FROST & SULLIVAN

Market Engineering

Market Study of Global Construction Machinery Market

Presented to

SANY

October 2025

Confidential

Terms and Abbreviations (1/2)

Terms:

- **Compound Annual Growth Rate (CAGR):** The term for interest rate at which a given Present Value (PV) would "grow" to a given Future Value (FV) in a given amount of time. The formula for calculating CAGR is: (FV/PV)^(1/number of years)-1

• **Construction Machinery**	工程机械	• **Concrete Mixer**	混凝土搅拌车
• **Excavators**	挖掘机	• **Concrete Mixing Station**	混凝土搅拌站
• **Concrete Machinery**	混凝土机械	• **Trailer Pump**	拖泵
• **Hoisting Machinery**	起重机械	• **Mortar Pump**	砂浆泵
• **Piling Machinery**	桩工机械	• **Wet Shotcreting Machine**	湿喷机
• **Road Machinery**	路面机械	• **Filling Pump**	充填泵
• **Crane**	起重机	• **Distributor Boom**	布料杆
• **Roller**	压路机	• **Engine**	发动机
• **Paver**	摊铺机	• **Chassis**	底盘
• **Grader**	平地机	• **Bearing**	轴承
• **Rotary Drilling Rig**	旋挖钻机	• **Hydraulic System**	液压系统
• **Wheel Excavator**	轮式挖掘机	• **Loader**	装载机
• **Pump**	泵车	• **Auto Crane**	汽车起重机

Terms and Abbreviations (2/2)

Terms:

- **Truck Crane** 随车起重机
- **Crawler Crane** 履带起重机
- **Tower Crane** 塔式起重机
- **Road Planer** 铣刨机
- **Asphalt Mixing Station** 沥青搅拌站
- **Medium-Thick Plate** 中厚板
- **Mining Dump Truck** 矿用自卸车
- **High-Altitude Platform** 高空作业平台
- **Telehandler** 叉装机
- **Scraper** 铲土运输机械
- **Bulldozer** 推土机
- **Cold-Rolled Thin Plate** 冷轧薄板

Abbreviations:

- **MIIT** Ministry of Industry and Information Technology of the People's Republic China
- **NDRC** National Development and Reform Commission
- **NPC** National People's Congress
- **CPC** The Communist Party of China
- **CPPCC** Chinese People's Political Consultative Conference
- **MFA** Ministry of Foreign Affairs
- **MOFCOM** Ministry of Commerce
- **MOHURD** Ministry of Housing and Urban-Rural Development
- **CRU** Climatic Research Unit
- **CNCMA** China Construction Machinery Association

Overall Assumptions and Methodology

Methodology:

In preparing the report, Frost & Sullivan has relied on the statistics and information obtained through primary and secondary research.

•Primary research includes interviewing industry insiders, competitors, downstream customers and recognized third-party industry associations.

•Secondary research includes reviewing corporate annual reports, databases of relevant official authorities, as well as the exclusive database established by Frost & Sullivan over the past decades.

Assumptions:

The market size and forecasts were modeled by Frost & Sullivan based on the following assumptions.

•The social, economic and political conditions in China and main markets globally discussed will remain stable during the forecast period;

•Government policies on Construction Machinery market in China and main markets globally will remain consistent during the forecast period;

•Global Construction Machinery market will be driven by the factors which are stated in this report.

Research Scope

Global Construction Machinery Market

Research Period

- Base year: 2024
- Historical: 2020 to 2024
- Forecasting: 2025E to 2030E

Service Market Scope

- Construction Machinery Market

Geographical Scope

- Mainland China
- Asia-Oceania*, Europe**, North America, Latin America***, Africa

**Asia-Oceania includes Asia (excluding China), Australia and the Middle East in this report.*
*** Europe refers to all European Union countries, the United Kingdom and Russia in this report.*
****Latin America refers to Central America, South America, and some countries in the Caribbean region in this report.*

Content

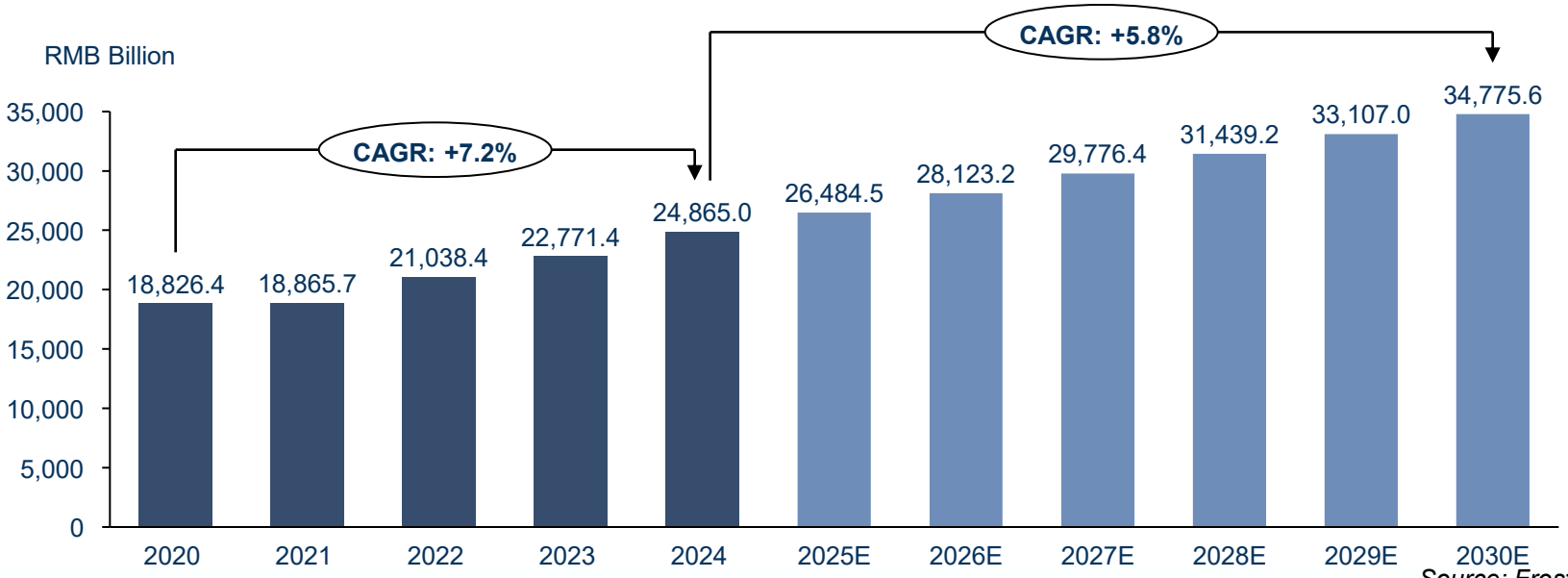
Chapter	Section
1	Overview of China’s Macro Economy
2	Analysis of China’s and Global Construction Machinery Market
3	Competitive Analysis of Global Construction Machinery Market

1. Overview of China's Macro Economy

Overview of Macro Economy
Fixed Asset Investment in Infrastructure Construction in China

- In the coming years, investment scales in different end industries will continue to expand, driving diversified construction machinery demand growth. According to Frost & Sullivan, from 2025 to 2030, China's cumulative investment in infrastructure, municipal public facilities, and mining industries is expected to exceed RMB206 trillion, becoming long-term support for the construction machinery market:
- **Infrastructure driving demand for large machinery.** The government continues to increase investment in infrastructure construction such as road, railways, hydraulic engineering, electricity, and energy, promoting a steady growth in the construction machinery market. According to Frost & Sullivan, from 2025 to 2030, China's cumulative infrastructure construction investment is expected to exceed RMB183 trillion, with transportation and energy infrastructure investment growing most notably. The steady rollout of major transport projects—such as roads, high-speed rail, and urban rail—continues to drive demand for excavators, hoisting machinery, and piling equipment. At the same time, expansion in power infrastructure, including ultra-high voltage grids, smart distribution networks, and energy storage, is boosting demand across construction machinery categories. Accelerated investment in photovoltaic, hydraulic, and other energy infrastructure projects is further expanding the market for specialized and hoisting machinery, supporting counter-cyclical growth.

Fixed Asset Investment in Infrastructure Construction, China, 2020-2030E



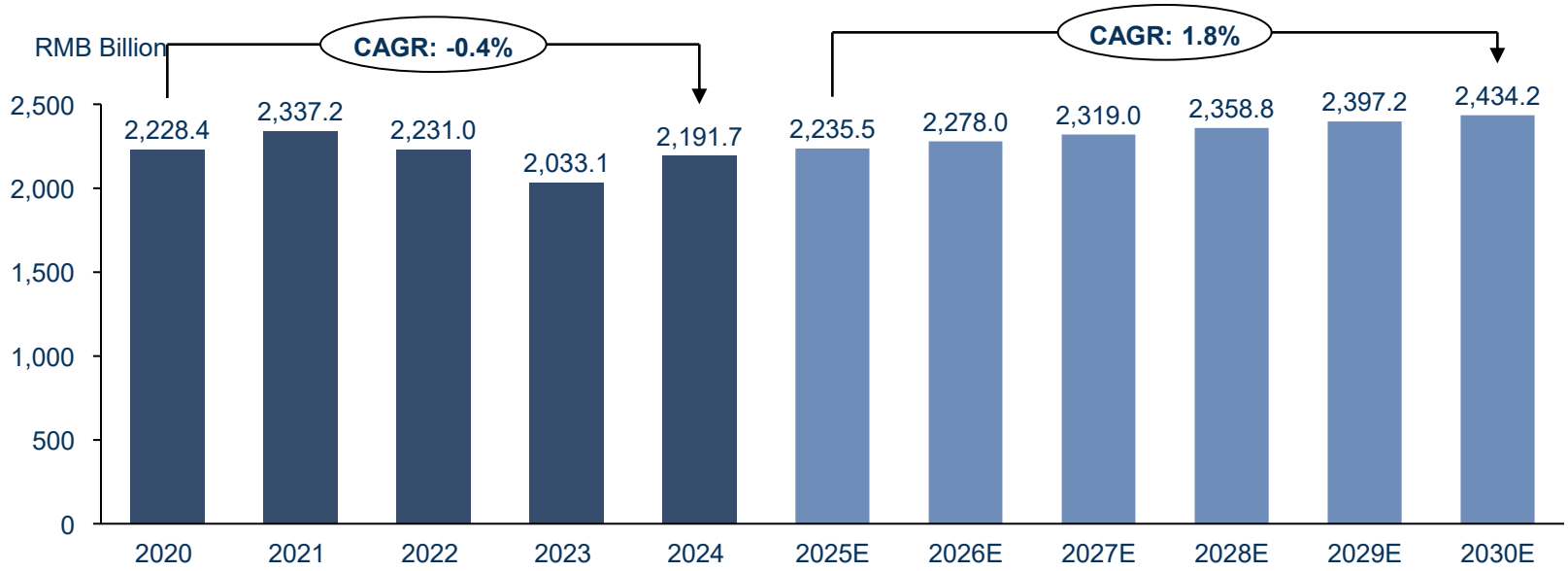
Source: Frost & Sullivan

Overview of Macro Economy
Fixed Asset Investment in Urban Municipal Facilities

- **Real estate industry transition fuels demand for urban renewal machinery**. China's real estate sector is shifting from traditional development to renovation of existing housing stock, driving demand for urban renewal, affordable housing, and municipal infrastructure upgrades. According to Frost & Sullivan, fixed asset investment in urban municipal utilities is projected to exceed RMB14 trillion from 2025 to 2030, directly boosting demand for small and medium-sized construction machinery. This counter-cyclical trend has notably increased demand for equipment like small excavators and concrete pump trucks, used in old city renovation, pipeline construction, and road maintenance.

- Meanwhile, the rise of intelligent and prefabricated buildings is accelerating the adoption of smart construction equipment. Technologies such as BIM ((Building Information Modeling) and remote-operated excavators are enhancing efficiency. As the industry advances toward automation and sustainability, digitalization and intelligence are becoming key competitive factors in construction machinery.

Fixed Asset Investment in Urban Municipal Facilities, China, 2020-2030E



Source: Frost & Sullivan

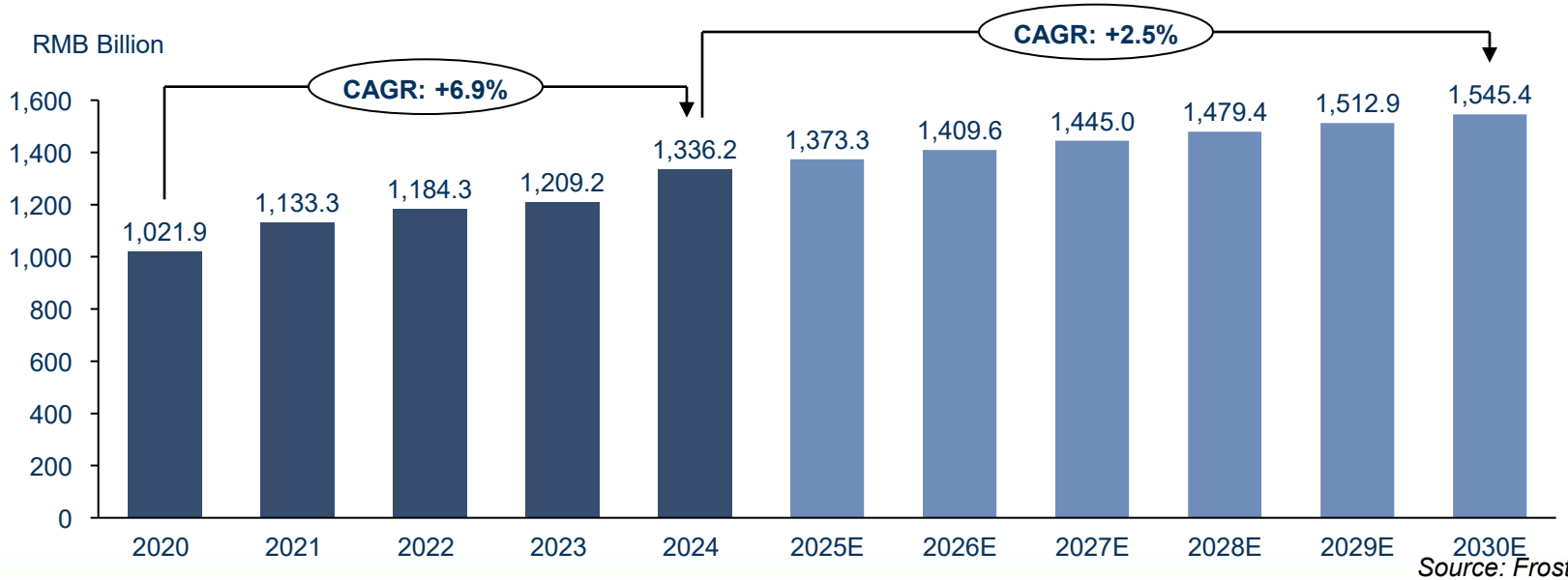
Overview of Macro Economy
Fixed Asset Investment in the Mining Industry in China

- **Mining sector expansion boosts demand for mining machinery.** The warming up of the global commodity market and rising mineral resource demand provide strong support for mining investment growth. From 2025 to 2030, China's cumulative fixed asset investment in mining is anticipated to reach RMB8.8 trillion, directly driving the expansion in the mining machinery market. Affected by the rise in coal and metal mineral demand, market demand for mining equipment, heavy excavators, and mining dump trucks continues to grow.

- At the same time, intelligent and green mine is emerging as a core focus of industry development. An increasing number of mining companies are turning to electrified and automated mining equipment to boost efficiency and cut emissions. In the coming years, the penetration rate of electric mining equipment will rapidly increase, further changing the industry competitive landscape.

- Diversified end-market demand is reinforcing preference for global leaders with broad product portfolios and strong R&D and manufacturing capabilities. As these leaders gain market share, small and mid-sized firms face mounting pressure. China's construction machinery industry is thus entering a phase of accelerated consolidation, with rising market concentration.

Fixed Asset Investment in the Mining Industry, China, 2020-2030E

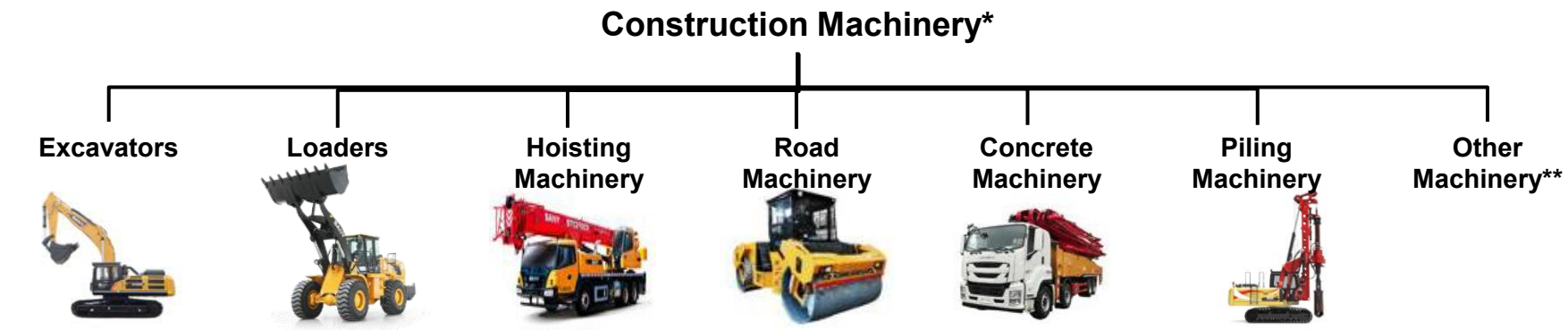


Source: Frost & Sullivan

2. Analysis of China's and Global Construction Machinery Market

Analysis of China's and Global Construction Machinery Market
Definition and Classification

- Construction machinery refers to heavy-duty mechanical equipment extensively deployed in building construction, infrastructure development, urban renovation, mining operations, logistics handling, port operations, and other industrial sectors. This category of equipment typically features high power output, durability, and operational precision, making it as a critical enabler of global modernization.
- With accelerating economic development and urbanization, the construction machinery industry continues to evolve to adapt to various geographical environments, construction conditions, and application scenarios. The global construction machinery market can be broadly categorized as follows by products:
  - **Excavators** mainly include crawler excavators and wheeled excavators, widely used in earthworks, road construction, bridge construction, mining operations, urban development, and infrastructure development.
  - **Loaders** mainly include wheeled loaders and crawler loaders, mainly used for earthworks, mining operations, road construction and site preparation.
  - **Hoisting machinery** mainly includes truck cranes, tower cranes, crawler cranes, and truck-mounted cranes, among others, widely applied in building construction, port terminals, logistics and new energy industries, such as wind turbine installation.
  - **Road machinery** mainly includes rollers, pavers, milling machines and asphalt batching equipment, among others, widely used in road construction and maintenance, airport runways and other infrastructure.
  - **Concrete machinery** mainly includes concrete batching plants, concrete pump trucks, concrete buggies and mixing trailers, among others, mainly used in urban construction, road and bridge projects, airport runways and tunnel construction.
  - **Piling machinery** mainly includes rotary drilling rigs, continuous wall grabs and pile drivers, among others, used for foundation treatment, deep foundation pit support and tunnel excavation.
  - **Other construction machinery** mainly includes earthmoving and transport machinery (mainly dozers, scrapers, forklifts, mining dump trucks, etc.), aerial work platforms, underground tunnelling equipment and rock drilling machinery, among others.



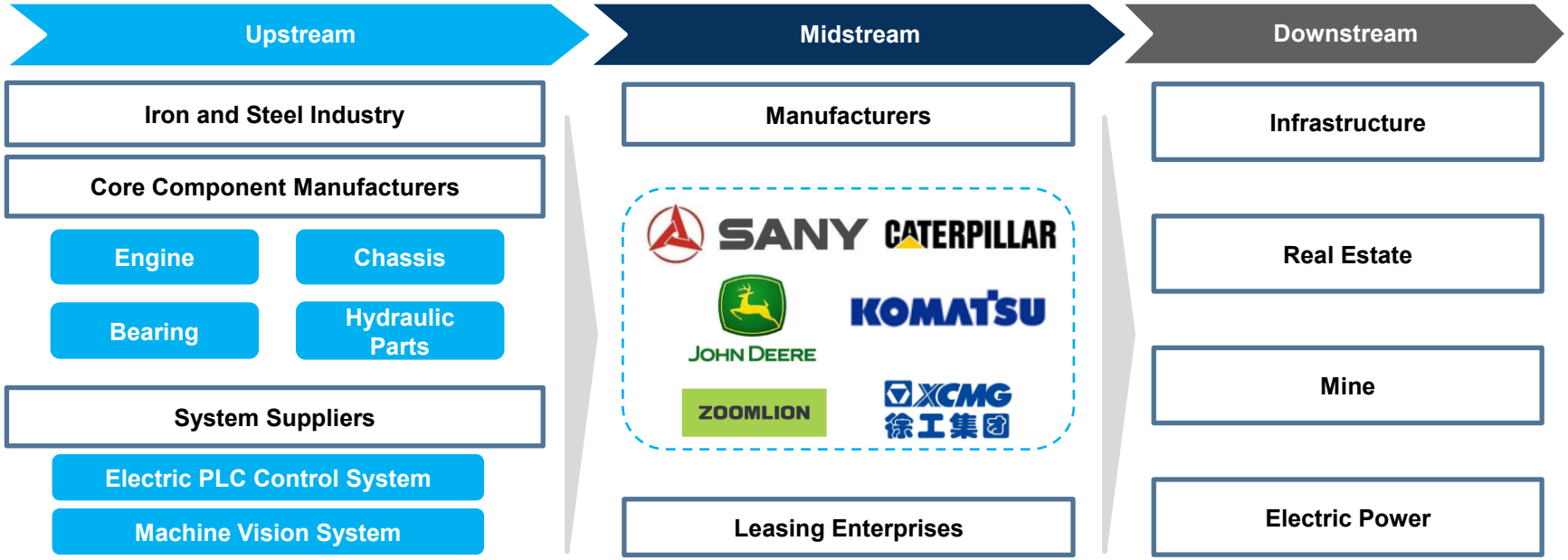
**Construction machinery excludes industrial vehicles and agricultural machinery*
***Others: Aerial Working Machinery, Rock Drilling Machinery, Tunneling Machinery, etc.*

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Value Chain Analysis

- The upstream of construction machinery market consists of iron and steel industry, core component manufacturers, and others. Steel, iron and other non-ferrous metals are important raw materials of the production of construction machinery. Core components mainly include hydraulic systems, bearings, engines and chassis. It is worth mentioning that as construction machinery is undergoing an electrification, intellectualization, and digitization trend, the importance of upstream system suppliers has increased.
- The midstream of construction machinery market consists of manufacturers or leasing enterprises. Most of the leading manufacturers are able to produce various types of construction machinery.
- The downstream includes infrastructure construction, real estate, mining excavation, and electric power.

