Note: As of 31 December 2021, the Company's receivables from and payables to related parties were interest-free, unsecured and have no fixed repayment period.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VII) Commitment of related parties

✓Applicable □Not applicable

Name of item	Related parties	Closing balance	Balance at the end of last year
Procurement of goods/receipt of services	ALSTOM Transport SA-Saint Ouen	214,869,007.73	293,211,498.21
	ALSTOM Transport SA-Villeurbanne	19,657,533.25	
	ALSTOM Signaling Inc.	6,848,028.00	
	Siemens Signalling Company Ltd. (西門子信號有限公司)	6,427,113.61	11,852,852.10
	Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	167,644.00	
	ALSTOM (USA)		7,504,122.24
	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)		1,189,881.76
	Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)		662,843.30
	Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)		247,471.21
	Sale of goods/provision of services	ALSTOM Transport S.A.	208,444,609.00
ALSTOM Transport Australia Pty. Ltd		38,288,033.77	45,637,583.60
ALSTOM Transport India Limited		31,843,658.00	10,513,661.00
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)		2,613,553.00	
ALSTOM Transport Spain Limited		843,854.25	929,453.25
ALSTOM Transport (S) Pte Ltd.		690,693.00	211,542.00
ALSTOM HONG KONG LTD.		325,000.00	240,000.00
ALSTOM Transport Romania SA		73,822.00	3,186,589.00
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)			10,279,709.91
Siping Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)			205,361,702.63
CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)		4,885,996.00	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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(XII) RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VIII) Others

Applicable Not applicable

During the year, the Company and the controlling shareholder, namely the parent company CRSC Group, jointly invested and established CRSC Group Finance Limited (通號集團財務有限公司). The Company contributed RMB1,900,000,000.00, with shareholding of 95%; the parent company CRSC Group contributed RMB100,000,000.00, with shareholding of 5%.

XIII. SHARE-BASED PAYMENT

(I) Overview of share-based payment

Applicable Not applicable

(II) Equity-settled share-based payments

Applicable Not applicable

(III) Cash-settled share-based payments

Applicable Not applicable

(IV) Modification and termination of share-based payment

Applicable Not applicable

(V) Other

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XIV. COMMITMENTS AND CONTINGENCIES

(I) Significant commitments

Applicable Not applicable

Major external commitments, nature and amount thereof as at the balance sheet date

Name of item	Closing balance	Balance at the end of last year
Contracted, but not provided for		
Capital commitment	1,000,000.00	6,330,106.30
Investment commitment	422,600,000.00	324,610,770.00
Total	423,600,000.00	330,940,876.30

(II) Contingencies

1. Important contingencies existing as at the balance sheet date

Applicable Not applicable

2. The Company has no disclosable important contingencies, and shall also give an explanation:

Applicable Not applicable

As at the balance sheet date, the Company has no disclosable contingencies.

(III) Others

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
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XV. EVENTS AFTER THE BALANCE SHEET DATE

(I) **Important non-adjusting matters**

Applicable Not applicable

(II) **Profit distribution**

Applicable Not applicable

On 23 March 2023, the Board of Directors of the Company resolved to recommend the distribution of cash dividend of RMB0.17 (including tax) per share with the profit available for distribution as of 31 December 2022. The profit distribution plan will be submitted to the Company's 2022 annual general meeting for the shareholders' consideration and approval.

(III) **Sales return**

Applicable Not applicable

(IV) **Explanation of other events after the balance sheet date**

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVI. OTHER SIGNIFICANT EVENTS

(I) **Early correction of accounting error**

1. **Retrospective restatement**

Applicable Not applicable

2. **Prospective application**

Applicable Not applicable

(II) **Debt restructuring**

Applicable Not applicable

(III) **Asset replacement**

1. **Exchange of non-monetary assets**

Applicable Not applicable

2. **Other asset replacement**

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVI. OTHER SIGNIFICANT EVENTS (Continued)

(IV) Annuity plan

Applicable Not applicable

(V) Discontinuing operations

Applicable Not applicable

(VI) Segment information

1. Basis for determining and accounting policies of reportable segments

Applicable Not applicable

For management purposes, the Company is divided into business units based on the products and services. The Company has the following three reportable segments:

- (1) The rail transportation control system segment mainly provides a specialized “three-in-one” service comprising of design and integration, equipment manufacturing and system delivery for rail transportation control systems;
- (2) General engineering contracting segment mainly includes municipal engineering contracting and the construction services of other engineering projects;
- (3) Other segments mainly engage in trading etc.