Industry Value Chain of Construction Machinery Market

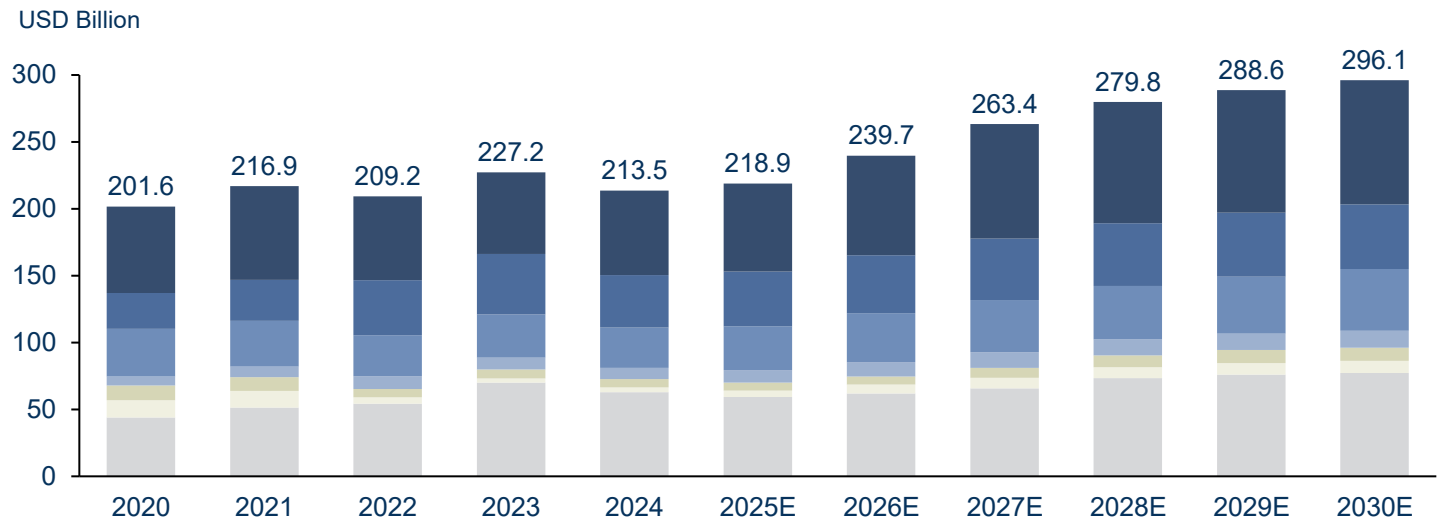


Source: Construction Machinery Industry Year Book, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (1/12)

Total Revenue of Construction Machinery Market (by product), Global, 2020-2030E



	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
Excavators	64.5	70.1	62.7	60.9	63.2	65.7	74.3	85.6	90.5	91.5	92.8	-0.5%	6.6%
Loaders	26.8	30.6	40.9	45.2	39.0	40.9	43.3	46.0	47.0	47.8	48.4	9.9%	3.7%
Hoisting Machinery	35.7	34.2	30.7	32.4	30.2	32.8	36.6	39.0	40.0	42.6	46.2	-4.1%	7.3%
Road Machinery	6.8	8.0	9.5	8.9	8.3	9.2	10.8	11.7	11.9	12.2	12.5	5.3%	7.0%
Concrete Machinery	10.9	10.3	6.2	6.7	6.4	6.0	6.1	7.4	8.8	9.7	10.0	-12.6%	7.8%
Piling Machinery	13.0	12.4	4.8	3.1	3.4	4.9	6.7	7.9	8.3	8.7	9.0	-28.3%	17.4%
Others	44.0	51.4	54.3	70.0	63.0	59.2	61.9	65.8	73.3	76.0	77.3	9.4%	3.5%
Total	**201.6**	**216.9**	**209.2**	**227.2**	**213.5**	**218.9**	**239.7**	**263.4**	**279.8**	**288.6**	**296.1**	**1.4%**	**5.6%**

Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (2/12)

- The global construction machinery market continues to grow steadily, driven by rising infrastructure investment, increasing energy and energy resource demand, the sector's shift toward intelligent construction, technological upgrades in mining and excavation, a stronger focus on sustainability, and the rapid adoption of electrification and smart technologies. According to Frost & Sullivan, the overall market size reached US$213.5 billion in 2024 and is expected to increase to US$296.1 billion in 2030, representing a compound annual growth rate (CAGR) of 5.6% from 2024 to 2030.

- The core market of the global construction machinery industry, represented by excavators, loaders, hoisting machinery, road machinery, concrete machinery, and piling machinery, reached US$150.5 billion in 2024, and is anticipated to reach US$218.9 billion in 2030, with a projected CAGR of 6.4% between 2024 and 2030. These equipment categories cover the main areas of construction machinery industry: excavators are widely used in earthwork and infrastructure construction; loaders are crucial in large-scale material transportation, such as ports and road construction, and earthwork projects; hoisting machinery plays an important role in wind power, new energy infrastructure, and port logistics; road machinery is core equipment for the construction and maintenance of transportation infrastructure; concrete machinery is indispensable in urban development, bridge construction and prefabricated buildings; piling machinery plays a key role in major engineering projects such as subways and high-speed railways.

- With the growing demand for equipment upgrade in established markets and continued infrastructure investment in emerging markets, these six core segments not only benefit from technological innovations such as digitalization and decarbonization, while continuing to serve as key drivers of a steady growth in the global construction machinery market.

- China's excavator, hoisting machinery, concrete machinery and piling machinery markets account for a significant share of the global markets, making their performance and fluctuations exert substantial influence on the global market. The Chinese construction machinery industry exhibits cyclical characteristics, with 2020 marking the start of a new cycle. Influenced by the downturn in the real estate sector and reduced construction activity, the Chinese market entered a cyclical downturn phase from 2022 onward. Meanwhile, overseas markets in these categories remained relatively stable. Consequently, the contraction in China's excavator, hoisting machinery, concrete machinery, and piling machinery markets became the primary driver of the global negative growth in these product categories from 2020 to 2024.

- Looking ahead, the Chinese construction machinery market is expected to gradually transition from new equipment sales to existing equipment replacement, while benefiting from steady investment growth in infrastructure, municipal renewal, and mining sectors. Meanwhile, China's construction machinery market, represented by excavators, has shown signs of recovery since the second half of 2024. Therefore, the market is projected to enter an upward phase of the cycle from 2025 onward, with market size expected to expand. Simultaneously, overseas markets are anticipated to achieve steady growth driven by increased infrastructure investment, urbanization, and mineral resource development. In conclusion, against the backdrop of China's market recovery, the global excavator, hoisting machinery, concrete machinery, and piling machinery markets are forecast to maintain sustained growth from 2024 to 2030.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (3/12)

Excavator Market

- As the largest core segment of the global construction machinery industry, the excavator segment has demonstrated a sustained expansion in market share, a momentum that is anticipated to continue and further solidify its dominant market share in the coming years. The size of the global excavator market reached US$63.2 billion in 2024, accounting for 29.6% of the global construction machinery market. This market is projected to reach US$92.8 billion in 2030, with a CAGR of 6.6%.
- The growth of the excavator market is primarily driven by the acceleration of global infrastructure construction, urban development in emerging markets, expansion of the global mining industry, and the popularization of digitalized and decarbonized equipment.
- In terms of application scenarios, excavators are widely used in infrastructure construction, mining operations, and municipal development. Their versatility and efficiency make them the core equipment for various engineering projects. In recent years, the accelerated application of intelligent, energy-efficient, and environmentally friendly technologies has further enhanced construction efficiency and equipment durability, especially in mining and large-scale infrastructure projects, where the demand for new and replacement excavators continues to expand.

Loader Market

- Loaders are the second largest segment in the global construction machinery industry. In 2024, the size of the global loader market reached US$39.0 billion, accounting for 18.3% of the global construction machinery market. The market size is anticipated to reach US$48.4 billion by 2030, with a CAGR of 3.7%.
- The growth of the loader market is mainly driven by the increase in global demand and the need for green transformation. Currently, its penetration rate of new energy product is the highest among the six core segments.
- Loaders are primarily used for shoveling loose materials, short-distance transportation, and site clearing. Given their broad application across building construction, mineral extraction, port logistics and municipal engineering, market demand for loaders has continued to expand accordingly.

Excavators and loaders account for a majority of the total construction machinery market due to their extensive application scenarios and ongoing demand. Excavators and loaders in aggregate represented a global market size of US$102.2 billion in 2024, which is expected to increase to US$141.2 billion by 2030, with a CAGR of 5.5% from 2024 to 2030.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (4/12)

Hoisting Machinery Market

- The hoisting machinery market is growing steadily, with its market size expected to increase from US$30.2 billion in 2024 to US$46.2 billion in 2030, with a CAGR of 7.3%.
- The strong growth of the hoisting machinery market is mainly driven by demand from wind power, new energy infrastructure, port logistics, and large industrial projects. High- tonnage cranes and intelligent equipment have become the main trends in industry development.
- Hoisting machinery is widely deployed in wind power installation, port logistics, and industrial plant construction. With the accelerated advancement of new energy projects and the growing demand of port logistics, the importance of hoisting machinery in efficient and precise construction is increasingly prominent.

Road Machinery Market

- The road machinery market maintains a stable share in the global construction machinery industry, with its market size expected to grow from US$8.3 billion in 2024 to US$12.5 billion in 2030, with a CAGR of 7.0%.
- The growth of road machinery mainly relies on the continued increase in the maintenance and expansion of global transportation infrastructure, and urban renewal demand. The accelerated application of intelligent paving and intelligent driving technologies has further promoted its market development.
- Road machinery is widely deployed in road construction, municipal development, and airport runway development. With the broader adoption of intelligent and energy-efficient technologies, its role in enhancing construction efficiency and reducing energy consumption has become increasingly prominent.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (5/12)

Concrete Machinery Market

- The concrete machinery market maintains a steady growth in the global construction machinery industry, with its market size expected to grow from US$6.4 billion in 2024 to US$10.0 billion in 2030, with a CAGR of 7.8%.
- The growth of concrete machinery is primarily driven by urban development, bridge construction, and the rise of prefabricated buildings. The adoption of intelligent technologies has further enhanced construction efficiency and equipment performance.
- Concrete machinery is widely deployed in the construction of high-rise buildings, municipal engineering projects, and large-scale infrastructure developments. With the rapid development of prefabricated buildings and super high-rise buildings, the role of concrete machinery in improving construction quality and efficiency has become increasingly prominent.

Piling Machinery Market

- The piling machinery market is one of the fastest segments in the global construction machinery industry, with its market size expected to grow from US$3.4 billion in 2024 to US$9.0 billion in 2030, with a CAGR of 17.4%.
- The growth of piling machinery is primarily driven by large-scale infrastructure projects such as building construction, subways, and high-speed railways. The increased demand for high-precision and high-stability equipment has become the main driving force for its market development.
- Piling machinery is widely used in bridge foundations, subway construction, and underground engineering projects. As infrastructure development accelerates, piling machinery plays an increasingly strategic role in ensuring construction safety and efficiency.

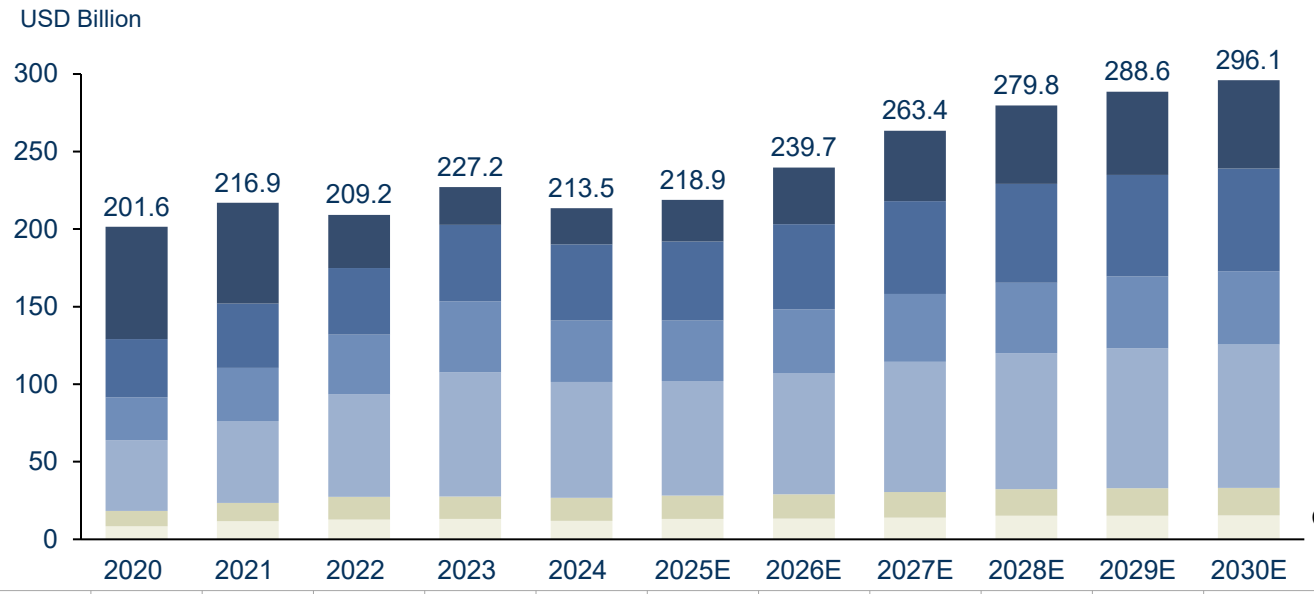
Overall, the global construction machinery market is expected to maintain stable growth, underpinned by infrastructure investment and expanding resource development activities. As the global economy continues to develop and urbanization accelerates across emerging markets, the application scenarios for construction machinery are anticipated to broaden, supporting not only global infrastructure construction but also serving as a key driver of economic growth.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (6/12)

Total Revenue of Construction Machinery Market (by region), Global, 2020-2030E



	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
China	72.5	64.9	34.4	24.4	23.4	26.9	36.5	45.3	50.6	53.7	57.0	-24.6%	16.0%
Asia-Oceania	37.5	41.6	42.8	49.3	49.1	51.0	54.9	59.8	63.9	65.3	66.2	6.9%	5.1%
Europe	27.5	34.2	38.5	45.8	39.4	39.0	41.1	43.8	45.3	46.5	47.3	9.4%	3.1%
North America	45.8	52.9	66.2	80.0	74.8	73.7	78.0	83.9	87.7	90.1	92.3	13.1%	3.6%
Latin America	9.8	11.7	14.6	14.4	14.8	15.1	15.8	16.6	17.1	17.7	17.8	10.8%	3.2%
Africa	8.5	11.7	12.7	13.3	12.0	13.2	13.4	14.0	15.2	15.3	15.4	9.0%	4.3%
Total	**201.6**	**216.9**	**209.2**	**227.2**	**213.5**	**218.9**	**239.7**	**263.4**	**279.8**	**288.6**	**296.1**	**1.4%**	**5.6%**

Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (7/12)

- The global construction machinery market can be divided into established markets and emerging markets based on different stages of development. In recent years, the global construction machinery market has shown a clear differentiation trend. Established markets have entered a phase of equipment renewal, characterized by stable market growth, steady replacement demand, and sustained market vitality. In comparison, emerging markets have become the main driving force for the growth of the overseas construction machinery industry, due to accelerated urbanization and increased investment in large-scale infrastructure construction.

    - **Established markets** are mainly in North America and Europe. Having developed earlier, these regions now demonstrate stable and established market dynamics. Growth in these markets is primarily driven by equipment renewal and the increasing adoption of intelligent and electric machinery.

    - **Emerging markets** include China, Asia-Oceania, Latin America, and Africa. These regions are experiencing rapid economic development, accelerated infrastructure construction and urbanization, with huge market potential, and faster growth.

- The distinctions between established and emerging markets are reflected not only in economic levels but also in growth drivers: established markets focus more on technological upgrades and the equipment renewal, while emerging markets rely on large-scale infrastructure investment and industrialization progress. Such a regional differentiation pattern provides diverse growth momentum for the global construction machinery industry, driving continued market expansion.

- The market size of the overseas construction machinery industry is expected to reach US$239.0 billion in 2030, with a CAGR of 3.9% from 2024 to 2030.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (8/12)

Established markets currently make up the majority of in the global construction machinery industry, with a combined market size reaching US$114.2 billion in 2024, accounting for 53.5% of the global market, and expected to reach US$139.6 billion by 2030, with a CAGR of 3.4%.

North America

- The North American market is the largest construction machinery market globally, which market size reaching US$74.8 billion in 2024, accounting for 35.0% of the global market, and expected to reach US$92.3 billion by 2030, with a CAGR of 3.6%. Growth in the North American market is mainly driven by equipment renewal and equipment electrification, and the development of intelligent construction technologies. As the world's largest economy, the U.S. has a strong demand for advanced equipment in the construction, mining, and agriculture sectors. The North American market leads globally in the application of intelligent technologies. Additionally, the Infrastructure Investment and Jobs Act (IIJA) passed in the U.S. in 2021 is expected to bring investment of US$1.2 trillion, with US$550 billion thereof specifically for infrastructure construction, including bridges, roads, airports, ports, and public transportation, providing long-term growth momentum for the construction machinery industry. Simultaneously, government policies supporting environmental protection equipment, including subsidies and tax incentives for low-emission and electric construction machinery, have accelerated industry transformation. For example, various states in the U.S. offer financial incentives for the procurement of electric excavators, electric forklifts, and other equipment, further driving the adoption of electric machinery.

Europe

- The size of the European market reached US$39.4 billion in 2024, accounting for 18.5% of the global market, and it is expected to reach US$47.3 billion by 2030, with a CAGR of 3.1%, benefiting from policy support such as the EU Recovery Plan and Regulation (EU) 2019/1242. The EU Recovery Plan invests €750 billion, focusing on green energy and decarbonized construction, with a large amount of funding flowing to infrastructure construction and the construction machinery sector, for example, renewable energy projects (wind power and solar power), and upgrade of transportation networks. Furthermore, Regulation (EU) 2019/1242 mandates a reduction in carbon emissions from heavy-duty vehicles by 15% by 2025 and 30% by 2030, thereby promoting the adoption of electric construction machinery. Established regions such as Germany, France, and the United Kingdom have a particularly strong demand for environmentally friendly and efficient equipment. For example, Germany provides subsidies for the procurement of electric excavators and electric hoisting machinery, while France supports the R&D and application of decarbonized construction equipment through its "Green Growth Plan." Additionally, the Eastern European market has demonstrated growth potential in infrastructure construction and industrialization processes, especially in the energy and transportation sectors, offering new growth opportunities for the construction machinery industry.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (9/12)

- In Europe and North America, stable demand for equipment renewal continues to support market growth. Established markets are actively leveraging their extensive installed base and technological innovation to identify new growth opportunities in areas such as decarbonization and intelligent technologies. Demand is increasingly concentrated in high-end, high-value equipment, particularly in automated construction, remote control systems, and new energy machinery, where global leaders maintain a dominant position.

- Growth in mature markets is mainly driven by two aspects:
  - **Steady rise in demand for existing equipment renewal:** Established markets have a large amount of construction machinery equipment which has been used for more than 10 years, with maintenance costs rising each year. Companies are more inclined to replace such equipment with energy-efficient, environmentally friendly and intelligent equipment, so as to improve their construction efficiency.

  - **Accelerated trends in digitalization and decarbonization development:** Established markets have strict carbon emission requirements and increasingly stringent environmental regulations, promoting the transition from fuel-powered equipment to new energy equipment. Europe plans to completely ban the sale of fuel construction machinery starting from 2035. This policy will accelerate the penetration of electric equipment in the European and American markets.

- In the future, as new energy and intelligent construction technologies continue to develop, established markets still have their growth potential, especially in the fields of intelligent construction, remote control, and high-end intelligent construction machinery, and such fields are expected to become important markets for advanced equipment manufacturers.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (10/12)

Emerging markets are the fastest-growing regions in the global construction machinery industry, with a combined market size reaching US$99.3 billion in 2024, accounting for 46.5% of the global market, and expected to reach US$156.4 billion by 2030, with the proportion rising to 52.8% and a CAGR of 7.9%. This increase highlights the strong growth potential in the emerging markets, driven primarily by massive infrastructure investments, urbanization processes, and industrial development. The size of emerging overseas markets is expected to increase from US$75.9 billion in 2024 to US$99.4 billion in 2030, with a CAGR of 4.6% from 2024 to 2030.

China

- China is the fastest-growing construction machinery market, with a size of US$23.4 billion in 2024 (11.0% of the global total), projected to reach US$57.0 billion by 2030 (CAGR 16.0%). Growth is fueled by equipment renewal and infrastructure investment in sectors like transport, energy, and urban development. As infrastructure matures, demand is shifting toward equipment upgrades and digitalization. Government initiatives — such as "new infrastructure," "Intelligent Manufacturing 2025," and the "Dual Carbon" goals — are driving the adoption of electric and smart machinery, advancing green and tech-driven transformation. These trends make China a key global growth engine.