The management separately manages the operating results of each business unit for the purpose of making decisions about resources allocation and performance assessment.

Segment performance is evaluated based on the profit of a reportable segment. The indicator is consistent with the total profit of the Company.

Inter-segment transfer pricing is determined by reference to prices adopted in sales or provision of labor services to third parties.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVI. OTHER SIGNIFICANT EVENTS (Continued)

(VI) Segment information (Continued)

2. Financial information of reportable segment

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Rail transportation control system	General engineering contracting	Others	Inter-segment offsetting	Total
Revenue from external transactions	29,408,391,368.97	10,729,797,684.06	65,018,720.26		40,203,207,773.29
Revenue from inter-segment transactions	26,538,572.21	63,803,307.24	2,553,793.55	-92,895,673.00	
Investment income from joint ventures and associates	68,664,091.57	27,646,638.36	-	-	96,310,729.93
Asset impairment loss	-35,271,106.25	-1,913,935.48	-	-	-37,185,041.73
Credit impairment loss	234,665,846.64	359,593,960.05	60,251.60	-	594,320,058.29
Depreciation and amortization fees	674,874,599.28	15,337,987.88	256,191.03	-	690,468,778.19
Total profit	-	-	-	-	4,742,693,708.16
Income tax expenses	-	-	-	-	642,049,846.43
Net profit (net loss)	-	-	-	-	4,100,643,861.73
Long-term equity investments in joint ventures and associates	1,335,144,656.15	169,865,511.53	-	-	1,505,010,167.68
Capital expenditures	1,316,803,893.26	39,097,758.08	279,337.17	-	1,356,180,988.51
Total assets	81,535,873,587.31	33,968,616,516.31	2,138,133,916.15	-836,079,535.89	116,806,544,483.88
Total liabilities	44,894,733,850.71	25,394,669,881.94	75,485,286.55	-836,079,535.89	69,528,809,483.31

3. The Company shall explain the reason why there is no reportable segment or it cannot disclose the total assets and total liabilities of each reportable segment

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVI. OTHER SIGNIFICANT EVENTS (Continued)

(VI) Segment information (Continued)

4. Other explanation

Applicable Not applicable

(VII) Other material transactions and matters that have an impact on investors' decisions

Applicable Not applicable

(VIII) Others

Applicable Not applicable

Geographic information

(1) Revenue from external transactions

Revenue from external transactions	2022	2021
China	38,699,754,794.78	37,253,392,641.99
Other countries or regions	1,503,452,978.51	1,104,904,466.79
Total	<u>40,203,207,773.29</u>	<u>38,358,297,108.78</u>

Note: Revenue from external transactions is categorized by where the customers are located.

(2) Total non-current assets

Total non-current assets	2022	2021
China	<u>10,913,880,128.68</u>	<u>15,176,623,882.00</u>

Note: Non-current assets are categorized based on where the assets (excluding financial assets and deferred tax assets) are located.

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS

(I) Bills receivable

Item	Closing balance	Balance at the end of last year
Commercial acceptance bills	79,973,817.53	
Total	79,973,817.53	

Note: As at 31 December 2022, the Company has no bills receivables that have been pledged, endorsed or discounted but not yet due at the balance sheet.

(II) Accounts receivable

1. Disclosure by ageing on recording dates

Applicable Not applicable

Unit: Yuan Currency: RMB

Ageing	Closing book balance
Within 1 year	954,209,257.79
1 to 2 years	480,830,031.73
2 to 3 years	228,372,496.69
Over 3 years	244,183,436.87
Subtotal	1,907,595,223.08
Less: Provision for bad debt	119,489,165.73
Total	1,788,106,057.35

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

2. Disclosure by the method of provision for bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

Categories	Closing balance				Opening balance				
	Gross carrying amount	Proportion	Provision for bad debt	Percentage of	Gross carrying amount	Proportion	Provision for bad debt	Percentage of	Book value
	Amount	(%)	Amount	provision (%)	Amount	(%)	Amount	provision (%)	
Single provision for bad debt	459,225,210.57	24.07	2,831,288.06	0.62	456,393,922.51				
Provision withdrawn for bad debt on a combination basis	1,448,370,012.51	75.93	116,657,877.67	8.05	1,331,712,134.84				
Total	<u>1,907,595,223.08</u>	<u>100.00</u>	<u>119,489,165.73</u>		<u>1,788,106,057.35</u>				
					2,041,881,400.42	100.00	92,216,389.35		1,949,665,011.07

Single provision for bad debt:

Applicable Not applicable

Unit: Yuan Currency: RMB

Name	Closing balance			Reasons for provision
	Gross carrying amount	Provision for bad debt	Percentage of provision (%)	
Single provision for bad debt	459,225,210.57	2,831,288.06	0.62	
Total	<u>459,225,210.57</u>	<u>2,831,288.06</u>		/

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

2. Disclosure by the method of provision for bad debts (Continued)

Descriptions of single provision for bad debt:

Applicable Not applicable

Provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

Items of provision on a combination basis:

Unit: Yuan Currency: RMB

Name	Closing balance		
	Accounts receivable	Provision for bad debt	Percentage of provision (%)
Within 1 year	877,168,390.77	4,385,841.99	0.50
1 to 2 years	252,021,522.60	12,601,076.14	5.00
2 to 3 years	127,748,468.72	12,774,846.83	10.00
Over 3 years	191,431,630.42	86,896,112.71	45.39
Total	<u>1,448,370,012.51</u>	<u>116,657,877.67</u>	

Recognition standards and descriptions of provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

3. Provision for bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation Other changes	
Single provision for bad debt	4,470,744.79	-1,573,966.73	65,490.00		2,831,288.06
Provision withdrawn for bad debt on a combination basis by credit risk characteristics	87,745,644.56	28,912,135.45		97.66	116,657,877.67
Total	<u>92,216,389.35</u>	<u>27,338,168.72</u>	<u>65,490.00</u>	<u>97.66</u>	<u>119,489,165.73</u>

Including significant amounts of provision for bad debts recovered or reversed in the period:

Applicable Not applicable

4. Write-off of accounts receivable for the period

Applicable Not applicable

Writing-off of important accounts receivable

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

5. Top five accounts receivable by closing balance of debtors

Applicable Not applicable

31 December 2022

The total amount of top five accounts receivable by closing balance of debtors amounted to RMB588,251,757.04, accounting for 30.84% of the total closing balance of accounts receivable. The total closing balance of the corresponding provision for bad debt amounted to RMB2,748,849.85.

31 December 2021

The total amount of top five accounts receivable by closing balance of debtors amounted to RMB615,459,717.21, accounting for 30.14% of the total closing balance of accounts receivable. The total closing balance of the corresponding provision for bad debt amounted to RMB5,582,614.44.

6. Accounts receivable derecognized due to the transfer of financial assets

Applicable Not applicable

7. Amount of assets or liabilities resulting from transferring of accounts receivable and continuing involvement

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(III) Receivable for financing

I. Receivable for financing

Item	Closing balance	Closing balance of last year
Bank acceptance bills	54,684,084.19	85,141,369.24
Commercial acceptance bills		77,487,134.25
Total	<u>54,684,084.19</u>	<u>162,628,503.49</u>

2. Notes receivable endorsed or discounted by the Company at the end of the period and not yet due on the balance sheet date

Item	Amount derecognized at the end of the period	Amount not derecognized at the end of the period
Bank acceptance bills	<u>1,000,000.00</u>	
Total	<u>1,000,000.00</u>	

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Interests receivable		
Dividends receivable	161,752,930.31	356,533,862.95
Other receivables	6,255,470,067.85	6,212,600,336.97
Total	6,417,222,998.16	6,569,134,199.92

Other explanation:

Applicable Not applicable

Interests receivable

(1). Classification of interests receivable

Applicable Not applicable

(2). Significant overdue interest

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

(3). Provision for bad debts

Applicable Not applicable

Other explanation:

Applicable Not applicable

(4). Dividends receivable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item (or investee)	Closing balance	Opening balance
CRSCD		—
CRSC Wanquan	3,616,930.31	3,616,930.31
CRSC Construction	158,136,000.00	158,138,932.64
Zhengzhou Zhongyuan		190,593,000.00
CRSC Electrification Bureau		4,185,000.00
Total	161,752,930.31	356,533,862.95

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

(5). Significant dividends receivable with an age over 1 year

Applicable Not applicable

(6). Provision for bad debts

Applicable Not applicable

Other explanation:

Applicable Not applicable

Other receivables

(1). Disclosure by ageing

Applicable Not applicable

Unit: Yuan Currency: RMB

Ageing	Closing book balance
Subtotal for within 1 year	1,645,181,079.59
1 to 2 years	4,254,979,490.21
2 to 3 years	133,351,323.64
Over 3 years	222,543,422.21
Subtotal	6,256,055,315.65
Less: Provision for bad debts	585,247.80
Total	<u>6,255,470,067.85</u>

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

(2). Classified by nature of accounts

Applicable Not applicable

Unit: Yuan Currency: RMB

Nature of accounts	Closing book balance	Opening book balance
Loans from subsidiaries	5,942,843,130.00	4,560,843,130.00
Advances	256,412,878.94	1,564,390,541.16
Others	56,799,306.71	87,952,381.83
Sub-total	6,256,055,315.65	6,213,186,052.99
Less: Provision for bad debts	585,247.80	585,716.02
Total	6,255,470,067.85	6,212,600,336.97

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

(3). Provision for bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

	Stage 1	Stage 2	Stage 3	
Provision for bad debt	12-month ECL	Lifetime ECL (non-credit impaired)	Lifetime ECL (credit-impaired)	Total
Amounts due as at 1 January 2022	422,922.69	162,793.33		585,716.02
Amounts due for the period as at 1 January 2022				
– Transferred to stage 2				
– Transferred to stage 3	-372,051.00		372,051.00	
– Reversed to stage 2				
– Reversed to stage 1	162,793.33	-162,793.33		
Provision for the period	-468.22			-468.22
Amounts due as at 31 December 2022	<u>213,196.80</u>		<u>372,051.00</u>	<u>585,247.80</u>

Explanation about obvious changes in gross carrying amount of other receivables for which loss provision has changed in the period:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

(3). Provision for bad debts (Continued)

Changes in gross carrying amount of other receivables are as follows:

	Stage 1	Stage 2	Stage 3	
	12-month ECL	Lifetime ECL (non-credit impaired)	Lifetime ECL (credit-impaired)	Total
Gross carrying amount				
Amounts due as at the end of last year	6,212,916,115.67	269,937.32		6,213,186,052.99
Amounts due for the period as at the end of last year				
– Transferred to stage 2				
– Transferred to stage 3	-372,051.00		372,051.00	
– Reversed to stage 2				
– Reversed to stage 1	269,937.32	-269,937.32		
Increase for the period	2,669,491,175.86			2,669,491,175.86
Derecognized for the period	-2,626,621,913.20			-2,626,621,913.20
Other changes				
Amounts due as at the end of the period	<u>6,255,683,264.65</u>		<u>372,051.00</u>	<u>6,256,055,315.65</u>

Amount of provision for bad debt for the period and basis for evaluating whether credit risk of financial instruments increases significantly:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Other receivables (Continued)

(4). Provision for bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

Categories	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation Other changes	
Single provision for bad debt	372,051.00				372,051.00
Provision withdrawn for bad debt on a combination basis by credit risk characteristics	213,665.02	-468.22			213,196.80
Total	<u>585,716.02</u>	<u>-468.22</u>	<u></u>	<u></u>	<u>585,247.80</u>

Including significant amounts of provision for bad debts recovered or reversed in the period:

Applicable Not applicable

(5). Write-off of other receivables for the period

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Other receivables (Continued)

(6). Top five other receivables by closing balance of debtors

Applicable Not applicable

31 December 2022

The total amount of top five other receivables by closing balance of debtors amounted to RMB5,761,642,694.29, accounting for 92.10% of the total closing balance of other receivables. There was no need to make provision for bad debt.

31 December 2021

The total amount of top five other receivables by closing balance of debtors amounted to RMB5,120,000,000.00, accounting for 82.41% of the total closing balance of other receivables. There was no need to make provision for bad debt.