Asia-Oceania

- The size of the Asia-Oceania market, as defined in this document, reached US$49.1 billion in 2024, accounting for 23.0% of the global market, and it is expected to reach US$66.2 billion by 2030, with a CAGR of 5.1%. Asia-Oceania region with growth mainly benefiting from large-scale infrastructure investment and rapid urbanization processes. In Southeast Asia, Indonesia, Vietnam, Thailand, and other countries benefit from accelerated urbanization and industrialization processes, as well as support from the Master Plan on ASEAN Connectivity, with notably increased infrastructure investment, driving the growth of construction machinery demand. For example, "National Strategic Projects" of Indonesia and "Transport Infrastructure Development Plan" of Vietnam both focus on upgrading transportation networks and energy infrastructure, providing strong momentum for the industry. The Middle East, represented by Saudi Arabia and the UAE, is accelerating infrastructure construction and economic diversification under strategies such as "Vision 2030" and "Abu Dhabi Economic Vision 2030," especially in smart cities and renewable energy sectors, creating substantial demand for the construction machinery industry. Additionally, technological upgrades and the widespread adoption of intelligent equipment are driving the transformation and expansion of the Asia-Oceania market, making it a notable growth engine for the global construction machinery industry.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (11/12)

Latin America

- The size of the Latin American market reached US$14.8 billion in 2024, accounting for 6.9% of the global market, and it is expected to reach US$17.8 billion by 2030, with a CAGR of 3.2%. The Latin American market is mainly driven by mining machinery demand, with a resurgence of demand for metal mineral resources in countries such as Brazil, Chile, and Argentina being the main driving force. For example, Brazil has increased investment in mining and infrastructure through the "National Mining Plan" and the "Infrastructure Investment Partnership Program," driving demand for construction machinery. Chile, as the world's largest copper producer, has promoted the upgrade of mining and energy infrastructure through the "National Copper Mining Development Strategy" and the "Green Hydrogen Plan," further boosting equipment demand. Argentina, through its "National Infrastructure Plan," focuses on supporting transportation, energy, and water projects, providing growth opportunities for the construction machinery industry. Additionally, the Mexican market benefits from growth in manufacturing and infrastructure investment, particularly in the energy and transportation sectors. For example, Mexico's "National Infrastructure Plan" and "Energy Transition Strategy" focus on renewable energy and transportation network construction, offering new growth points for the construction machinery industry.

Africa

- The size of the African market reached US$12.0 billion in 2024, accounting for 5.6% of the global market, and is expected to reach US$15.4 billion by 2030, with a CAGR of 4.3%. This growth is primarily driven by mining and infrastructure development demands. For instance, South Africa's "2025 Budget Review" report plans to invest over ZAR1 trillion in infrastructure over the next three years, focusing on transportation, energy, and water sanitation sectors. Similarly, Kenya's "Vision 2030" strategy emphasizes developing efficient and effective infrastructure to facilitate the transformation of other sectors. All these factors create new growth opportunities for the construction machinery industry in Africa.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Construction Machinery Market (12/12)

- Overall, the future growth of the global construction machinery market is expected to be driven by equipment renewal in established markets and infrastructure investment in emerging markets. With the recovery of the global economy, the construction machinery industry will embrace broader application scenarios and market demand. In the future, the global construction machinery market will continue to expand its market share under the impetus of a multi-polar growth model, and become one of the important engines of global economic growth.

- Compared to established markets, the construction machinery industry in emerging markets, such as Southeast Asia, the Middle East and Latin America, is growing more rapidly. Economic growth, accelerated urbanization and increased government investment in infrastructure are driving a sustained increase in demand in these regions. Although their market sizes are relatively small, their growth rates are notably higher than the global average, making them important engines for industry growth. In the future, with the acceleration of infrastructure construction and industrialization, emerging markets will occupy more important positions in the global construction machinery industry, providing ample development space for us.

- Growth in emerging markets is mainly driven by the following factors:
  - **Substantial increase in infrastructure investment:** Governments accelerate the construction of roads, railways, airports, ports and other infrastructure, driving demand for construction machinery
  - **Accelerated urbanization process:** Urban construction and real estate development drive demand growth for small and medium-sized construction machinery equipment
  - **Mineral resource development:** Increased mining investment in Latin America, the Middle East, Africa and other regions enhances demand for mining machinery and large-tonnage excavators

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Market Drivers of Global Construction Machinery Market

Drivers of Global Construction Machinery Market

	Main Drivers	Influence (1-2 years)	Influence (3-5 years)
1	**Accelerating Process of Electrification and Intellectualization**	High	High
2	**Increasing Downstream Demand**	High	High
3	**Energy Conservation and Environmental Protection Policies**	High	Medium

Drivers	Description
Accelerating Process of Electrification and Intellectualization	➢ The global construction machinery industry is expected to further develop in the direction of electrification and intellectualization, Especially in the mature markets of Europe and North America. The process is expected to be driven by the favorable policies issued by governments of various countries, the cost saving in using electricity as energy source of machinery as compared with using fuel, as well as the increasing operation efficiency after equipping construction machinery with smart components and connecting them with industrial IoT or internet. Therefore, the need has grown for leading manufacturers to continuously launch new electric and intelligent construction machinery, so as to drive the development of the industry.
Increasing Downstream Demand	➢ Infrastructure construction, real estate, energy and resource industries are the main downstream industries of the construction machinery industry. It is expected that in the short term, the global construction machinery market will be boosted by the recovery of global infrastructure investment from the COVID-19 pandemic. And in the long term, the accelerating worldwide process of industrialization and urbanization, represented by the growing investment in housing, bridge, railway, highway, port, and airport construction projects, will drive the development of the construction machinery market, especially in emerging economies, such as Southeast Asia, Middle East and Africa, and India.
Energy Conservation and Environmental Protection Policies	➢ In the past few years, governments of various countries have issued different policies on promoting energy conservation and environmental protection. After then, unqualified pump trucks, auto cranes and other construction machinery have been gradually replaced by new products that conform to the emission standards. Therefore, new demand in the construction machinery market has arisen to meet the policy requirements, promoting the development of the industry.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Development Trends of Global Construction Machinery Market (1/2)

The global construction machinery industry is undergoing profound transformation, with future growth primarily driven by three major trends: electrification transition, intelligent innovation, and optimization of after-sales service systems. These trends are not only reshaping the competitive landscape but also bringing new growth opportunities for companies.

1 Decarbonization Transition Becomes the New Industry Norm

- The decarbonization transition in the global construction machinery industry is accelerating, with rising penetration of new energy products has become one of the primary drivers shaping industry development. This trend is driven by global carbon neutrality goals, stricter environmental regulations, and advancements in battery technology.
- The adoption of new energy equipment is reducing carbon emissions and operating costs, thanks to lower energy use, minimal maintenance, and stronger long-term economic returns compared to traditional fuel machinery. As a result, it has become a key tool for enhancing competitiveness. Leading global manufacturers are expanding their electric product lines — such as electric excavators and loaders — to meet growing demand for environmentally friendly solutions.
- Looking ahead, as battery technology matures and policy support strengthens, electrification is expected to become a major driver of industry growth. Industry players must align with this trend by optimizing product strategies and technology roadmaps. The shift toward electrification will unlock new growth opportunities, while advancing sustainability and operational efficiency across the construction machinery sector.

2 Intelligent Innovation Drives Industry Upgrade

- The application of intelligent technologies is profoundly changing the operation modes of the construction machinery industry, becoming the second core trend of development in the industry.
- Intelligent solutions such as intelligent driving, and remote monitoring are gradually becoming standard in the industry, notably improving construction efficiency and safety.
- The application of intelligent technologies not only reduces manual operation errors but also greatly improves construction efficiency. For example, the intelligent all-terrain cranes launched by global construction machinery leaders, equipped with different intelligent control technologies, are able to optimize operation parameters in real-time according to the construction environment, thereby improving operation efficiency and construction safety. The application of these technologies is gradually penetrating into various types of construction machinery equipment, including hoisting machinery, loaders, and road machinery, becoming an important means for companies to enhance market competitiveness.
- In the future, as technology continues to mature and applications become more widely adopted, digitalization is expected to become one of the core driving forces for the development of the construction machinery industry, driving the industry towards greater efficiency and intelligence.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Development Trends of Global Construction Machinery Market (2/2)

3 After-Sales Service System as a Key Differentiator

- After-sales service capability has become a key differentiator for global construction machinery companies to enhance customer stickiness and brand loyalty. As market competition intensifies, after-sales service has transformed from a traditional auxiliary business to a new profit growth point, marking the third core trend of development in the industry.
- Due to high unit prices and long lifespan, customers are highly dependent on services such as maintenance, parts supply, and second-hand equipment repurchase. Global leaders in the industry are increasing investment in the after-sales market to improve customer satisfaction and market competitiveness.
- Global leaders have all positioned themselves well in the after-sales market, building comprehensive service networks. They have established numerous service points globally, providing 24-hour equipment maintenance services to ensure uninterrupted construction and minimize customer downtime losses. Additionally, they also provide remote diagnostics, online training, and other services through digital platforms, further enhancing the convenience and response speed of after-sales service.
- As competition intensifies, after-sales service has evolved from a support function into a key profit driver. Its share of total revenue is rising across the industry, with some global leaders generating over 20% from after-sales. As the market matures, lifecycle management and service offerings are expected to become major profit sources. High-quality after-sales service boosts customer retention and opens new revenue streams through parts sales, rentals, and second-hand equipment repurchase, supporting long-term sustainable growth.

4 Rising Product Customization Requirements

- With the development of downstream infrastructure construction, real estate, energy and resource industries, customization requirements on construction machinery products have emerged. For instance, because of the large differences in climate, terrain and environmental status of different mining projects, customized construction machinery is needed in the resource industry to guarantee smooth operation. To fulfil such requirements, leading manufacturers have launched complete sets of construction solutions and introduced various customized products covering mining hydraulic excavators, mining dump trucks among others. The capability to provide such customized products helps enhance their competitiveness of the leading players in the industry.

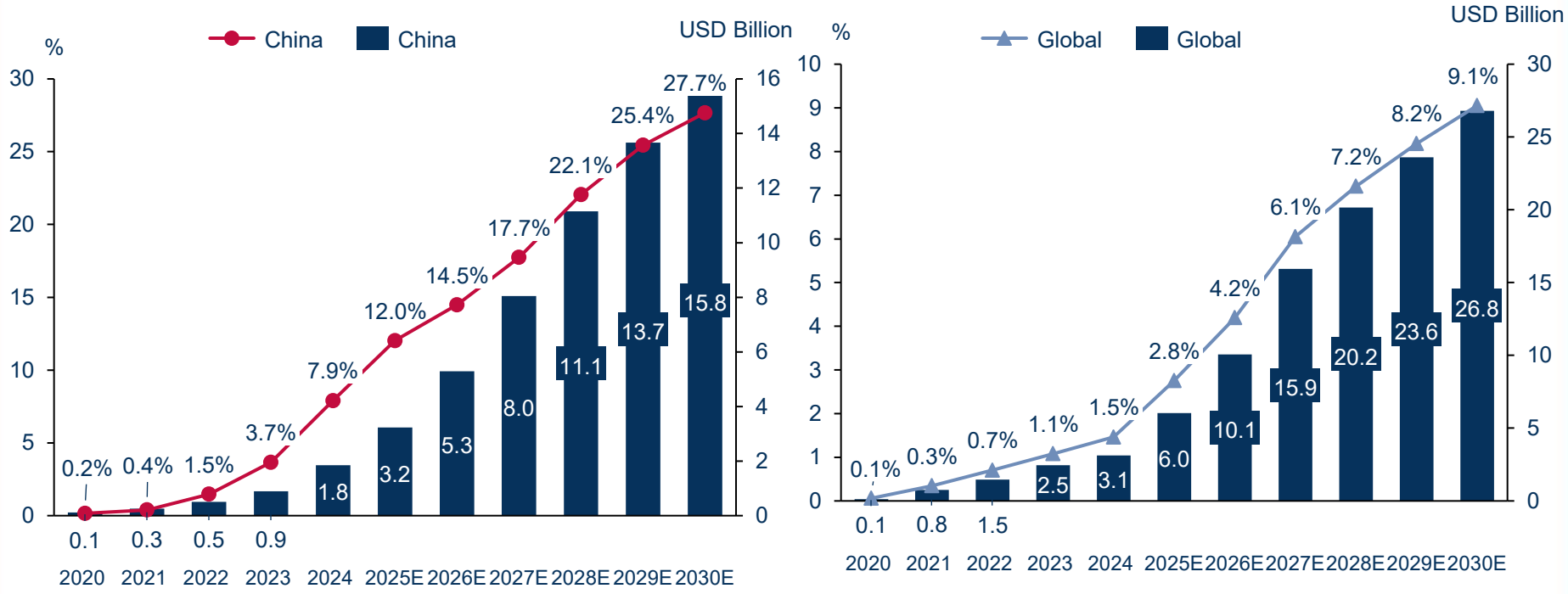
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Penetration Rate of Global New Energy Construction Machinery Market (1/3)

- The adoption of new energy construction machinery equipment is rising. By 2030, the revenue share of new energy equipment in the overall market is expected to increase from 1.5% in 2024 to over 9.1%. This growth reflects the industry's emphasis on environmental protection and sustainable development, while also bringing new market opportunities for manufacturers.

Penetration Rate of New Energy Construction Machinery Market * (by revenue), Global and China, 2020-2030E



*Exclude High-Altitude Platform

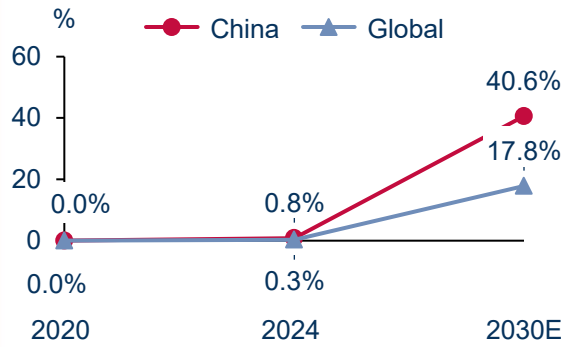
Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

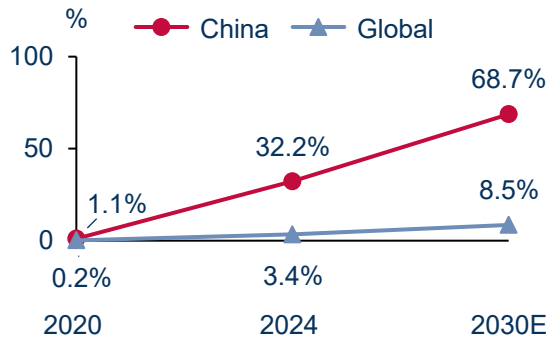
Penetration Rate of Global New Energy Construction Machinery Market (2/3)

- Specifically, taking excavators, the largest segment in the industry, as an example, in 2024, new energy excavators account for only a 0.8% revenue share in China, but as the new energy transition is gaining pace, this percentage is expected to rise notably to 40.6% by 2030. The global market lags relatively behind, with new energy excavators accounting for a 0.3% revenue share in 2024, expected to rise to 17.8% by 2030. This difference is mainly due to government support for new energy equipment, including subsidy policies, infrastructure construction, and the strict implementation of environmental regulations.

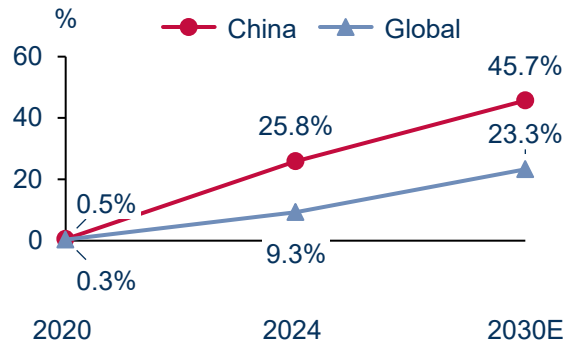
Penetration Rate of New Energy Excavator Market (by revenue), Global and China, 2020-2030E



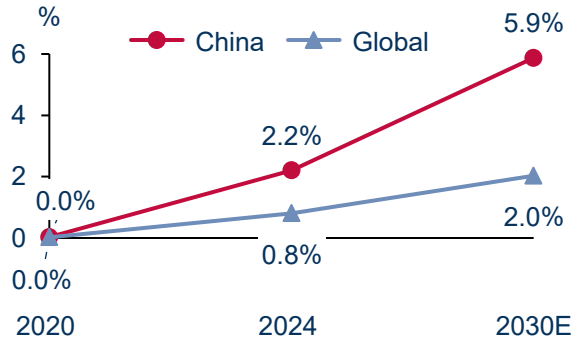
Penetration Rate of New Energy Loaders (by revenue), Global and China, 2020-2030E



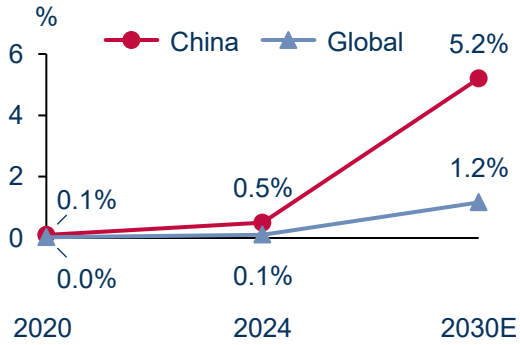
Penetration Rate of New Energy Concrete Market (by revenue), Global and China, 2020-2030E



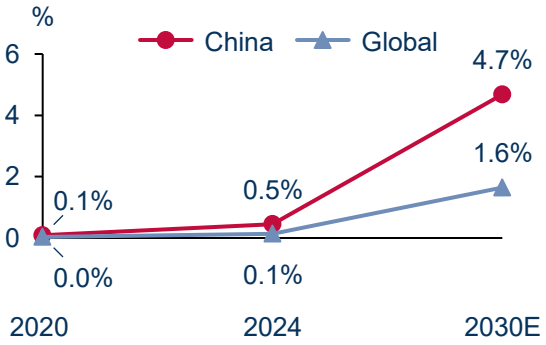
Penetration Rate of New Energy Cranes Market (by revenue), Global and China, 2020-2030E



Penetration Rate of New Energy Road Machinery Market (by revenue), Global and China, 2020-2030E



Penetration Rate of New Energy Piling Machinery Market (by revenue), Global and China, 2020-2030E



Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Penetration Rate of Global New Energy Construction Machinery Market (3/3)

- China's construction machinery industry has seen new energy loaders achieve significantly higher penetration rates than other equipment categories, owing to several key factors:
  - **Greater Economic Benefits from Electrification**. Loaders typically endure heavier workloads than other machinery types, making the energy savings and cost efficiencies of electrification more pronounced. The higher operational intensity amplifies the financial advantages of switching to new energy alternatives.
  - **Favorable Operating Environments.** Loaders are frequently deployed in enclosed or semi-enclosed spaces with relatively fixed work sites. This operational stability facilitates the centralized deployment of charging infrastructure, significantly reducing implementation barriers compared to more mobile machinery.
  - **Wheel-Based Mobility and Standardization Advantages**. Unlike tracked or specialized equipment, wheel-based loaders can autonomously travel to charging stations, enhancing practicality. Additionally, the batteries used in wheeled construction machinery lend themselves more easily to standardization, further improving the feasibility and scalability of electrification.
- The adoption of new energy equipment is reducing carbon emissions and operating costs, thanks to lower energy use, minimal maintenance, and stronger long-term economic returns compared to traditional fuel machinery. As a result, it has become a key tool for enhancing competitiveness. Leading global manufacturers are expanding their electric product lines — such as electric excavators and loaders — to meet growing demand for environmentally friendly solutions.
- Looking ahead, as battery technology matures and policy support strengthens, electrification is expected to become a major driver of industry growth. Industry players must align with this trend by optimizing product strategies and technology roadmaps. The shift toward electrification will unlock new growth opportunities, while advancing sustainability and operational efficiency across the construction machinery sector.

Analysis of China's and Global Construction Machinery Market

Opportunities of Global and China Construction Machinery Market

Replacement of Outdated Machinery

- The average service life of construction machinery equipment is 8-10 years, and the equipment sold during the peak period from 2015 to 2021 has gradually entered the renewal cycle. Starting from 2025, the next five years will become a critical period for the concentrated replacement of existing equipment. At the same time, according to national requirements such as the Technical Code for Inspection of Construction Site Machinery and Equipment (《施工现场机械设备检查技术规范》), enterprises are required to phase out and replace large construction machinery equipment that has been in use for more than 10 years, is highly polluting, energy-intensive, severely worn, or technologically outdated. As a result, the demand for replacing aging equipment is gradually being released.

Growing Downstream Demand in Developing Countries

- The rapid growth of downstream demand in emerging regions has become a core opportunity for the development of the global construction machinery industry. Taking Southeast Asia, the Middle East, and Africa as examples, accelerated urbanization, infrastructure construction, and mining investments have directly driven strong demand for construction machinery.

Industry Globalization

- Globalization is the core opportunity for the development of the global construction machinery industry. While the markets in Europe and North America are mature, but they are large in scale. Their growth primarily relies on equipment renewal and technological upgrades. In contrast, emerging countries such as Southeast Asia, the Middle East, and Africa are experiencing explosive growth in demand for construction machinery due to rapid urbanization, infrastructure development, and mining investments, making them the main drivers of industry growth. Therefore, the existing markets in mature regions and the growing markets in emerging regions provide Chinese enterprises with vast opportunities for global expansion.

Application of Emerging Technologies

- The electrification and intelligentization of construction machinery will create development opportunities for the global construction machinery industry. Firstly, electrified construction machinery can significantly reduce energy consumption and pollution, aligning with the global trend towards green development. Secondly, with breakthroughs in battery technology and rapid cost reductions, the economic viability of electrified construction machinery has significantly improved. Additionally, the application of intelligent technologies such as AI, 5G, and big data enables construction machinery to possess autonomous decision-making, remote control, and collaborative operation capabilities, greatly enhancing construction efficiency, safety, and precision. The advancement of electrification and intelligentization drives the industrial upgrading of the construction machinery sector, and China's leading position in the electrification supply chain provides domestic enterprises with a competitive edge in the global market.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Challenges of Global and China Construction Machinery Market

Interest Rate Fluctuations

- In the context of high interest rates, investments in downstream sectors such as infrastructure, real estate, and mining are likely to decrease, posing significant challenges to the construction machinery industry. Firstly, high interest rates increase financing costs for both enterprises and governments, leading to reduced willingness to initiate and expand infrastructure projects, thereby decreasing the demand for construction machinery. Secondly, in a high-interest-rate environment, real estate developers face higher loan costs, which curbs real estate investment and further weakens the market demand for construction machinery. Additionally, high interest rates encourage some investors to opt for equipment leasing rather than purchasing, further compressing the sales space for construction machinery. Therefore, the volatility and uncertainty of interest rates present significant challenges to the global construction machinery industry

Global Trade Frictions and Geopolitical Conflicts

- Global trade frictions and geopolitical conflicts have created significant uncertainty for the construction machinery industry. For instance, the China-US trade war, the EU's anti-dumping and anti-subsidy measures against China's aerial work platforms, and the UK's similar measures against Chinese excavators have all posed substantial challenges to the globalization efforts of Chinese enterprises. These trade disputes and geopolitical tensions have not only increased the export costs for Chinese construction machinery companies but also compelled them to accelerate overseas production capacity deployment to mitigate the uncertainties brought by trade barriers. However, the continued deterioration of the global trade environment still presents long-term challenges to the globalization strategy of China's construction machinery industry. Enterprises must find a balance between diversifying market layouts and controlling costs to navigate these complexities effectively

Lack of High-end Talents

- The construction machinery industry is at a critical juncture of technological revolution, with intelligence, electrification, and automation becoming inevitable trends in the industry's development. Traditional enterprises need to continuously invest in research and development to master new technologies to meet market demands. The industry's demand for high-end, multi-disciplinary technical talent has surged, but the scarcity of professionals with cross-disciplinary knowledge and cutting-edge technical skills severely constrains enterprises' technological innovation and product upgrades. Additionally, the international expansion of the construction machinery industry requires a large number of high-end talents familiar with global market rules and possessing cross-cultural communication.

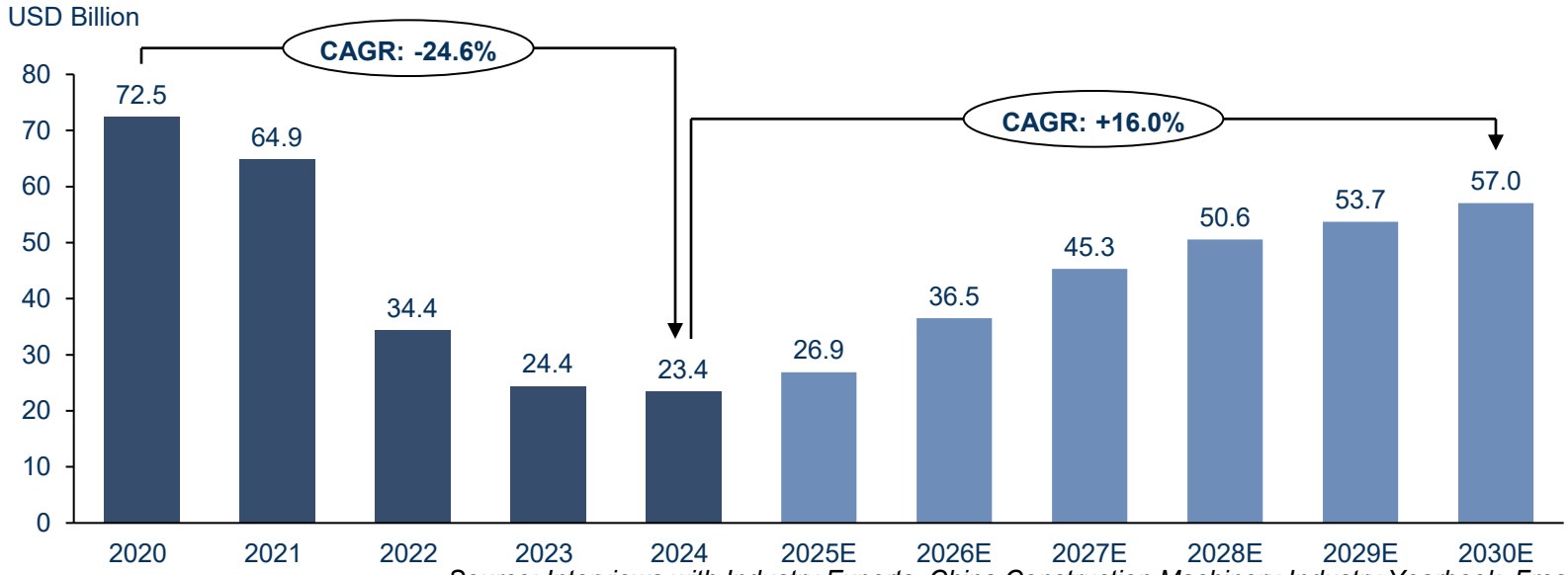
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Construction Machinery Market in China (1/3)

- China's construction machinery industry is characterized by strong cyclicality. The industry experienced a market adjustment period from 2022 to 2023, with industry demand under pressure. However, since the second half of 2024, the market has shown steady recovery, with month-on-month growth in sales of key equipment such as excavators and hoisting machinery, marking the beginning of a new industry growth cycle.
- The previous industry cycle began in 2015, reaching its peak in 2020 to 2021, with market sizes of US$72.5 billion and US$64.9 billion, respectively. Subsequently, market demand declined during 2022 and 2023, primarily due to the sector downturn in the real estate market, a slowdown in infrastructure investment, and increased global economic uncertainty, with the overall market size dropping to US$24.4 billion in 2023, entering an adjustment period.
- However, with the government introducing multiple growth-stabilizing policies and increasing infrastructure investment, market demand rebounded in the second half of 2024, with company order volumes gradually recovering. The industry is expected to enter a new upward cycle in 2025.
- According to Frost & Sullivan, the size of China's construction machinery market is projected to grow from US$23.4 billion in 2024 to US$57.0 billion by 2030, representing a CAGR of 16.0% from 2024 to 2030, entering a recovery path.

Total Revenue of Construction Machinery Market, China, 2020-2030E

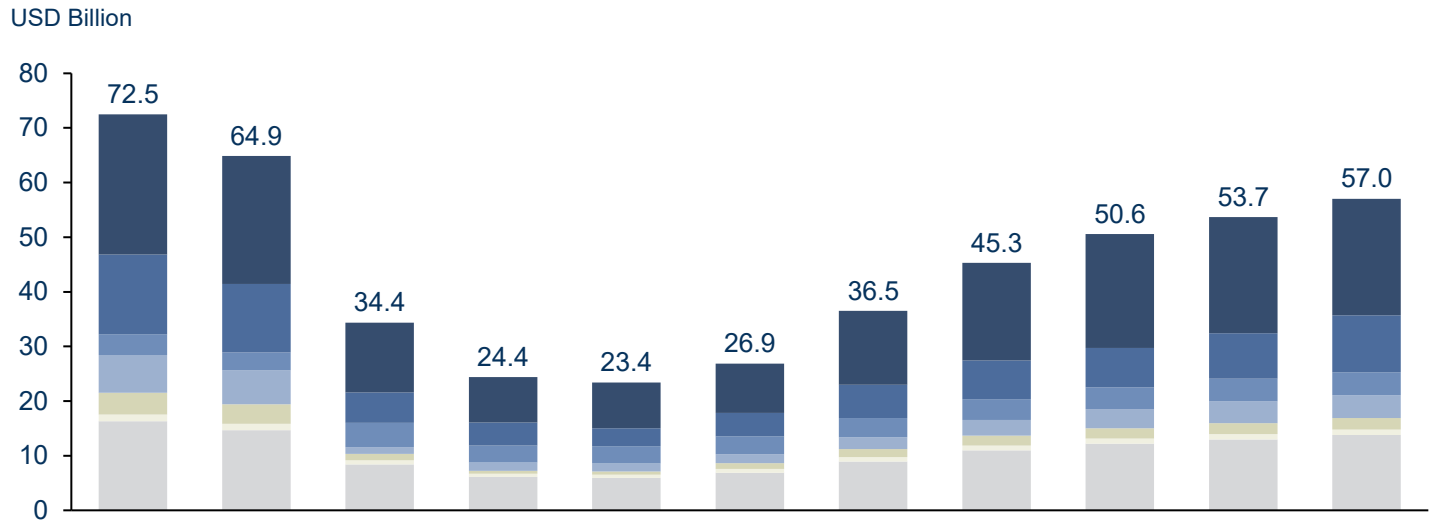


Source: Interviews with Industry Experts, China Construction Machinery Industry Yearbook, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Construction Machinery Market in China (2/3)

Total Revenue of Construction Machinery Market (by product), China, 2020-2030E



	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
Excavators	25.6	23.4	12.8	8.3	8.4	9.1	13.5	17.9	20.8	21.3	21.4	-24.3%	16.8%
Hoisting Machinery	14.6	12.5	5.5	4.3	3.3	4.3	6.1	7.1	7.2	8.3	10.4	-31.2%	21.2%
Loaders	3.8	3.3	4.5	3.1	3.1	3.3	3.5	3.8	4.0	4.2	4.2	-4.8%	5.2%
Concrete Machinery	7.0	6.2	1.2	1.5	1.5	1.6	2.2	2.9	3.5	4.0	4.2	-31.9%	18.6%
Piling Machinery	4.0	3.6	1.2	0.6	0.6	1.1	1.5	1.8	1.9	2.0	2.1	-37.5%	23.0%
Road Machinery	1.2	1.2	0.8	0.6	0.5	0.7	0.8	0.9	0.9	1.0	1.0	-18.1%	10.6%
Others	16.3	14.7	8.4	6.1	6.0	6.9	8.9	11.0	12.2	13.0	13.8	-22.3%	15.0%
Total	**72.5**	**64.9**	**34.4**	**24.4**	**23.4**	**26.9**	**36.5**	**45.3**	**50.6**	**53.7**	**57.0**	**-24.6%**	**16.0%**

Source: Interviews with Industry Experts, China Construction Machinery Industry Yearbook, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Construction Machinery Market in China (3/3)

Excavator Market Gradually Recovering, Becoming Driving Force

- As the largest core segment in China's construction machinery industry, the excavator market strongly influences overall industry trends. From 2020 to 2023, market cycles drove a sharp decline in its size, from US$25.6 billion to US$8.3 billion, reflecting a CAGR of -31.3%.
- However, starting in 2024, the excavator market has gradually rebounded, with the market size reached US$8.4 billion in 2024, and expected to further increase to US$21.4 billion by 2030, with a projected CAGR of 16.8% from 2024 to 2030, restoring strong growth.

Concrete Machinery Market Expected Long-Term Growth

- Impacted by real estate market adjustments, the concrete machinery segment saw significant fluctuations, with market size dropping from US$7.0 billion in 2020 to US$1.5 billion in 2024, a CAGR of -31.9%, making it one of the most impacted segments.
- However, with the advancement of China's urban renewal, new infrastructure, affordable housing, and other projects, the concrete machinery market is expected to stabilize and recover from 2024, further recovering to US$4.2 billion by 2030, with a projected CAGR of 18.6% from 2024 to 2030.

Trends In Other Segments

- The hoisting machinery market is driven by demand growth in new energy (wind power), port logistics, and other industries, with a market size reached US$3.3 billion in 2024, and expected to reach US$10.4 billion by 2030, with a CAGR of 21.2% from 2024 to 2030, becoming one of the fastest-growing segments. The rapid development of the wind power industry and intelligent upgrade of port logistics are the main driving forces.
- The loader market is driven by growth in demand from industries such as ports and infrastructure, the market size is expected to increase from US$3.1 billion in 2024 to US$4.2 billion in 2030, with a CAGR of 5.2%.
- The road machinery market is driven by road construction and urban road maintenance demand, with stable market growth. It reached US$0.5 billion in 2024, and is expected to reach US$1.0 billion by 2030, with a CAGR of 10.6% from 2024 to 2030. Urbanization processes and continued investment in transportation infrastructure provide stable growth momentum for the industry.
- The piling machinery market is expected to be driven by increased infrastructure investment, with a market size of US$0.6 billion in 2024, and expected to reach US$2.1 billion by 2030, with a CAGR of 23.0% from 2024 to 2030. Major engineering projects such as subways, high-speed railways, and urban underground space development are the main sources of demand.

Overall, China's construction machinery market is gradually recovering following a period of adjustment, expected to enter a stable growth period from 2025 to 2030. Among them, the excavator market will lead the recovery, while concrete machinery, hoisting machinery, road machinery, piling machinery, and other segments will also see growth driven by infrastructure investment and equipment renewal.

Currently, China's construction machinery industry is welcoming a new round of growth, with the main driving factors showing new characteristics, including more diversified, counter-cyclical end-user demand, and growth shifting from being mainly incremental to driven by renewal. Government infrastructure investment, transformation of the real estate market towards urban renewal, and global mining investment recovery bring long-term market momentum. Meanwhile, a large amount of construction machinery equipment is entering the renewal cycle, coupled with new energy and intelligent technology progress, which will further accelerate the equipment upgrade in the market.

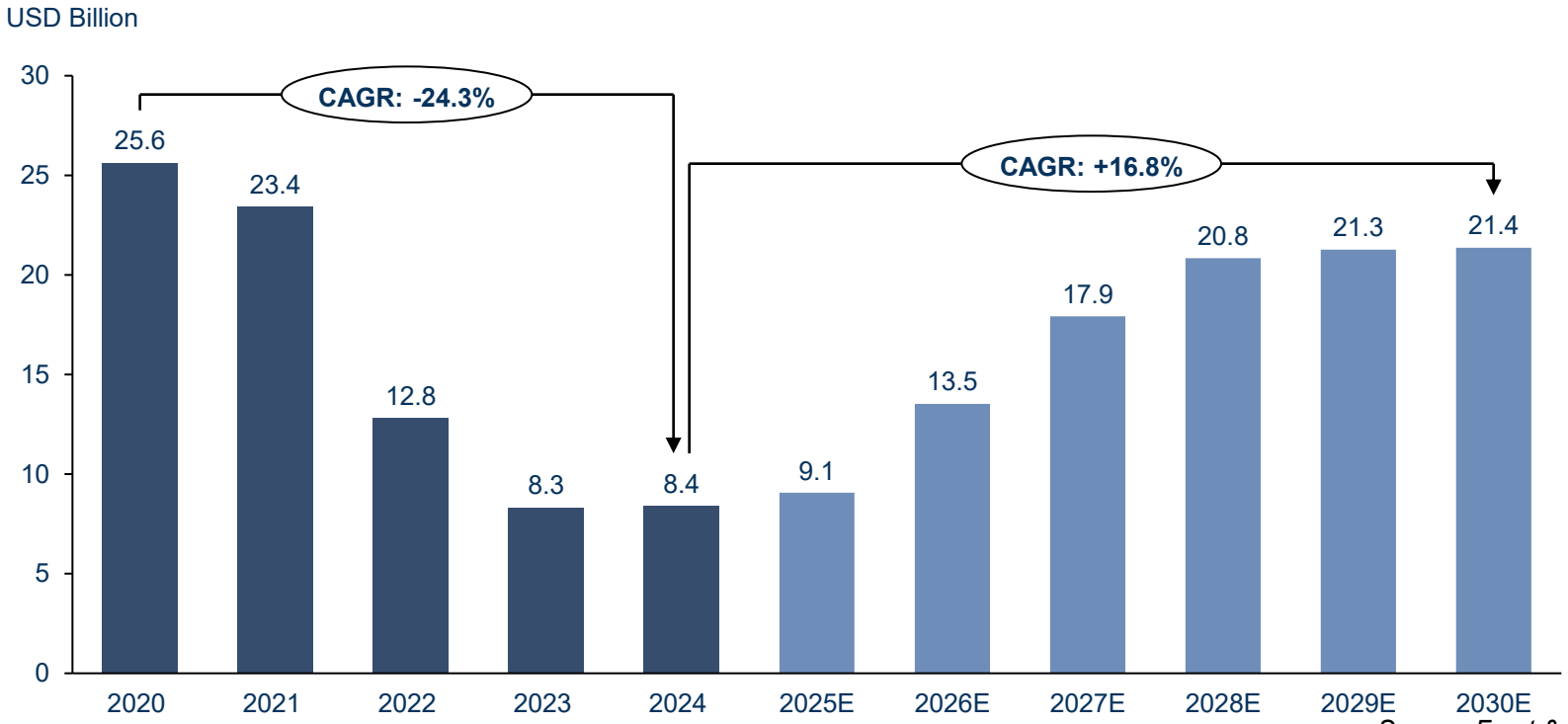
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Excavator Market in China (1/2)

- The excavator is the largest segment in the construction machinery market in China, taking over a share of 35.9% in 2024 in terms of revenue.
- The market experienced a cyclical downturn from 2020 to 2023, with its size decreasing to USD8.3 billion in 2023. However, driven by various factors including the replacement of existing machinery, the deeper application of emerging technologies in the industry as well as the energy conservation policies issued by the Chinese government, the market size is anticipated to increase from 2024, and reach USD21.4 billion in 2030, with an overall CAGR of 16.8% from 2024 to 2030.
- By sales revenue, replacement demand of excavators accounted for 59.5% of the total market demand in 2024, and this figure is projected to rise to 82.8% by 2030.

Total Revenue of Excavator Market, China, 2020-2030E

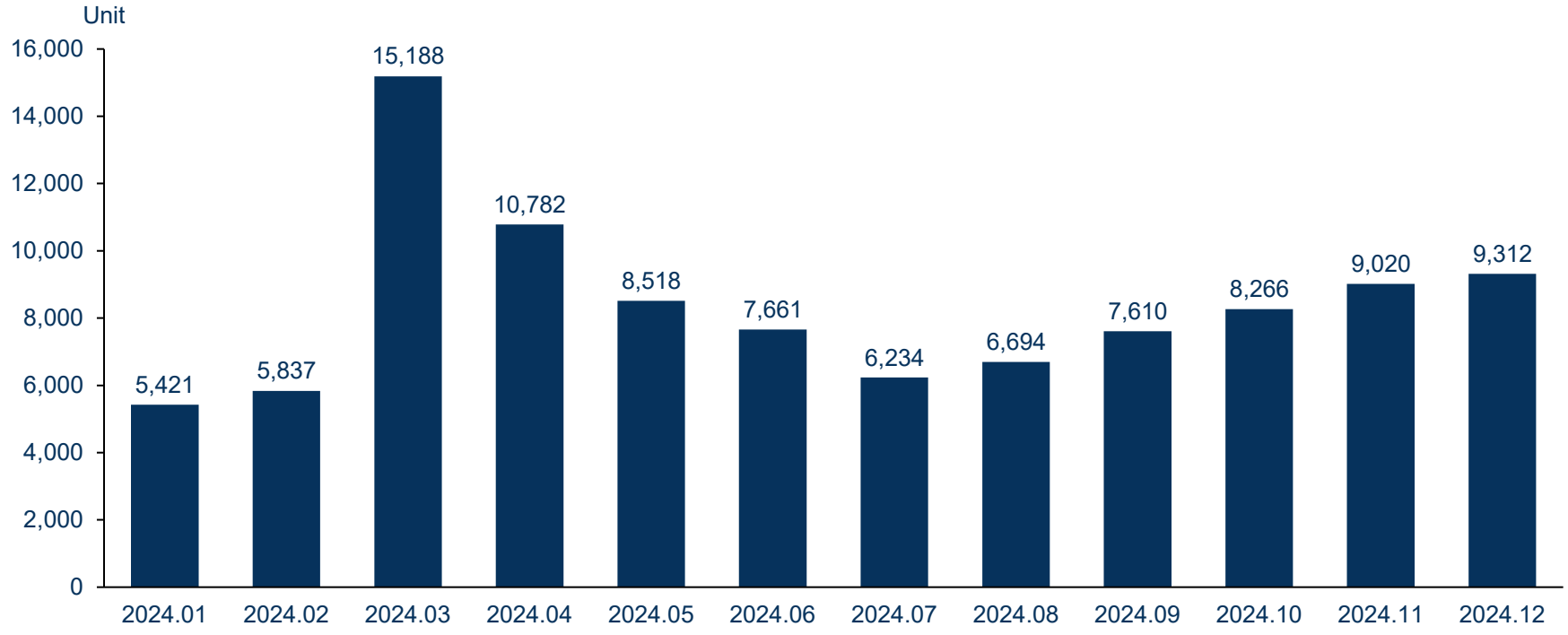


Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Market Size of Excavator Market in China (2/2)

- In the second half of 2024, excavator sales in China began to recover, increasing from 6,234 units in July 2024 to 9,312 units in December 2024, marking a significant rebound in demand.

Sales Volume of Excavator Market*, China, 2024.01-2024.12



*Exclude export and import

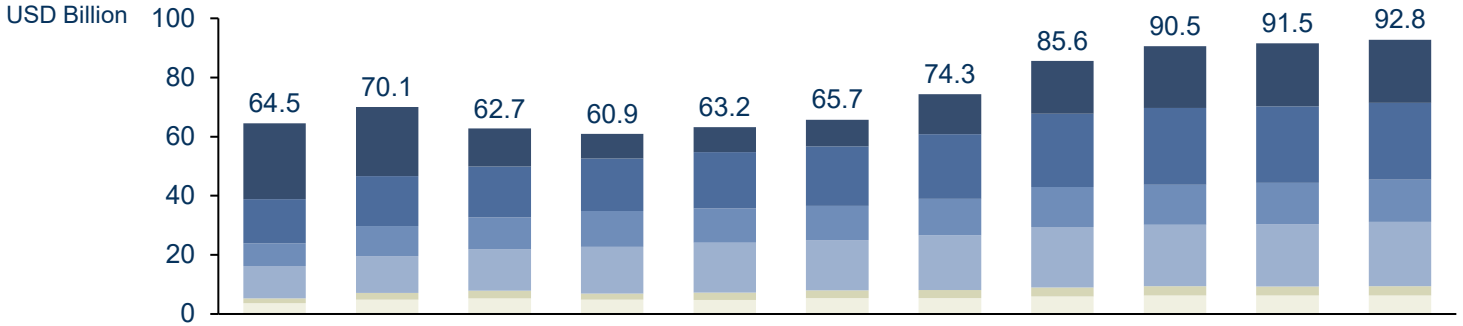
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Excavator Market

- The global excavator market grew from USD64.5 billion in 2020 to USD70.1 billion in 2021. Although the market size experienced a cyclical downturn and decreased to USD60.9 billion in 2023, the global excavator market is still expected to increase from USD63.2 billion in 2024 to USD92.8 billion in 2030, with an overall CAGR of 6.6%, driven by various factors including the recovery of Chinese market and continued penetration and application of intelligentisation, digitization and electrification.
- Among the main regions in the world, Asia-Oceania has the largest excavator market. Its share reached 30.3% in 2024. The second and third largest excavator markets were the North America and European market, with shares of 26.7% and 18.2%, respectively.