(7). Receivables involving government subsidies

Applicable Not applicable

(8). Other receivables derecognized due to the transfer of financial assets

Applicable Not applicable

(9). Amount of assets or liabilities resulting from transfer of other receivables and continuing involvement

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(V) Long-term equity investments

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Balance of carrying amount	Impairment provision	Carrying amount	Balance of carrying amount	Impairment provision	Carrying amount
Investment in subsidiaries	18,350,119,539.81		18,350,119,539.81	16,333,066,112.61	-	16,333,066,112.61
Investments in associates and joint ventures	895,054,025.19		895,054,025.19	864,288,516.03	-	864,288,516.03
Total	19,245,173,565.00		19,245,173,565.00	17,197,354,628.64	-	17,197,354,628.64

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(V) Long-term equity investments (Continued)

1. Investment in subsidiaries

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Investee	Opening book balance	Increase for the period	Decrease for the period	Closing book balance	Provision for impairment for the period	Closing balance of provision for impairment
China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (中國鐵路通信信號上海工程 局集團有限公司)	1,635,118,995.36			1,635,118,995.36		
Beijing National Railway Research & Design Institute of Signal & Communication Co., Ltd. (北京全路通 信信號研究設計院集團有限公司)	2,183,153,452.31			2,183,153,452.31		
CRSC Communication & Information Group Company Ltd. (通號通信信息集 團有限公司)	370,790,731.45			370,790,731.45		
CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有 限公司)	100,000,000.00			100,000,000.00		
CRSC International Holdings Company Limited (通號國際控股有限公司)	463,000,000.00			463,000,000.00		
CRSC Innovation Investment Co., Ltd. (通號創新投資有限公司)	2,901,431,060.71			2,901,431,060.71		
CRSC Engineering Group Company Ltd. (通號工程局集團有限公司)	1,090,447,494.77			1,090,447,494.77		
CRSC Cables Company Ltd. (通號電纜集 團有限公司)	389,223,087.50			389,223,087.50		
CRSC (Changsha) Rail Transit Control Technology Company Limited (通號 (長沙)軌道交通控制技術有限公司)	1,454,470,000.00			1,454,470,000.00		

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(V) Long-term equity investments (Continued)

1. Investment in subsidiaries (Continued)

Investee	Opening book balance	Increase for the period	Decrease for the period	Closing book balance	Provision for impairment for the period	Closing balance of provision for impairment
CASCO Signal Ltd. (卡斯柯信號有限公司)	731,460,709.51			731,460,709.51		
CRSC (Beijing) Rail Industry Group Co., Ltd. (通號(北京)軌道工業集團有限公司)	50,000,000.00		50,000,000.00			
CRSC (Xi'an) Rail Industry Group Co., Ltd. (通號(西安)軌道交通工業集團有限公司)	2,161,476,363.60			2,161,476,363.60		
Zhengzhou Zhongyuan Railway Engineering Co., Ltd. (鄭州中原鐵道工程有限責任公司)	325,000,000.00			325,000,000.00		
CRSC Construction Group Co., Ltd. (通號建設集團有限公司)	1,278,913,017.40			1,278,913,017.40		
China Railway Signal & Communication International Co., Ltd. (中國通號國際有限公司)	2,581,200.00			2,581,200.00		
CRSC Jishou Tengda Project Management Co., Ltd. (吉首通號騰達項目管理有限責任公司)	405,000,000.00			405,000,000.00		
CRSC Jishou Huatai Pipeline Project Management Co., Ltd. (吉首通號華泰管廊項目管理有限責任公司)	522,000,000.00			522,000,000.00		
CRSC (Jiangsu) Smart City Construction & Development Co., Ltd. (通號(江蘇)智慧城市建設開發有限公司)	264,000,000.00	167,053,427.20		431,053,427.20		
CRSC (Beijing) Tendering Company Ltd. (通號(北京)招標有限公司)	5,000,000.00			5,000,000.00		
CRSC Group Finance Limited (通號集團財務有限公司)		1,900,000,000.00		1,900,000,000.00		
Total	16,333,066,112.61	2,067,053,427.20	50,000,000.00	18,350,119,539.81		

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(V) Long-term equity investments (Continued)

2. Investments in associates and joint ventures

Applicable Not applicable

Unit: Yuan Currency: RMB

Investee	Opening balance	Increase/decrease during the period								Closing balance
		Increase in investment	Decrease in investment	Investment gains/losses recognized under the equity method	Other comprehensive income adjustment	Other equity changes	Declared and paid cash dividends or profits	Provision for impairment	Others	
I. Joint venture										
Wenzhou-Hangwen										
High-Speed Railway	76,503,772.49									76,503,772.49
Subtotal	76,503,772.49									76,503,772.49
II. Associates										
CSCEC Foshan	12,616,233.38									12,616,233.38
Siping Pipeline	224,763,946.36									224,763,946.36
Guangdong Ultrust	344,091,086.74			7,555,000.38						351,646,087.12
CRSC Tianshui	206,313,477.06			23,210,508.78						229,523,985.84
Subtotal	787,784,743.54			30,765,509.16						818,550,252.70
Total	864,288,516.03			30,765,509.16						895,054,025.19