Total Revenue of Excavator Market (by region), Global, 2020-2030E



	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
China	25.6	23.4	12.8	8.3	8.4	9.1	13.5	17.9	20.8	21.3	21.4	-24.3%	16.8%
Asia-Oceania	15.0	16.9	17.3	17.8	19.1	20.1	21.8	24.7	26.0	25.9	26.0	6.3%	5.3%
Europe	7.7	10.2	10.8	12.1	11.5	11.5	12.4	13.5	13.6	13.9	14.2	10.6%	3.6%
North America	10.9	12.4	14.0	15.7	16.9	17.0	18.5	20.4	20.7	21.1	21.8	11.7%	4.4%
Latin America	1.6	2.2	2.6	2.1	2.4	2.6	2.8	3.1	3.1	3.1	3.1	10.8%	3.8%
Africa	3.7	4.9	5.3	4.8	4.8	5.4	5.3	5.9	6.3	6.3	6.3	6.6%	4.7%
Total	**64.5**	**70.1**	**62.7**	**60.9**	**63.2**	**65.7**	**74.3**	**85.6**	**90.5**	**91.5**	**92.8**	**-0.5%**	**6.6%**

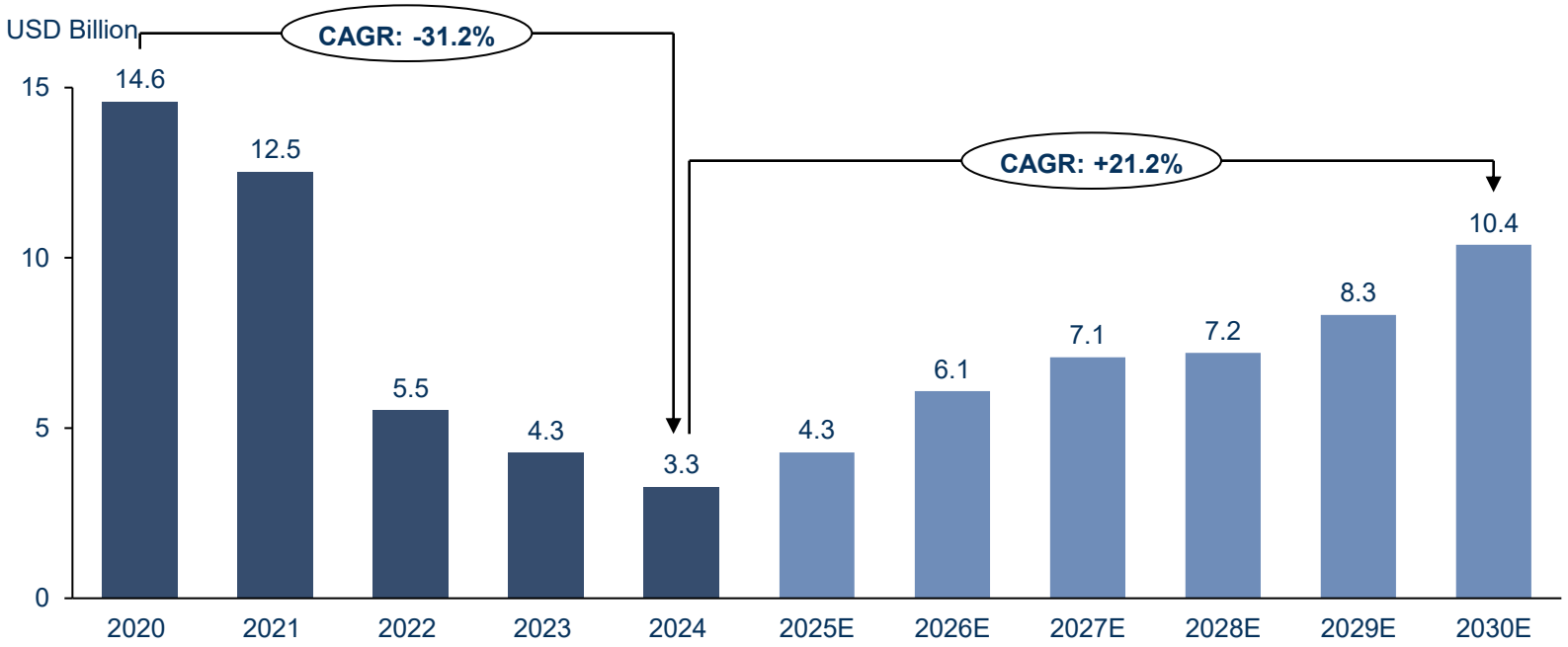
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Hoisting Machinery Market in China (1/3)

- The hoisting machinery is the second largest segment in the construction machinery market in China, which took over a share of 14.0% in 2024 in terms of revenue.
- The market experienced a cyclical downturn from 2020 to 2024, with its size decreasing to USD3.3 billion in 2023. However, driven by various factors including the replacement of existing machinery, the construction of renewable energy facilitates, and the development of port, the market size is anticipated to increase from 2024, and reach USD10.4 billion in 2030, with an overall CAGR of 21.2% from 2024 to 2030.

Total Revenue of Hoisting Machinery Market, China, 2020-2030E

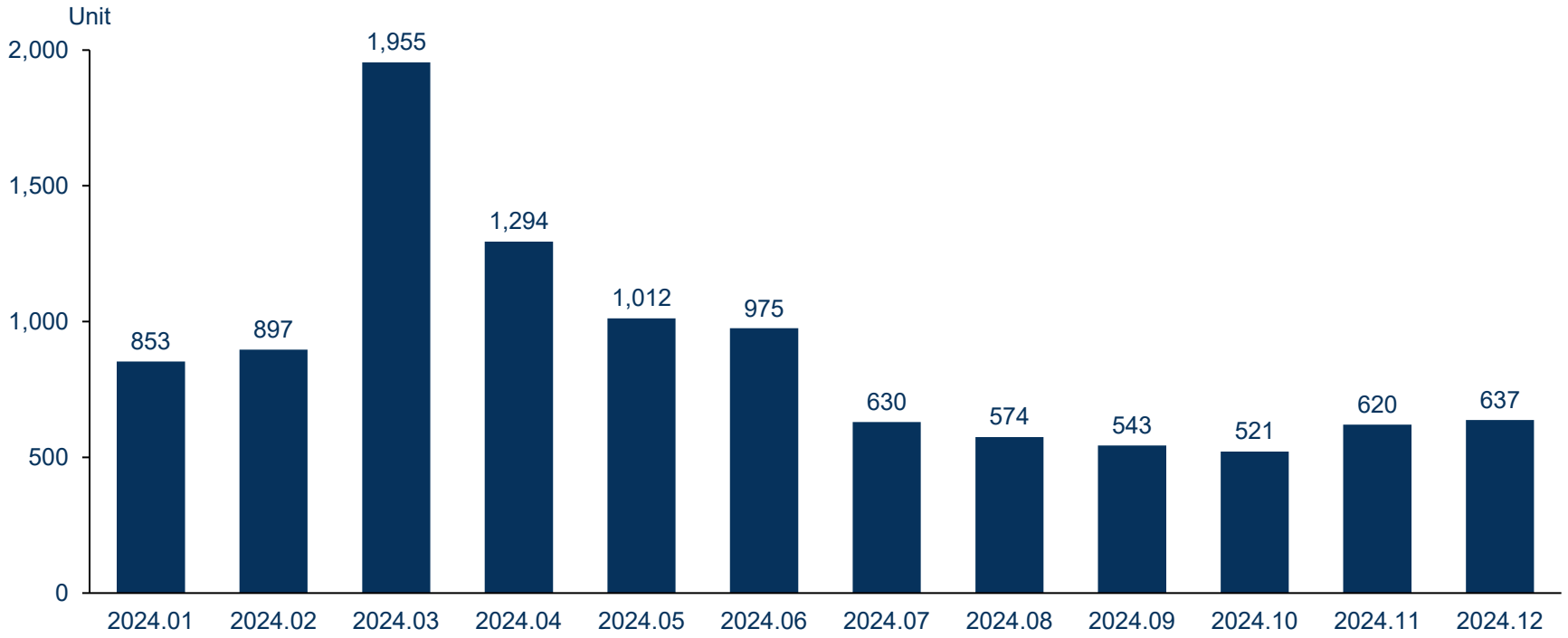


Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Hoisting Machinery Market in China (2/3)

Sales Volume of Auto Crane Market*, China, 2024.01-2024.12



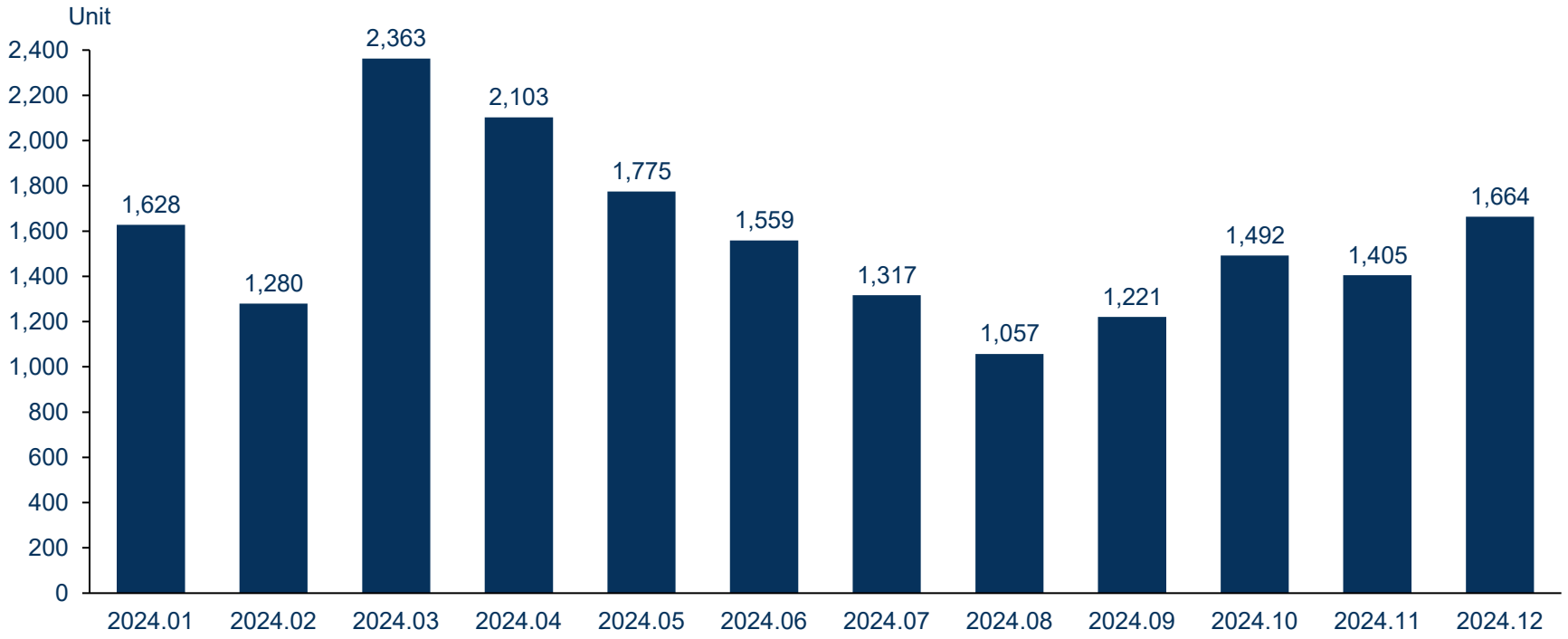
*Exclude export and import

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Market Size of Hoisting Machinery Market in China (3/3)

- In the second half of 2024, truck crane sales in China began to recover, increasing from 1,057 units in August 2024 to 1,664 units in December 2024.

Sales Volume of Truck Crane Market*, China, 2024.01-2024.12



*Exclude export and import

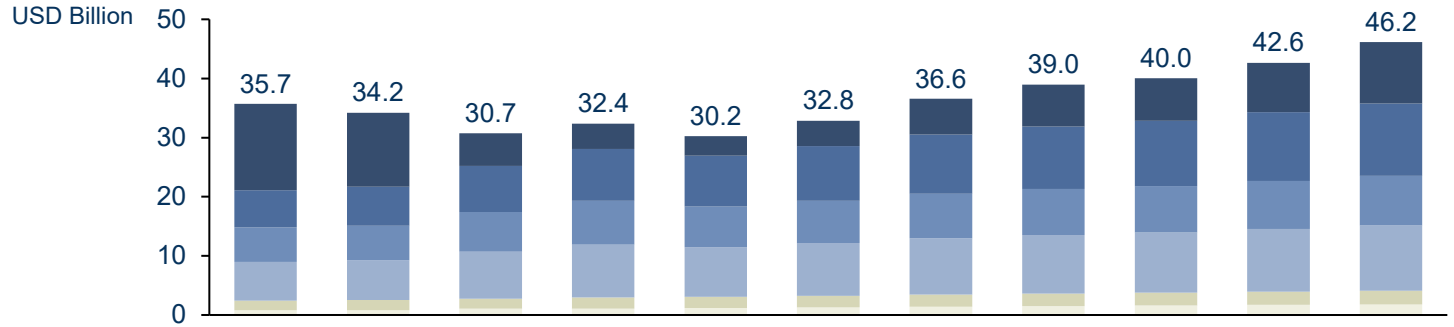
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Hoisting Machinery Market

- The global hoisting machinery market decreased from USD35.7 billion in 2020 to USD30.2 billion in 2024 due to the cyclical downturn of the industry. In the ongoing cyclical upswing, the market is expected to increase from 2024 to USD46.2 billion in 2030, with a CAGR of 7.3%.
- Asia-Oceania is the region with the largest crane market, with a share of 28.5% in the global market in 2024, followed by North America, Europe, and China, with shares of 27.7%, 22.7% and 10.8%, respectively.

Total Revenue of Hoisting Machinery Market (by region), Global, 2020-2030E



	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
China	14.6	12.5	5.5	4.3	3.3	4.3	6.1	7.1	7.2	8.3	10.4	-31.2%	21.2%
Asia-Oceania	6.3	6.6	7.8	8.8	8.6	9.2	10.0	10.6	11.0	11.6	12.2	8.2%	6.1%
Europe	5.8	5.8	6.7	7.4	6.9	7.2	7.5	7.8	7.9	8.1	8.4	4.1%	3.4%
North America	6.5	6.7	7.9	8.9	8.4	8.9	9.5	9.9	10.2	10.6	11.0	6.4%	4.7%
Latin America	1.6	1.7	1.7	1.9	1.9	2.0	2.0	2.1	2.2	2.2	2.3	3.9%	3.4%
Africa	0.8	0.8	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	10.4%	6.9%
Total	**35.7**	**34.2**	**30.7**	**32.4**	**30.2**	**32.8**	**36.6**	**39.0**	**40.0**	**42.6**	**46.2**	**-4.1%**	**7.3%**

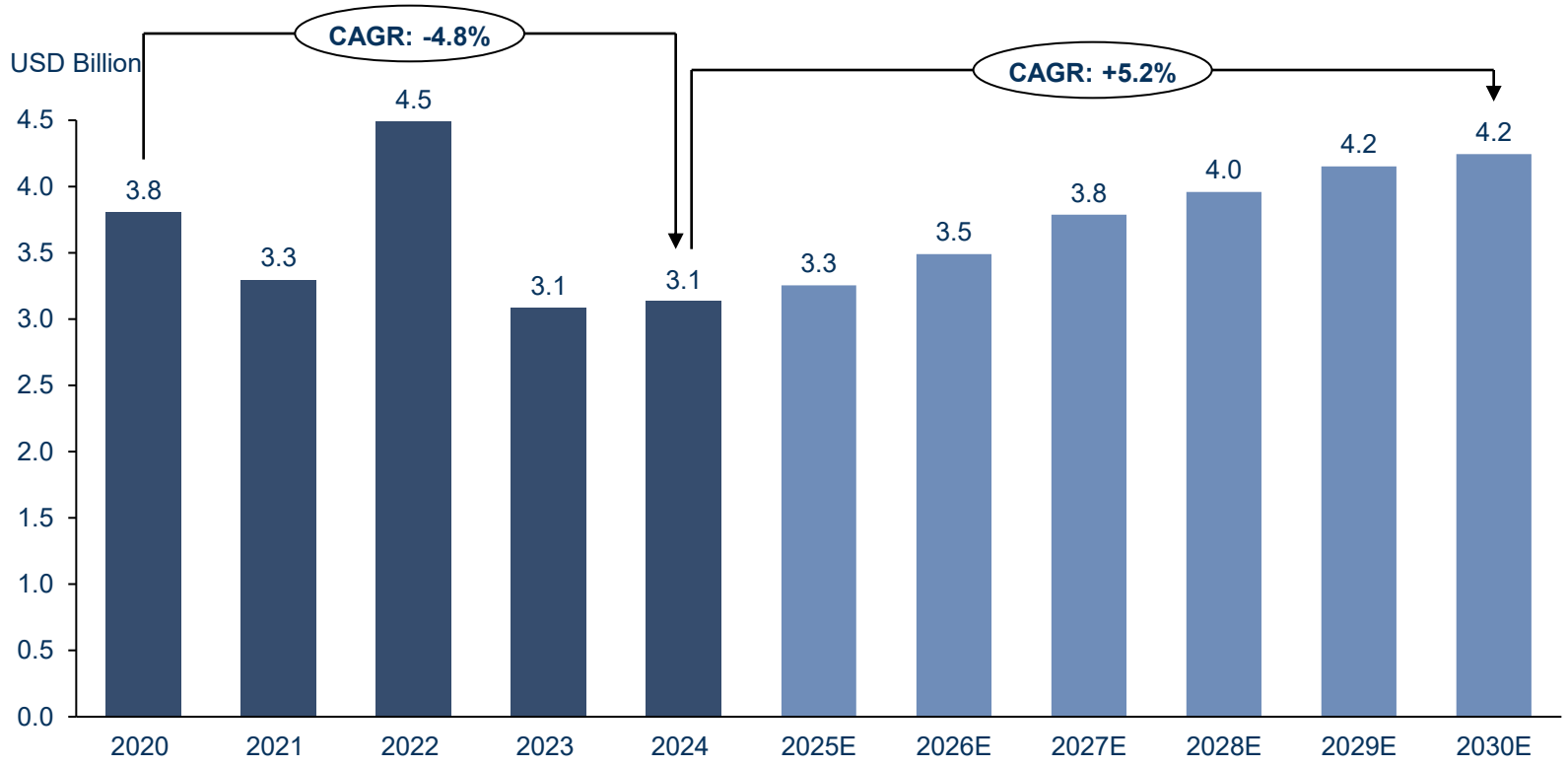
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Loader Market in China (1/2)

- The loader is the third largest segment in the construction machinery market in China, which took over a share of 13.4% in 2024 in terms of revenue.
- The market experienced a cyclical downturn from 2022 to 2024, with its size decreasing to USD3.1 billion in 2024. However, driven by various factors including the replacement of existing machinery, the development of infrastructure construction, and the application of electrical loaders, the market size is anticipated to increase from 2024, and reach USD4.2 billion in 2030, with an overall CAGR of 5.2% from 2024 to 2030.

Total Revenue of Loader Market, China, 2020-2030E

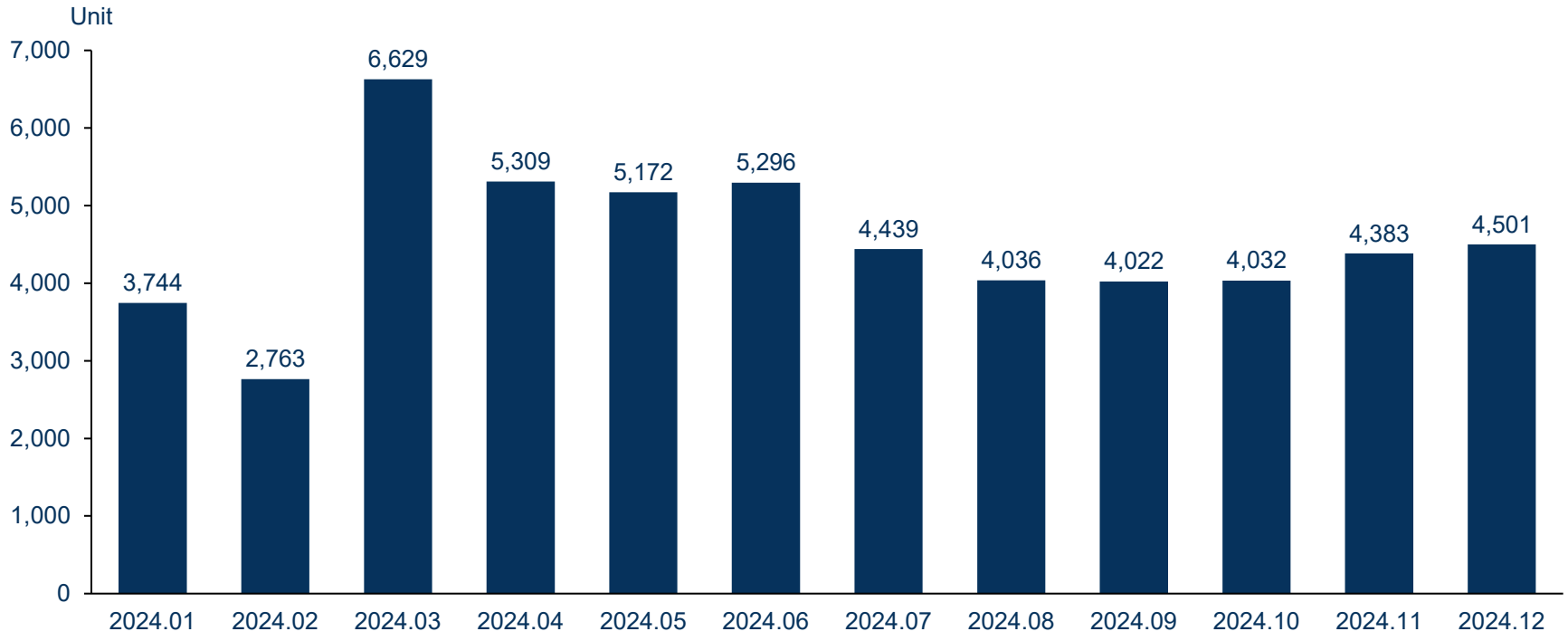


Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Market Size of Loader Market in China (2/2)

- In the second half of 2024, loader sales in China began to recover, increasing from 4,036 units in August 2024 to 4,501 units in December 2024.

Sales Volume of Loader Market*, China, 2024.01-2024.12



*Exclude export and import

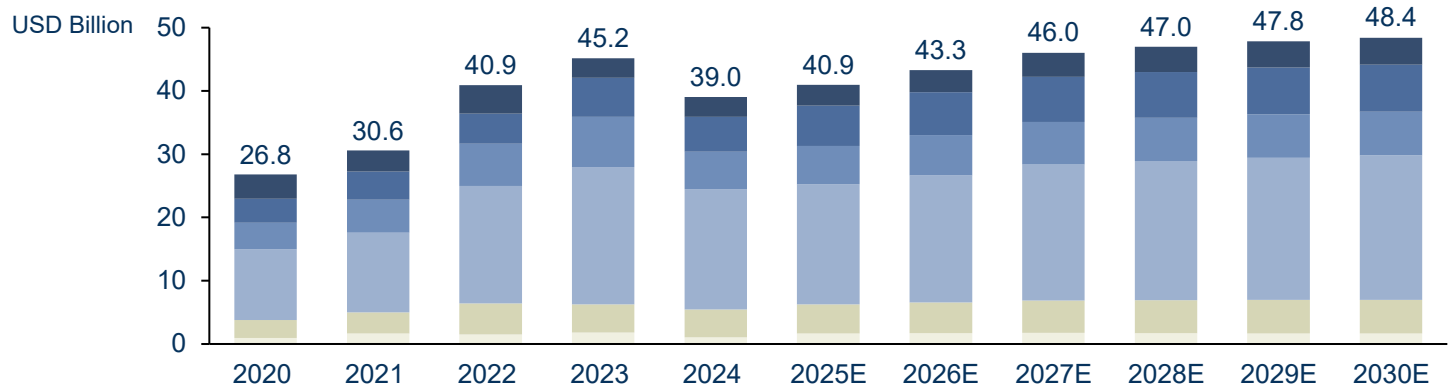
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Loader Market

- The global loader market grew from USD26.8 billion in 2020 to USD45.2 billion in 2023. Although the market size experienced a downturn and decreased to USD39.0 billion in 2024, the global loader market is still expected to increase to USD48.4 billion in 2030, with an overall CAGR of 3.7% from 2024.
- Among the main regions in the world, North America has the largest loader market. Its share reached 48.7% in 2024. The second largest loader market was the European market, with shares of 15.2%.

Total Revenue of Loader Market (by region), Global, 2020-2030E



	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
China	3.8	3.3	4.5	3.1	3.1	3.3	3.5	3.8	4.0	4.2	4.2	-4.8%	5.2%
Asia-Oceania	3.8	4.5	4.8	6.2	5.5	6.4	6.8	7.2	7.3	7.3	7.4	9.5%	5.2%
Europe	4.2	5.2	6.7	7.9	5.9	6.1	6.4	6.7	6.8	6.9	6.9	9.0%	2.6%
North America	11.1	12.6	18.6	21.7	19.0	18.9	20.1	21.5	22.0	22.5	22.9	14.3%	3.1%
Latin America	2.9	3.3	4.9	4.5	4.4	4.6	4.8	5.1	5.2	5.3	5.3	11.2%	3.3%
Africa	0.9	1.7	1.5	1.8	1.1	1.7	1.7	1.8	1.7	1.7	1.6	3.6%	7.2%
Total	**26.8**	**30.6**	**40.9**	**45.2**	**39.0**	**40.9**	**43.3**	**46.0**	**47.0**	**47.8**	**48.4**	**9.9%**	**3.7%**

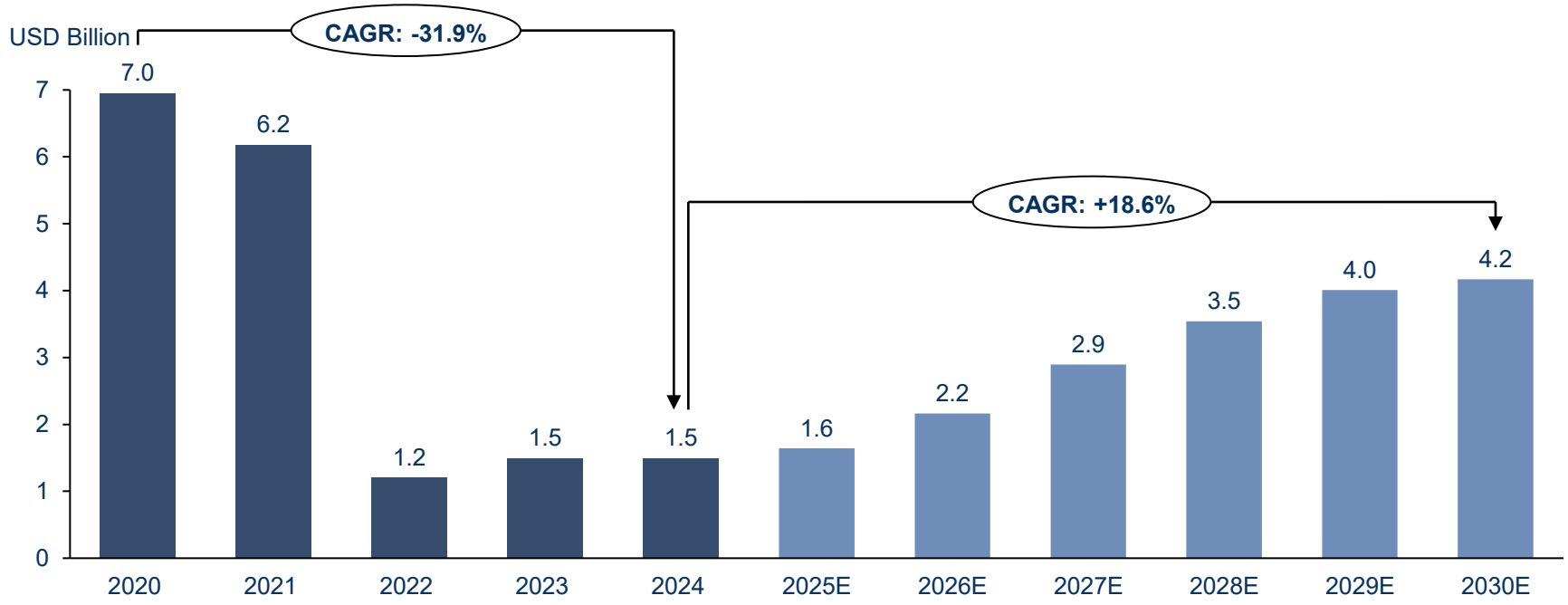
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Concrete Machinery Market in China

- Concrete machinery is the forth largest segment in the construction machinery market in China. It took over a share of 6.4% in 2024 in terms of revenue.
- The market decreased in 2022 and 2023, reaching USD1.5 billion in 2024, mainly because of the cyclical downturn of the industry. However, with the advancement of urban renewal, new infrastructure, and affordable housing projects in China, the market size is still anticipated to increase to USD4.2 billion in 2030, with an overall CAGR of 18.6% from 2024 to 2030.

Total Revenue of Concrete Machinery Market, China, 2020-2030E



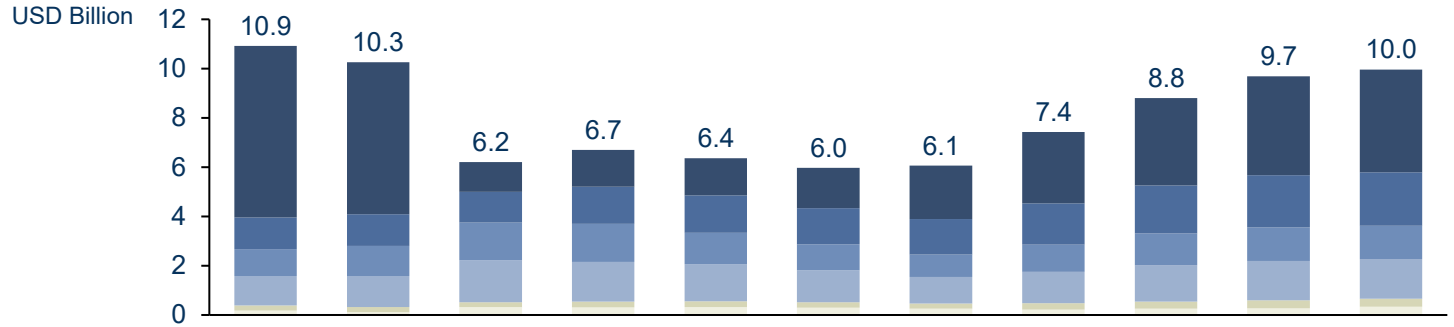
Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Size of Global Concrete Machinery Market

- The global concrete machinery market decreased from USD10.9 billion in 2020 to USD6.4 billion in 2024, mainly due to the cyclical downturn of the downstream real estate industry in China. The market size is expected to and bounce back starting from 2024, and is expected to reach USD10.0 billion in 2030, representing a CAGR of 7.8% from 2024 to 2030.
- Due to the large demand for concrete machinery from downstream real estate industry, China was the largest market for concrete machinery globally, the share of which in terms of revenue was 63.7% in 2020. While, in 2024, the Asia-Oceania became the largest, with the share of 24.0%.

Total Revenue of Concrete Machinery Market (by region), Global, 2020-2030E



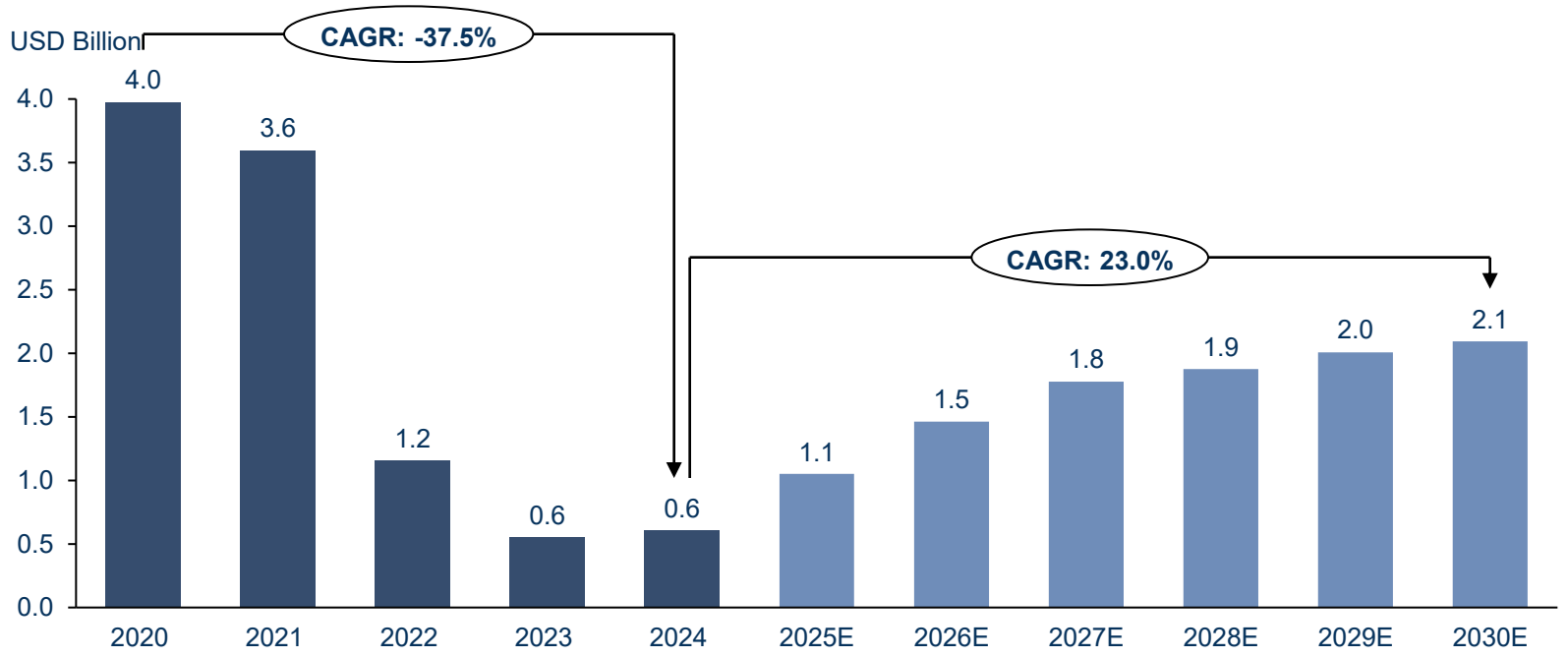
	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
China	7.0	6.2	1.2	1.5	1.5	1.6	2.2	2.9	3.5	4.0	4.2	-31.9%	18.6%
Asia-Oceania	1.3	1.3	1.2	1.5	1.5	1.5	1.4	1.7	2.0	2.1	2.2	4.3%	6.0%
Europe	1.1	1.2	1.5	1.5	1.3	1.1	0.9	1.1	1.3	1.4	1.4	4.1%	1.0%
North America	1.2	1.3	1.7	1.6	1.5	1.3	1.1	1.3	1.5	1.6	1.6	5.8%	1.1%
Latin America	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	2.8%	6.1%
Africa	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	15.6%	0.4%
Total	**10.9**	**10.3**	**6.2**	**6.7**	**6.4**	**6.0**	**6.1**	**7.4**	**8.8**	**9.7**	**10.0**	**-12.6%**	**7.8%**

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Market Size of Piling Machinery Market in China

- Piling machinery refers to the machinery used for drilling, piling and pile sinking in foundation constructions, which is widely applied in infrastructure construction and real estate development. During 2020 to 2024, China piling machinery market has dropped from USD4.0 billion to USD0.6 billion, due to slowdown of infrastructure and real estate industries growth and cyclical downturn of construction machinery industry.
- A new cyclical upswing is expected to begin in 2024. And the market size is expected to grow to USD2.1 billion in 2030, with a CAGR of 23.0%.

Total Revenue of Piling Machinery Market, China, 2020-2030E

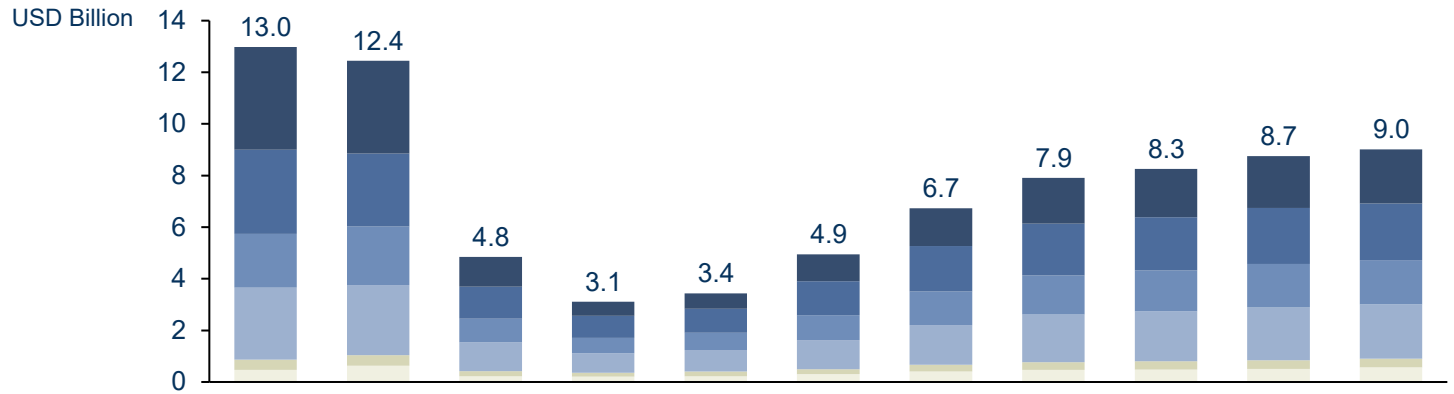


Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Market Size of Global Piling Machinery Market

- During 2020 to 2024, global piling machinery market has decreased from USD13.0 billion to USD3.4 billion. Global piling machinery market is estimated to increase to USD9.0 billion in 2030, with a CAGR of 17.4%.
- China was one of the main production regions for piling machinery worldwide. In 2020, the piling machinery market size in the China accounted for 30.6% of the global market, while in 2024 the Asia-Oceania became the largest with the share of 26.8%.

Total Revenue of Piling Machinery Market (by region), Global, 2020-2030E



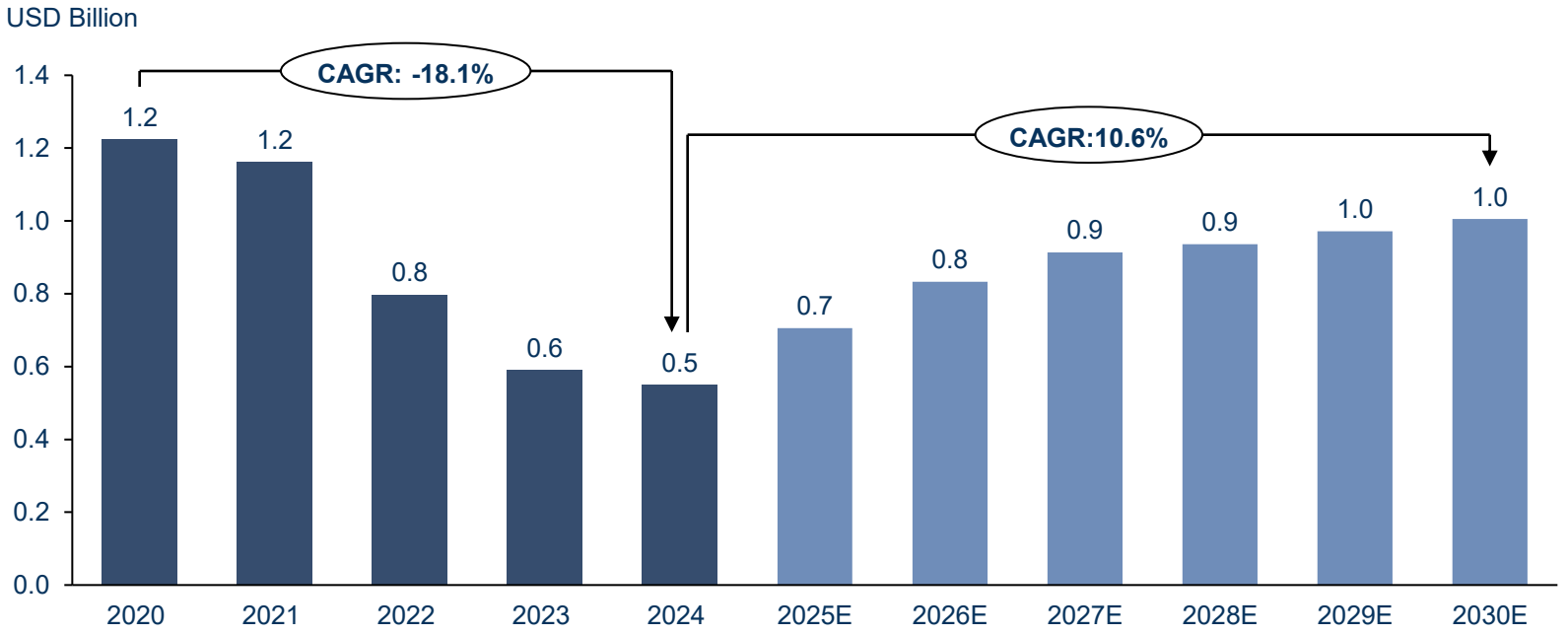
	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
China	4.0	3.6	1.2	0.6	0.6	1.1	1.5	1.8	1.9	2.0	2.1	-37.5%	23.0%
Asia-Oceania	3.3	2.8	1.2	0.9	0.9	1.3	1.8	2.0	2.0	2.2	2.2	-27.1%	15.5%
Europe	2.1	2.3	0.9	0.6	0.7	1.0	1.3	1.5	1.6	1.7	1.7	-24.6%	16.8%
North America	2.8	2.7	1.1	0.8	0.8	1.1	1.5	1.8	1.9	2.0	2.1	-26.2%	16.9%
Latin America	0.4	0.4	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	-16.9%	10.1%
Africa	0.5	0.6	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.5	0.6	-17.4%	17.2%
Total	**13.0**	**12.4**	**4.8**	**3.1**	**3.4**	**4.9**	**6.7**	**7.9**	**8.3**	**8.7**	**9.0**	**-28.3%**	**17.4%**

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Market Size of Road Machinery Market in China

- Road machinery refers to the machinery used to build and maintain the road of highway and urban roads, which is closely related to urban infrastructure and highway maintenance industry. Road machinery mainly includes roller, paver, grader machine. During 2020 to 2024, road machinery market in China has dropped from USD1.2 billion to USD0.5 billion due to slowdown of infrastructure and real estate industries growth and increasing number of existing machinery.
- The next cyclical upswing is expected to begin from 2024. It is forecasted that road machinery market will generally increase to USD1.0 billion in 2030, with a CAGR of 10.6% from 2024.

Total Revenue of Road Machinery Market, China, 2020-2030E

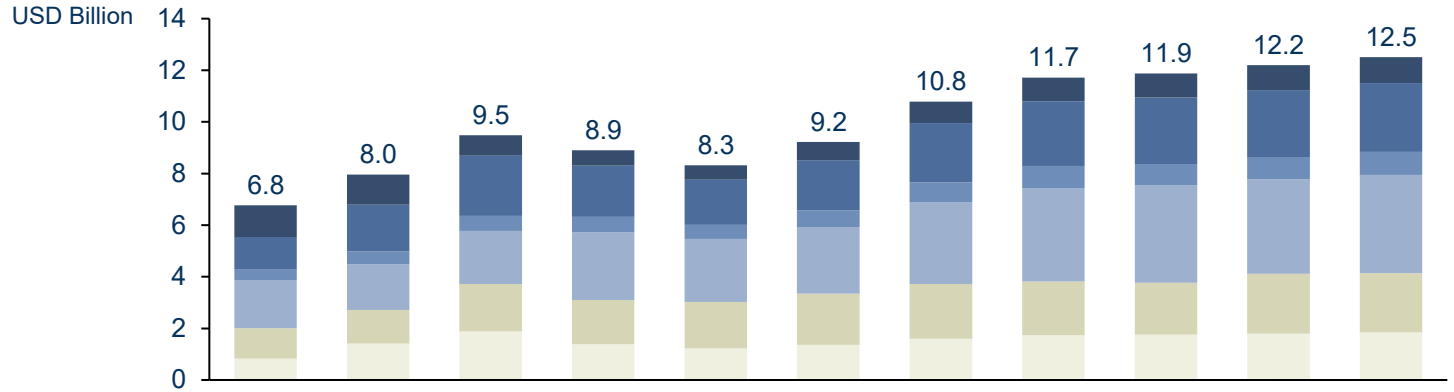


Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Market Size of Global Road Machinery Market

- During 2020 to 2024, global road machinery market grew from USD6.8 billion to USD8.3 billion. The market size of global road machinery market is expected to increase to USD12.5 billion in 2030, with a CAGR of 7.0% from 2024.
- In 2024, North America road machinery accounted for the largest proportion of total road machinery market with a share of 29.3%, followed by Latin America with a share of 21.7%.