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(VI) Revenue and costs of sales

1. Revenue and costs of sales

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period		Amount for the last period	
	Revenue	Cost	Revenue	Cost
Principal operations	3,491,835,458.20	3,164,713,992.99	5,607,156,949.46	5,282,629,217.04
Other operations	176,888,171.44	47,847,019.54	161,614,770.17	44,018,790.16
Total	<u>3,668,723,629.64</u>	<u>3,212,561,012.53</u>	<u>5,768,771,719.63</u>	<u>5,326,648,007.20</u>

2. Revenue from contracts

Applicable Not applicable

3. Details of performance obligation:

Applicable Not applicable

4. Explanation about allocation to the remaining performance obligations

Applicable Not applicable

Other explanation:

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(VII) Investment income

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Income from long-term equity investments under the cost method	1,939,015,477.95	1,698,268,090.00
Income from long-term equity investments under the equity method	30,765,509.16	51,213,441.33
Interest income from debt investments during the holding period	11,364,993.67	11,364,993.67
Investment income from borrowing/loan	229,125,365.52	265,047,293.19
Total	<u>2,210,271,346.30</u>	<u>2,025,893,818.19</u>

Other explanation:

(VIII) Others

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVIII. SUPPLEMENTARY INFORMATION

(I) Breakdown of current non-recurring profit or loss

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount	Note
Profit and loss on disposal of non-current assets	29,599,933.66	/
Tax refund or relief for which approval is not authorized or no formal approval is issued		
Government grants recognized through profit or loss (other than government grants which are closely related to corporate business and granted based on a fixed amount or a fixed quantity unified by the state)	225,886,038.73	/
Corporate restructuring costs, such as employee relocation expenses and integration costs		
Gain or loss on transactions with obviously unfair transaction price for amount which exceeds fair value		
Net gains or losses of subsidiaries for the current period from the beginning of the period to the date of combination arising from business combination under common control		
Gain or loss on other contingencies which are not related to the Company's normal operations		
Gain or loss on changes in fair value from held-for-trading financial assets, derivative financial assets, financial liabilities held for trading, derivative financial liabilities, and investment income from disposal of held-for-trading financial assets, derivative financial assets, financial liabilities held for trading, derivative financial liabilities and other debt investment, except for effective hedging transactions that are related to the Company's normal operations		

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVIII. SUPPLEMENTARY INFORMATION (Continued)

(I) Breakdown of current non-recurring profit or loss (Continued)

Item	Amount	Note
Reversal of the impairment provision for receivables and contract assets which are tested individually for impairment	5,479,157.91	/
Gain or loss on external entrusted loans		
Gain or loss arising from changes in fair value of investment properties under fair value model on subsequent measurement		
Effect of one-time adjustment to current profit or loss according to the requirements of tax and accounting laws and regulations on current profit or loss		
Entrusted fee income from entrusted operations		
Other non-operating income and expenses apart from the aforesaid items	29,432,450.43	/
Other gain or loss items falling within the definition of extraordinary items		
Less: Effect of income tax	52,080,244.77	/
Effect of minority interest	21,507,633.31	/
Total	<u>216,809,702.65</u>	<u>/</u>

Reasons shall be given with respect to the Company classifying the non-recurring profit and loss items defined and listed in the Explanatory Notice on Information Disclosure of Companies with Public Offering No. 1-Non-recurring Profit and Loss 《公開發行證券的公司信息披露解釋性公告第 1 號－非經常性損益》 as recurring profit and loss items.