Total Revenue of Road Machinery Market (by region), Global, 2020-2030E



	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E	CAGR (2020-2024)	CAGR (2024-2030E)
China	1.2	1.2	0.8	0.6	0.5	0.7	0.8	0.9	0.9	1.0	1.0	-18.1%	10.6%
Asia-Oceania	1.3	1.8	2.3	2.0	1.8	2.0	2.3	2.5	2.6	2.6	2.7	8.3%	7.2%
Europe	0.4	0.5	0.6	0.6	0.5	0.6	0.8	0.9	0.8	0.9	0.9	7.2%	8.6%
North America	1.8	1.8	2.1	2.6	2.4	2.6	3.2	3.6	3.8	3.7	3.8	7.1%	7.7%
Latin America	1.2	1.3	1.8	1.7	1.8	2.0	2.1	2.1	2.0	2.3	2.3	11.1%	4.1%
Africa	0.8	1.4	1.9	1.4	1.2	1.4	1.6	1.7	1.8	1.8	1.8	10.4%	7.1%
Total	**6.8**	**8.0**	**9.5**	**8.9**	**8.3**	**9.2**	**10.8**	**11.7**	**11.9**	**12.2**	**12.5**	**5.3%**	**7.0%**

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Policies and Regulations in China (1/3)

Policies and Regulation of Construction Machinery Market, China

Policies and Regulations	Execution Date	Issued Department	Main Content and Emphasis
Guiding Opinions on the Upgrading and Renovation of Equipment in Key Industrial Sectors 《工业重点行业领域设备更新改造提升的指导意见》	2024.09	MIIT 工业和信息化部	Emphasize the importance of intelligent upgrading. By renovating and upgrading various production equipment on the production lines, the industry will significantly enhance production efficiency and product quality. It also encourages the construction of green and smart mines, with a focus on promoting the upgrading of equipment such as new energy mining trucks, excavators, loaders, and electric locomotives.
Promoting Large-Scale Equipment Upgrades and Consumer Goods Replacement with New Ones 《推动大规模设备更新和消费品以旧换新》	2024.03	The State Council 国务院	Encourage the remanufacturing of used production equipment that meets the necessary conditions, ensuring that the quality characteristics and safety and environmental performance of remanufactured products are not inferior to those of new prototypes. Further advance the remanufacturing of traditional equipment such as automotive parts, construction machinery, and machine tools, and explore the development of high-end equipment remanufacturing in emerging fields such as wind power, photovoltaics, and aviation.
Implementation Plan for Promoting the Upgrading of Construction and Municipal Infrastructure Equipment 《推进建筑和市政基础设施设备更新工作实施方案》	2024.03	MOHURD 住房城乡建设部	In accordance with the requirements of the Technical Specifications for Inspection of Construction Site Machinery and Equipment, update and phase out construction machinery and equipment that have been in use for over 10 years, are highly polluting, energy-intensive, severely aged or worn, or technologically outdated. This includes equipment such as excavators, cranes, loaders, and concrete mixers. Encourage the purchase of new machinery and equipment powered by new energy sources and advanced technologies.

Source: The State Council, NDRC, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Policies and Regulations in China (2/3)

Policies and Regulation of Construction Machinery Market, China

Policies and Regulations	Execution Date	Issued Department	Main Content and Emphasis
The 14th Five-Year Implementation Plan for Expanding Domestic Deman 《"十四五"扩大内需战略实施方案》	2022.12	NDRC 国家发改委	Accelerate the transformation and upgrading of traditional manufacturing industries. Promote innovative development in sectors such as shipbuilding and marine engineering equipment, advanced rail transit equipment, advanced power equipment, construction machinery, high-end CNC machine tools, pharmaceuticals, and medical devices.
Energy conservation and emission reduction work program during the 14th Five-Year Plan Period 《"十四五"节能减排综合工作方案》	2021.12	The State Council 国务院	The program proposes environmental-friendly upgrades on the construction machinery industry, steel, non-ferrous metals, and building materials industry are highlighted. This promotes to the product substitution demand in construction machinery industry brought by energy conservation and emission reduction concerns and lead to the development of the industry.
Opinions of the State Council on Comprehensive Implementation of the New Development Concept to achieve Carbon Neutrality and Carbon Emission Peak 《中共中央国务院关于完整准确全面贯彻新发展理念做好碳达峰碳中和工作的意见》	2021.10	The State Council 国务院	The policy states that in 2030, carbon emissions is going to reach the peak and show a steady decline afterwards. In 2060, the green, circular and low-carbon development in the economic system and energy system will be fully established, and the carbon neutrality goal will be realized. In this context, the penetration rate of product electrification in the construction machinery industry is expected to increase.

Source: The State Council, NDRC, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Policies and Regulations in China (3/3)

Policies and Regulation of Construction Machinery Market, China

Policies and Regulations	Execution Date	Issued Department	Main Content and Emphasis
Intelligent Manufacturing Development Plan during the 14th Five-Year Plan Period 《"十四五"智能制造发展规划》	2021.12	MIIT 工业和信息化部等部门	The development plan advocates intelligent manufacturing. With machinery as the core, data as the basis, to build a virtuality-reality combinative, knowledge-driven, safe and efficient, green and low-carbon intelligent manufacturing system. This will accelerate the digital transformation, networked collaboration and intelligent revolution.
Outline of the 14th Five-Year Plan Period 《"十四五"规划纲要》	2021.12	The State Council 国务院	The long-term programme indicates further deepening implementation of intelligent manufacturing across industries, which will foster high-end and intelligent manufacturing clusters of construction machinery. In this context, intelligent manufacturing will be extensively applied in construction machinery.
Construction Machinery Industry Development Plan during the 14th Five-Year Plan Period 《工程机械行业"十四五"发展规划》	2021.7	MIIT 工业和信息化部等部门	The policy points out that construction machinery enterprises should not only continue to increase R&D investment in field including energy conservation, but also need to accelerate construction machinery electrification course. This will increasingly promote to the electrification transformation of construction machinery.

Source: MIIT, The State Council, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Policies and Regulations in the Globe (1/2)

Policies and Regulation of Construction Machinery Market, Global

Policies and Regulations	Execution Date	Issued Department	Main Content and Emphasis
The House of Representatives has passed the Infrastructure Investment and Jobs Act (IIJA)	2021.12	The House of Representatives, USA	The IIJA has passed a roughly $1.2 trillion bill, but not all will be used in traditional infrastructure direction. The $1.2 billion bill contains $550 billion in new spending for the national's bridges, airports, waterways, public transit and more, the other funds go into updating the railway network, bolster the country's broadband etc. Overall IIJA will give contractors and rental companies a positive sign and more incentive to invest in new construction machinery although the industry is now bracing a series of interest rate rise, driving the growth of construction machinery market on the long run.
The EU Recovery Plan	2021.07	The European Union	EU has agreed on the structure of the COVID recovery plan in July,2021. There will a fund up to €750 billion which is expected to boost investment and allow for speedy recovery of the EU economy. This fund will be allocate to member states and used for long-term investments and growth projects for recovery and economic resilience, in the direction of the green and digital transitions. Construction and infrastructure will be part of the focus, a large portion of the €750 billion will go to construction and indirectly to off-road equipment for construction
REGULATION (EU) 2019/1242	2019.06	European Parliament and of the Council	The Regulation (EU) 2019/1242 et targets for reducing the average emissions from heavy duty vehicles for 2025 and 2030. The targets are expressed as a percentage reduction of emissions compared to EU average in the reference period, from 2025 onwards: 15% reduction and from 2030 onwards: 30% reduction. As a first step, the CO2 emission standards will cover large lorries, which account for 65% to 70% of all CO2 emissions from heavy-duty vehicles.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Policies and Regulations in the Globe (2/2)

Policies and Regulation of Construction Machinery Market, Global

Policies and Regulations	Execution Date	Issued Department	Main Content and Emphasis
The Vietnam's Economic Stimulus Plan	2022.01	The Vietnam Parliament	Vietnam's parliament approved a stimulus package worth about 347 trillion dong ($15.3 billion) to revive an economy battered by Covid-19. The package includes 176 trillion dong in infrastructure projects from 2022-2023. This will propel the need for construction equipment on the market.
Toll Road Investment Agreement	2022.04	The Indonesia Investment Authority (INA)	The Indonesia Investment Authority signed two agreements to invest in toll roads on the islands of Sumatra and Java worth more than 39 trillion rupiah ($3.7 billion), which is the first concrete steps since forming a toll road fund last year. The increasing government spending on infrastructure will drive the increase of construction machinery market.
India's infrastructure supportive policies	2021.03	The India Parliament	In Union Budget 2021, to support initiatives such as 'Housing for All' and 'Smart Cities Mission', the government allocated Rs. 13,750 crore (US$ 1.89 billion) to AMRUT and Smart Cities Mission. In March 2021, the Parliament passed a bill to set up the National Bank for Financing Infrastructure and Development (NaBFID) to fund infrastructure projects in India. The increasing government spending on infrastructure will drive the increase of construction machinery market.
Infrastructure Project's to counter China initiatives	2021	Brazil Government	In 2021, Brazil government has announced to launch several new infrastructure projects to potentially counter China's Belt and Road Initiative. The largest projects include the concession of coastal highways (valued at $556 million) and of two commuter tail lines ($467 million).

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Market Drivers of Construction Machinery Market in China

Drivers of China's Construction Machinery Market

	Main Drivers	Influence (1-2 years)	Influence (3-5 years)
1	National Standardization Goals	High	High
2	Favorable Overseas Investment Policies	High	Medium
3	Continuous Construction of Stable Supply Chains	High	High

Drivers	Description
National Standardization Goals	➢ The establishment and improvement of the standardization system have long been a focus in China's construction machinery industry. During the 14th Five-Year Plan period, China has set and revised multiple national and industrial standards in the construction machinery industry, covering the safe production and technical specification of excavators, concrete machinery, cranes and various other kinds of construction machinery. The implementation of these standards improves the overall standardization level of manufacturers, which helps improve the quality of products and raise the output of manufacturers.
Favorable Overseas Investment Policies	➢ The Chinese government has issued a series of policies encouraging overseas investments, especially in the field of infrastructure construction. For instance, up to the end of 2022, the Chinese government has signed cooperation documents with 182 countries and international organizations under the Belt and Road Initiative, which helps the development of the infrastructure construction industries of various countries. Such policies largely increase the demand for construction machinery in these countries, and drive Chinese domestic manufacturers to further explore the global market.
Continuous Construction of Stable Supply Chains	➢ The development of upstream participants in the industry chain of China's construction machinery market used to fall behind that of downstream participants. As a result, core components of construction machinery products used to be mainly imported from overseas suppliers, leading to high raw material and transportation costs and low supply chain stability for Chinese downstream construction manufacturers. Therefore, leading domestic manufacturers have applied multiple measures in recent years to improve supply chain management, including building strong relationships with upstream participants, and extending business to the upstream of the market, so as to build cost-saving and stable supply chain, enhancing production efficiency.

Source: Frost & Sullivan

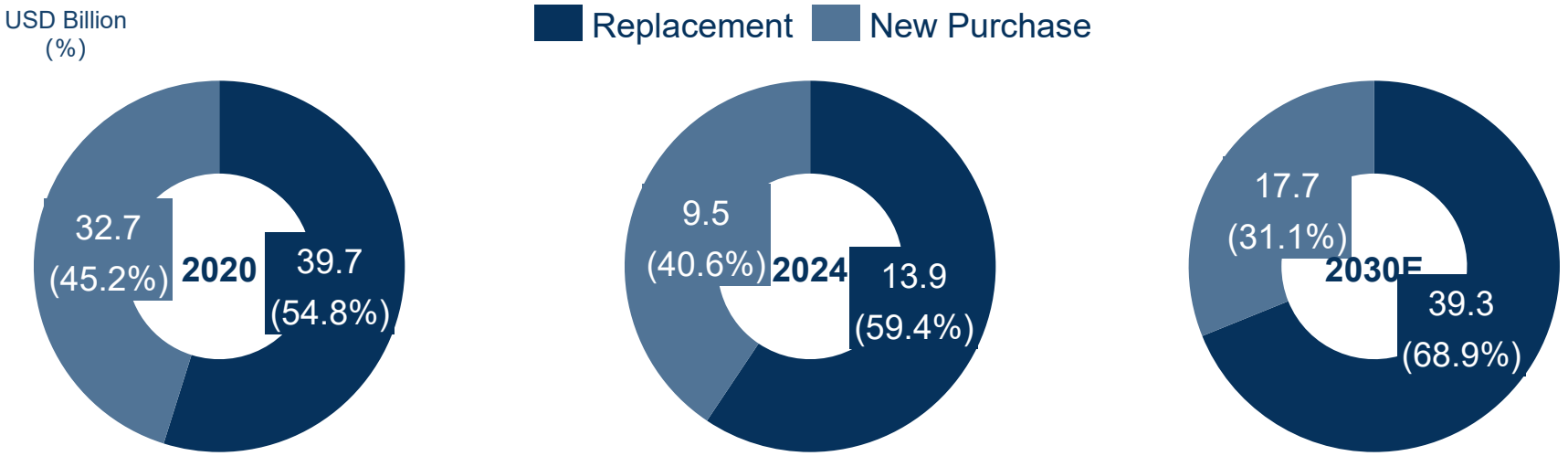
Analysis of China's and Global Construction Machinery Market

Development Trends of Construction Machinery Market in China (1/3)

1 Equipment Renewal Accelerates, Replacement Market Leads Demand

- As China's construction machinery industry enters a mature stage, market growth is shifting from new machine sales to the renewal of existing product. According to Frost & Sullivan, by sales revenue, existing equipment renewal demand accounted for 59.4% of overall market demand in 2024, and is expected to rise to 68.9% by 2030, becoming the core driving force for market growth.
- Equipment purchased between 2015 and 2021 is now gradually reaching its renewal peak, and in the next 5-10 years, the replacement demand for core equipment will continue to grow. According to Frost & Sullivan, taking excavators as an example, by sales revenue, excavator equipment renewal demand accounted for 59.5% of overall sales in 2024, and as equipment life cycles gradually enter the replacement stage, this proportion is expected to further expand to 82.8% by 2030.
- The average lifespans of different equipment determine the pace of the renewal cycles. Excavators typically enter the renewal period in 8-10 years, loaders in 10-12 years, hoisting machinery in 10-15 years, and mining machinery can reach 12-15 years. As equipment enters the scrapping stage or maintenance costs become uneconomical, market demand has notably increased for more efficient and intelligent replacement equipment.

The Share of Replacement Machinery in the Overall Construction Machinery Market (by revenue), China, 2020&2024&2030E



Source: Interviews with Industry Experts, China Construction Machinery Industry Yearbook, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Development Trends of Construction Machinery Market in China (2/3)

2 New Technologies Driving New Technologies Fuel Equipment Upgrades as Electrification and Intelligence Accelerate Upgrades

- China's construction machinery industry is undergoing a key phase of technological innovation and market transition. Rapid advances in new energy and intelligent technologies are driving the shift toward greater efficiency and sustainability, with the rising adoption of electrified and smart equipment emerging as a major industry trend.
- With changing market demand, the application scope of electric construction machinery is expanding. Its low carbon emissions, high energy efficiency, and strong stability enhance equipment economics and also promote industry development towards sustainability.
- Meanwhile, the accelerated deployment of smart technologies is reshaping how the industry operates. The implementation of technologies such as intelligent driving, and remote monitoring not only notably improves construction efficiency but also reduces human dependence and enhances operation safety. The widespread application of these technologies creates new growth space for the industry.
- In addition, the integration of decarbonized environmentally friendly materials and new energy technologies further extends equipment service lifespan and increases whole life cycle value. As the industry moves towards sustainable development, energy-saving, environmentally friendly, intelligent, and energy-efficient equipment is expected to become the focus of market competition, prompting companies to continuously conduct technological upgrades and product innovation. Global leaders capable of meeting market demand gradually form brand premiums and product competitiveness, with growing advantages in market competition, prompting the industry competition to shift from price to value.
- In the future, China's construction machinery market will continue to move towards electrification and intelligent development paths under the dual drivers of market demand growth and equipment renewal, bringing new opportunities and challenges to the industry.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Development Trends of Construction Machinery Market in China (3/3)

3 Further Expansion to Overseas Market

- Leading construction machinery manufacturers in China have been continuously expanding the overseas market. By establishing global supply chain systems and global service centers, as well as building overseas sales teams which are familiar with local markets, these companies have not only successfully met the needs of local markets, but also largely enhanced their international position and influence

4 Accelerating Domestic Substitution

- Through years of fierce market competition, leading domestic construction machinery manufacturers in China have realized large-scale production and technical accumulation, and have established strong brand images, all of which help reduce the expenses during the manufacturing process, improve the competitiveness of their products, and improve the overall image of domestic brands. Therefore, the process of domestic substitution has been accelerated in the market.

5 Further Expansion of After-sales Services

- Leading manufacturers in China's construction machinery market have started offering comprehensive after-sales services, which include not only maintenance of machinery and replacement of core parts and components, but also auto finance business including mortgage loans and inventory financing loans. Such business expansion helps attract a broader customer base, creates new sources of revenue for manufacturers, enhances their overall competitiveness, and also brings opportunities for the future development of the industry.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Intellectualization Construction Machinery Empowerment

➢ **For manufacturers: decrease maintenance cost**

High maintenance cost comes mainly from the requirement on supply chain and quality aftermarket support team. Engineering machinery often operate at tough environments, equipment dysfunctions call out manufacturer sending professional maintenance team to support field operation and trouble shooting. A smart engineering machinery can foresee issues and diagnose roots when issues come up. It can also prevent dysfunctions by notifying necessary maintenance actions like oil change. It helps decrease maintenance cost long term.

➢ **For clients: save manpower and operation cost**

Smart engineering machinery can save manpower and operation cost for rental companies and constructors. For example, a management team of 4-5 operators, 2 maintenance people and 1 supervisor can manage 5 excavators, a company need at least 20 of management teams to operate 100 excavators. However, 2-3 operators can manage 100 smart-unpiloted-excavators through IOT.

➢ **For operators: higher efficiency**

For operator and constructors, they lean towards using smart engineering machinery for 2 major reasons. 1) A work flow consistence can be well preserved due to foresee and self-diagnosis functions associated with the smart machinery that can prevent from operation fall down.2) Smart machinery can be operated remotely, which protect human operators from hazardous and dangerous locations like tunnels and mines.

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market

Development Trends of Global and China Construction Machinery After-Sales and Financial Service Market

1 Development of Remanufacturing Business

- In the context of green development and the circular economy, the remanufacturing business of construction machinery is presented with significant opportunities. For instance, the release of the *Promoting Large-Scale Equipment Upgrades and Consumer Goods Replacement with New Ones* (《推动大规模设备更新和消费品以旧换新》)explicitly proposes to further advance the remanufacturing of traditional equipment, including construction machinery. Remanufacturing involves dismantling, repairing, and upgrading used equipment to restore its performance to or near new levels. This process not only reduces resource consumption and environmental pollution but also creates substantial economic benefits for enterprises. It is anticipated that leading companies will increase their investment in the technological research and development of remanufacturing businesses and further improve the recycling channels for used machinery in the future.

2 Investment in Technical Talent

- As construction machinery products rapidly evolve towards intelligence, electrification, and unmanned operation, the aftermarket service sector is facing unprecedented technological challenges and opportunities. In the maintenance and servicing of electric construction machinery, service personnel must not only possess traditional mechanical repair skills but also master core technical competencies such as battery management systems (BMS), electronic control systems, and charging station maintenance. Additionally, with the widespread adoption of intelligent equipment, service providers need to develop deep data analysis capabilities to optimize maintenance cycles and predict potential failures. It is anticipated that leading companies will further invest in the recruitment and training of technical talent to enhance service quality in the future

3 Standardization of Leasing Business

- The equipment leasing business is developing rapidly in the construction machinery aftermarket, particularly favored by large-scale engineering projects and small to medium-sized enterprises. The leasing model not only significantly reduces customers' equipment procurement costs but also enhances capital efficiency. However, the standardization of the leasing market still needs improvement. In emerging market countries, due to the lack of unified industry standards and regulatory mechanisms, issues such as information asymmetry and contract disputes frequently arise during the leasing process. Additionally, the difficulty in equipment management and the high risk of rental recovery also constrain the healthy development of the market. Looking ahead, the global second-hand construction machinery market is expected to gradually achieve standardized management

Source: Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Cost Analysis (1/3)

- Steel is one of the core raw materials in the construction machinery industry, widely used in the manufacturing of structural parts, load-bearing parts, and functional parts, including chassis, frames, booms, body shells, buckets, crawler shoes, and other key items. Depending on equipment types, steel costs generally account for 20%-30% of total manufacturing costs, and can exceed 35% for the manufacture of some heavy equipment (such as mining trucks and high-tonnage hoisting machinery), making it one of the key factors determining product cost fluctuations and gross margin levels.

- The main types of steel used in the construction machinery industry include:

    - **Medium and thick plates:** used for main structural components such as booms, chassis, and supporting platforms, requiring high strength and good welding performance

    - **Cold-rolled plates:** mostly used for equipment enclosures and precision sheet metal parts requiring dimensional accuracy and surface quality

    - **High-strength steel and wear-resistant steel:** widely used in heavy-load, high-wear conditions, especially suitable for excavator buckets, mining equipment, etc.

    - **Section steel, steel tubes, and other special steel:** used for hydraulic system pipeline brackets, engineering vehicle frames, etc.

- Steel price fluctuations directly impact the gross margins of construction machinery manufacturers. Global leaders typically mitigate the impact of raw material cost fluctuations through centralized procurement, material substitution, and futures hedging. Additionally, some have begun promoting the use of domestically sourced alternatives and developing high-performance materials — such as ultra-high-strength steel plates and composite panels — to enhance equipment strength and durability. These efforts help reduce material consumption per unit and increase the output value per unit.

- Additionally, other raw materials such as hydraulic components, engines, electrical control systems, and tire rubber also constitute a certain proportion of costs. However, the technology and supply chain are relatively mature, the procurement model tends to be stable, and the overall cost impact is relatively controllable.