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022

RMB

XVIII. SUPPLEMENTARY INFORMATION (Continued)

(II) Return on net assets and earnings per share

✓ Applicable Not applicable

2022

Profit for the Reporting Period	Weighted average return on net assets (%)	Earnings per share	
		Basic earnings per share	Diluted earnings per share
Net profit attributable to ordinary shareholders of the Company	8.17	0.33	0.33
Net profit attributable to ordinary shareholders of the Company after deducting non-recurring profits and losses	7.68	0.31	0.31

2021

Profit for the Reporting Period	Weighted average return on net assets (%)	Earnings per share	
		Basic earnings per share	Diluted earnings per share
Net profit attributable to ordinary shareholders of the Company	7.57	0.30	0.30
Net profit attributable to ordinary shareholders of the Company after deducting non-recurring profits and losses	7.22	0.28	0.28

NOTES TO FINANCIAL STATEMENTS

Year ended 31 December 2022
RMB

XVIII. SUPPLEMENTARY INFORMATION (Continued)

(III) Differences in accounting data between domestic and overseas accounting standards

Applicable Not applicable

(IV) Others

Applicable Not applicable

Chairman:

Date of approval by the Board for submission:

INFORMATION ON AMENDMENT

Applicable Not applicable

SECTION XII FIVE-YEAR FINANCIAL SUMMARY

CONSOLIDATED STATEMENT OF PROFIT

Item	2022	2021	2020	2019	2018
Revenue	40,203,207,773.29	38,358,297,108.78	40,124,476,710.76	41,646,286,792.57	40,012,601,322.24
Costs of sales	30,680,741,586.09	29,846,875,671.34	31,269,101,236.91	32,112,103,467.88	30,931,739,704.16
Taxes and surcharges	241,534,607.36	253,686,656.86	230,083,398.31	260,018,767.25	255,740,657.97
Selling and distribution expenses	812,111,306.78	796,771,857.42	782,685,977.22	878,468,933.38	701,572,032.88
General and administrative expenses	2,289,994,474.16	2,116,982,019.27	2,059,557,214.11	2,530,027,201.64	2,462,903,609.57
Research and development expenses	1,689,810,596.63	1,638,494,903.20	1,434,273,399.90	1,583,455,766.97	1,323,503,188.98
Finance costs	-237,983,529.30	-312,381,754.25	-249,659,643.80	-144,051,571.49	-86,429,029.18
Assets impairment losses	37,185,041.73	64,728,770.22	13,806,313.28	12,097,212.16	110,408.35
Credit impairment losses	-594,320,058.29	195,496,554.50	16,062,175.36	18,930,589.80	113,310,088.29
Investment income	121,595,656.28	113,911,083.50	58,689,540.14	372,775,072.48	55,167,907.21
Gains or losses from disposal of assets	29,599,933.66	35,949,376.07	171,224,991.74	-1,382,312.77	-4,136,576.96
Other income	366,824,324.56	336,893,708.75	216,220,467.27	213,181,016.26	171,651,177.97
Operating profit	4,704,290,405.66	4,244,396,598.54	5,014,701,638.62	4,979,410,200.95	4,532,833,169.44
Non-operating income	48,280,889.32	44,826,898.06	26,100,278.36	61,799,594.90	45,181,935.07
Non-operating expenses	9,877,586.82	15,311,313.98	4,929,393.37	13,735,278.90	58,345,128.80
Total profit	4,742,693,708.16	4,273,912,182.62	5,035,872,523.61	5,027,474,516.95	4,519,669,975.71
Income tax expenses	642,049,846.43	581,002,096.30	796,452,326.62	850,426,160.91	802,874,717.84
Net profit	4,100,643,861.73	3,692,910,086.32	4,239,420,196.99	4,177,048,356.04	3,716,795,257.87
Net profit attributable to the owners of parent company	3,633,640,258.62	3,274,672,689.28	3,819,046,319.02	3,815,874,901.39	3,408,545,542.62
Profit or loss attributable to non-controlling interests	467,003,603.11	418,237,397.04	420,373,877.97	361,173,454.65	308,249,715.25
Basic earnings per share	0.33	0.30	0.34	0.38	0.38
Diluted earnings per share	0.33	0.30	0.34	0.38	0.38

TOTAL CONSOLIDATED ASSETS AND LIABILITIES

Item	2022	2021	2020	2019	2018
Total assets	116,806,544,483.88	108,942,588,838.30	105,328,082,320.59	97,512,591,304.36	79,678,537,628.47
Total liabilities	69,528,809,483.31	63,571,212,916.84	61,030,744,806.19	54,787,913,723.34	49,406,456,079.29
Total Shareholders' equity	47,277,735,000.57	45,371,375,921.46	44,297,337,514.40	42,724,677,581.02	30,272,081,549.18

CRSC

中国通号

China Railway Signal & Communication Corporation Limited
中國鐵路通信信號股份有限公司