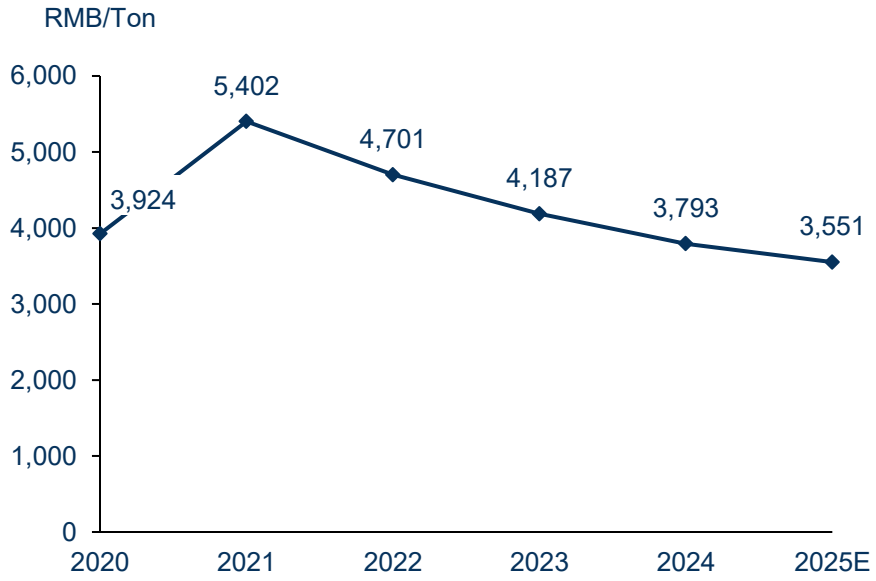
- In summary, steel prices, as a major upstream variable, have a notable impact on the profitability of the construction machinery industry. Steel price movements will remain a critical barometer for evaluating cost management and the profitability of the industry.

Source: Frost & Sullivan

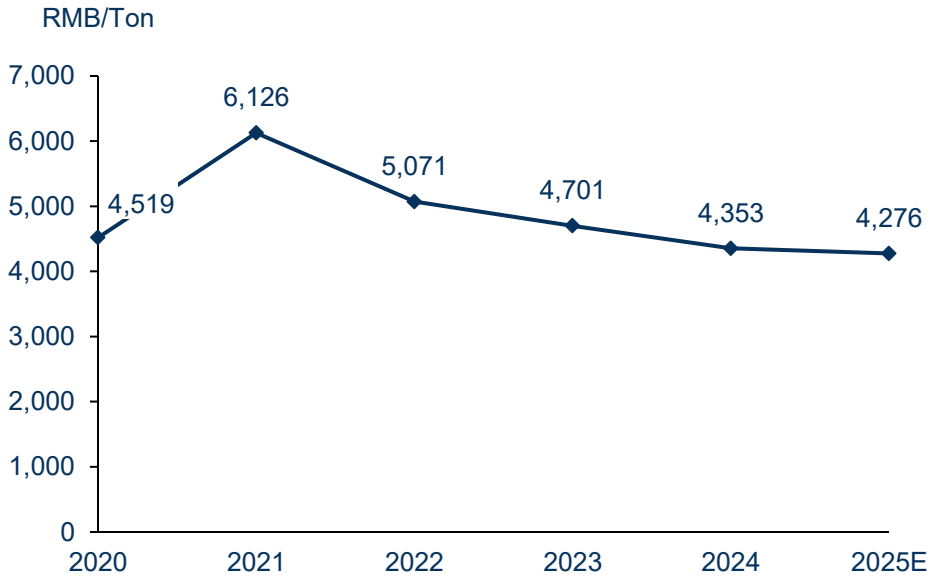
Analysis of China's and Global Construction Machinery Market
Cost Analysis (2/3)

- In recent years, steel prices in the Chinese market have experienced significant volatility, driven by global commodity cycles, raw material supply disruptions, and both domestic and international macroeconomic policies. Data shows that in 2021, average market prices peaked at elevated levels across various steel categories: medium and thick plates at RMB5,402/ton (a 38% jump from RMB 3,924/ton in 2020), cold-rolled thin plates at RMB6,126/ton, wear-resistant steel at RMB7,060/ton, high-strength steel at RMB6,283/ton, H-section steel at RMB5,286/ton, and welded steel tube at RMB5,278/ton. By 2024, prices had declined significantly: medium and thick plates to RMB3,793/ton, cold-rolled thin plates to RMB4,353/ton (a 29% decrease), wear-resistant steel to RMB5,432/ton, high-strength steel to RMB4,675/ton, H-section steel to RMB3,765/ton, and welded steel tube to RMB4,234/ton. Driven by increased global iron ore production, coupled with steel oversupply and sluggish demand, China's steel prices are projected to experience a sustained decline throughout 2025.

Average Market Price of Steel Medium-Thick Plate, China, 2020-2025E



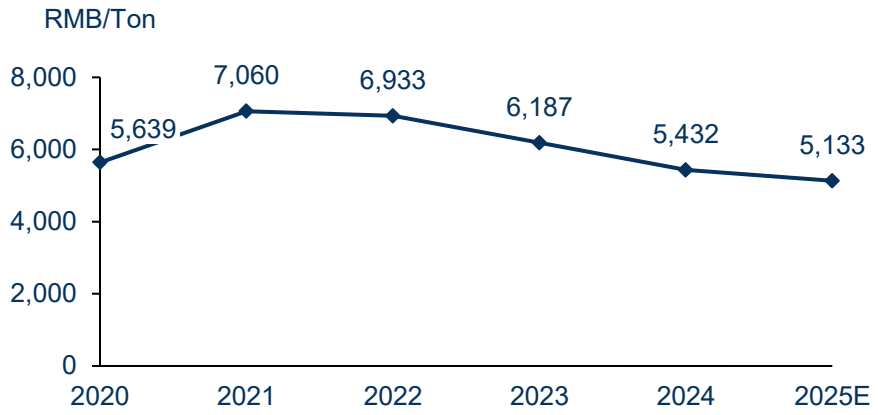
Average Market Price of Cold-Rolled Thin Plate, China, 2020-2025E



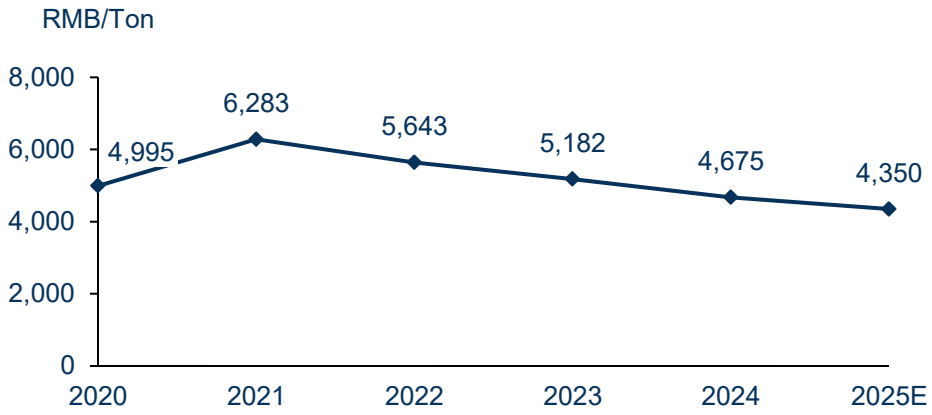
Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Analysis of China's and Global Construction Machinery Market
Cost Analysis (3/3)

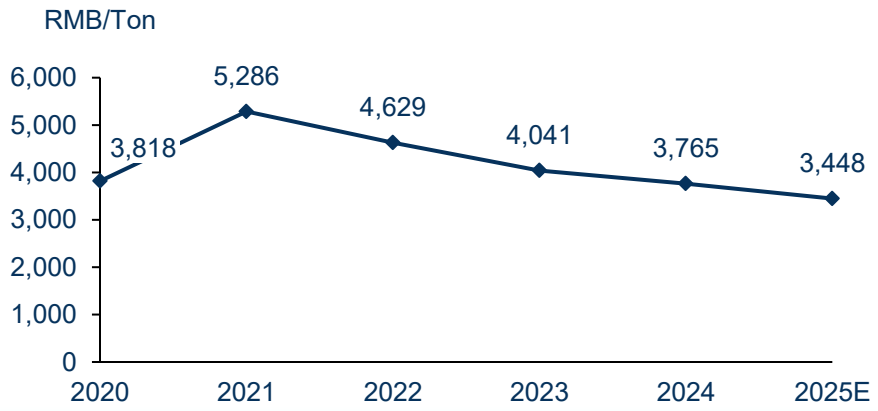
Average Market Price of Wear-resistant Steel, China, 2020-2025E



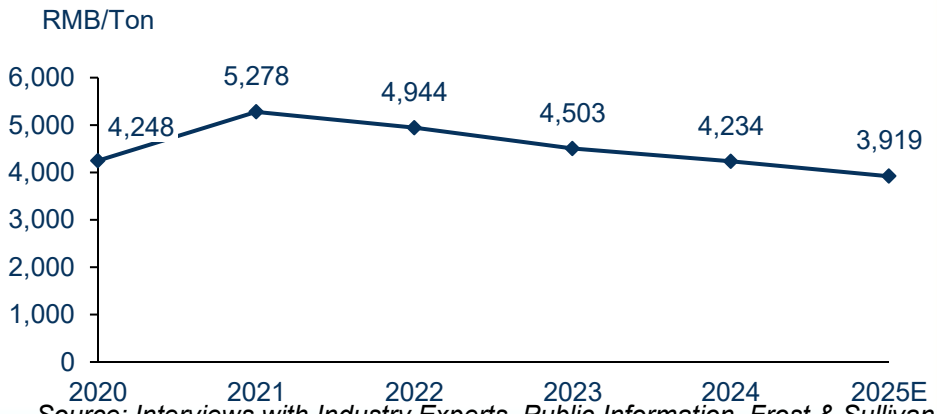
Average Market Price of High-strength Steel, China, 2020-2025E



Average Market Price of H-section Steel, China, 2020-2025E



Average Market Price of Welded Steel Tube, China, 2020-2025E



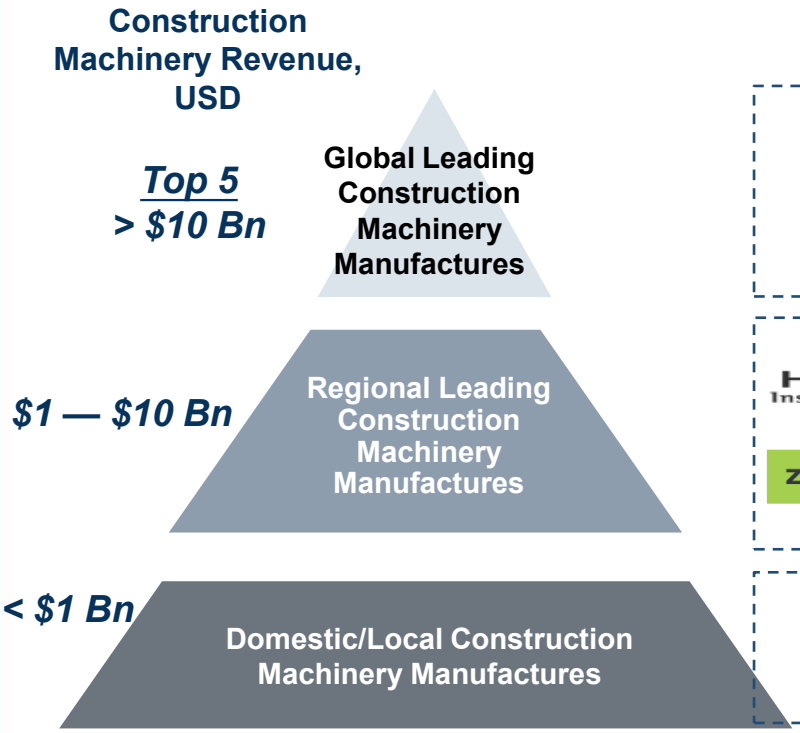
Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Competitive Analysis of Global Construction Machinery Market
Competitive Landscape Overview (1/6)

- **Leading construction machinery manufacturers in China are rapidly catching up to their international competitors**. Leading construction machinery manufacturers in China are aggressively expanding overseas business to meet future demand growth. The market share of China's construction machinery manufacturers is expected to gradually increase as their products gain recognition from overseas customers. China's leading construction machinery manufacturers have a more comprehensive business layout and have covered all major construction machinery products, which can meet the needs of a wide range of customers based on diverse product portfolio.

Competitive Landscape of Global Construction Machinery Market



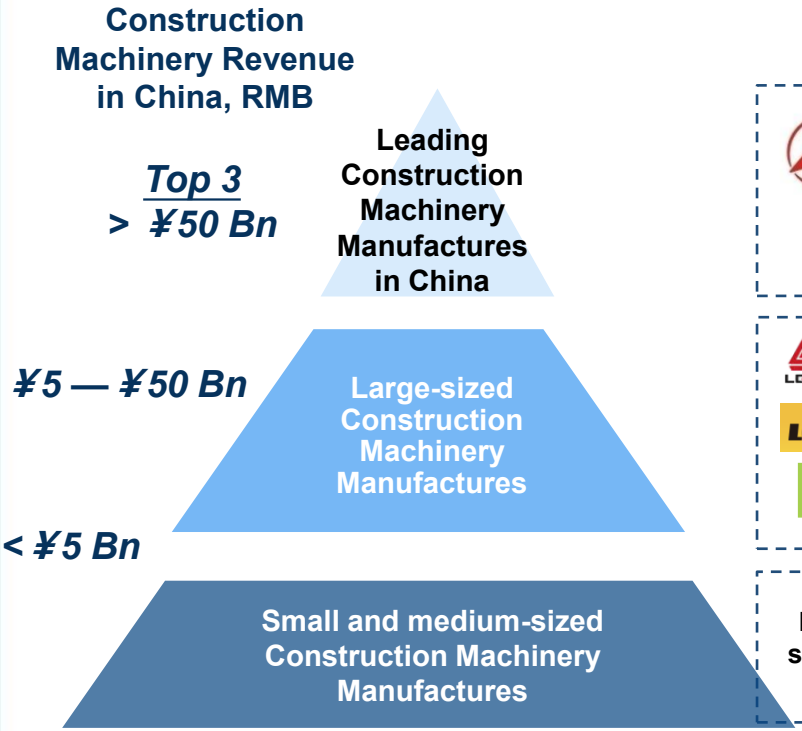
Major Players	Characteristics
SANY, XCMG 徐工集团, John Deere, Caterpillar, Komatsu	• The revenue of construction machinery business is greater than USD10 billion. • Leading market position with high-quality and comprehensive products and services, coupled with rapid development and significant growth potential.
Hitachi Inspire the Next, Volvo, Liebherr, Zoomlion, Doosan, ...	• The revenue of construction machinery business is between USD1.0 billion and USD10 billion. • Certain products from regionally dominant companies have relatively large market shares in some regions.
Small and medium-sized Construction Machinery Manufacturers	• The revenue of construction machinery business is less than USD1.0 billion. • Limited products and business coverage.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Competitive Landscape Overview (2/6)

- **The market position of Chinese construction machinery manufacturers in the domestic market has been steadily improving as product competitiveness has gained and business layout has enhanced.** Taking the excavator market as an example, domestic leading construction machinery manufacturers such as the Company have made significant investments in production technology, product design, supply chain construction, and marketing in recent years, significantly improving their market competitiveness and continuing to seize market share from foreign brands.

Competitive Landscape of Construction Machinery Market in China



Major Players

SANY
XCMG 徐工集团
临工集团 LGMG
LiuGong 柳工
LONKING 龙工
SUNWARD 山河智能
ZOOMLION
SHANTUI 让施工更简单
...

Foreign, Small and medium-sized Construction Machinery Manufacturers

Leading Position of SANY

SANY

- The Company ranked first among Chinses construction machinery manufacturers in terms of revenue.
- In terms of excavator sales volume in China, the Company is the largest excavator manufacturer, having held the top position for the past three years.
- The Company is largest concrete machinery manufacturer in China, and it has dominated the Chinese concrete machinery market for several years.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Competitive Landscape Overview (3/6)

CHINESE CONSTRUCTION MACHINERY ENTERPRISES ACCELERATING OVERSEAS EXPANSION

- In recent years, as domestic market growth has slowed, Chinese construction machinery companies have accelerated their overseas expansion to capture greater growth potential. Supported by high cost-effectiveness, strong manufacturing capabilities, localized business operation strategies, and comprehensive after-sales systems, their global competitiveness has continued to strengthen, particularly in emerging markets. Meanwhile, intensified global market competition, trade barriers, geopolitical risks, technical standard differences, and other factors also bring new challenges to Chinese companies' overseas expansion. Against this background, accelerating technological advancement, enhancing localized service networks, and amplifying brand influence are expected to become key strategies for Chinese companies in a competitive global market.

Overseas Markets Becoming Long-Term Growth Engines for Chinese Enterprises

- The overseas expansion process of Chinese construction machinery leaders, represented by Sany Heavy Industry, began in the 2000s, but has truly achieved global breakthroughs only in recent years. In the early stages, enterprises mainly relied on export trade to enter overseas markets. Whereas nowadays, more and more Chinese enterprises are deeply positioning themselves in overseas markets through localized production, international mergers and acquisitions, dealer network expansion, and other methods, to enhance global competitiveness.
- According to Frost & Sullivan, in 2024, the proportion of overseas revenue for leading Chinese construction machinery enterprises has risen notably from 10% in 2020 to 53%, with overseas markets becoming the enterprises' important growth engines for revenue.
- With the continued growth of global infrastructure investment, in the next 10 years, overseas markets will continue to be the core driving force for Chinese enterprises' business expansion. In emerging markets, Chinese brands are expected to further increase their proportion of market shares through price advantages, localized services, and financing support.

Key Factors for Success in Overseas Markets

- Against the backdrop of continuously evolving global competitive landscape, to sustain long-term competitiveness in overseas markets, enterprises must demonstrate excellence in manufacturing cost efficiency, technological innovation, localized operations, and after-sales service capabilities. These factors not only determine the enterprise's market share but also affect its sustainable development capability in different regional markets.

Manufacturing Cost Competitiveness

- Cost control is a core element of competitiveness in the global construction machinery industry. International leading enterprises enhance market competitiveness by reducing production costs while ensuring product quality through scaled production, intelligent manufacturing, and global supply chain management. Additionally, international enterprises optimize supply chains through global procurement and local manufacturing, such as Volvo Construction Equipment establishing factories in Brazil, to reduce import tariffs and logistics costs and enhance local market competitiveness.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Competitive Landscape Overview (4/6)

Cost Control Advantages of Chinese Construction Machinery Enterprises

- Chinese enterprises have more advantages in scaled production, supply chain integration, and manufacturing costs, making their products more competitive in overseas markets. Larger scale production capacity: Chinese enterprises produce over 500,000 units annually, with larger production scale compared to international peers, lower per-unit manufacturing costs than European and American enterprises, achieving scale effects. Lower labor and manufacturing costs: relying on comprehensive supply chain systems in China, Chinese enterprises have lower labor costs than European and American peers, notably reducing production costs. Stronger localized supply chain management: Chinese enterprises establish production bases in target markets, reducing logistics and raw material procurement costs. Through excellent cost control capabilities, Chinese enterprises maintain price advantages in emerging markets while penetrating high-end markets, engaging in competition with international leading enterprises.

Localized Operation Competitiveness

- International construction machinery leaders accelerate localization processes in production base layout, supply chain management, and product customization to adapt to different market demand and increase market penetration. In localized manufacturing, supply chain management, and product customization, international leading enterprises establish factories overseas locally, shortening delivery cycles, and reducing tariffs and logistics costs. They optimize local procurement and logistics systems, improve parts supply speed and service response capabilities, and launch construction machinery suitable for local markets, improving equipment adaptability and market competitiveness.

Localized Operation Advantages of Chinese Construction Machinery Enterprises.

- Chinese enterprises have more flexibility in production bases, supply chain management, and market customization, with stronger market adaptability. Local manufacturing layout with faster response: reducing transportation costs and improving market response speed by establishing factories in Europe, the Americas, Southeast Asia, and Latin America. More comprehensive local supply chain: ensuring timely delivery of parts in key markets through local warehousing, improving customer satisfaction. More precise market customization: developing equipment adapted to local environments, such as high-temperature durable excavators for the African market, anti-sand and dust equipment for the Middle East region, and decarbonized environmentally friendly models for the European and American markets, further enhancing brand awareness and market share. With faster market response capabilities, better supply chain management, and more precise product customization, Chinese enterprises' competitiveness in localized operations continues to improve.

Technological Innovation Competitiveness

- The global construction machinery industry is moving towards more efficient, environmentally friendly, and intelligent directions, with international leading enterprises continuously investing in new energy, intelligent equipment, and construction efficiency improvement to maintain market leadership. For example, international giants launched electric excavators and hybrid equipment, reducing carbon emissions and lowering long-term fuel costs; autonomous driving mining trucks can operate independently in complex mining areas, improving operation safety and construction efficiency; and intelligent construction systems can reduce construction errors, improve equipment precision, and reduce construction costs.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Competitive Landscape Overview (5/6)

Technological Innovation Advantages of Chinese Construction Machinery Enterprises.

- Chinese enterprises are making rapid breakthroughs in new energy, intelligence, and construction efficiency optimization, achieving surpassing in some fields. More economical new energy equipment: for example, electric excavators launched by Chinese enterprises are cheaper than European and American products, and more in line with emerging market demand, accelerating the popularization of new energy equipment. More advanced intelligent construction solutions: 5G remote control technology of Chinese enterprises has been widely applied in mining, infrastructure, and other fields, enhancing the intelligence levels of the equipment. More precise localized customization: targeting different market demand, Chinese enterprises launch equipment adapted to local environments, such as anti-corrosion equipment developed by XCMG in Southeast Asia, meeting construction demand in humid climates. Through breakthroughs in new energy, intelligent technology upgrades, and localized adaptation, Chinese enterprises are gradually entering high-end markets and achieving leadership in some fields.

After-Sales Service Competitiveness

- Competition in the global construction machinery industry is reflected not only in product performance and technological innovation, but also in after-sales service as a key battlefield. International leading enterprises dominate high-end markets through their global service networks and advanced intelligent operation and maintenance technologies. These enterprises ensure quick response to customer needs through dense after-sales service points covering major global markets, while using AI predictive maintenance and remote monitoring technologies to pre-warn equipment failures, reduce downtime, and enhance customer satisfaction. In comparison, Chinese construction machinery enterprises still face certain gaps in after-sales service: service network coverage remains insufficient, particularly in high-end markets, while intelligence levels require improvement, with greater precision needed in predictive maintenance and fault diagnostics; and cost control pressure is relatively high, with higher costs of parts supply and maintenance in high-end markets. Chinese construction machinery industry enterprises need to continuously improve in these aspects by expanding service networks, improving intelligence levels, and optimizing cost control, to narrow the gaps with international leading enterprises and enhance their competitiveness in global markets.

With Increased Challenges in Overseas Markets, Chinese Enterprises Need to Further Enhance Competitiveness

- Chinese construction machinery enterprises have achieved notable results in overseas markets, gradually expanding market share through high cost-effectiveness, strong manufacturing capabilities, and localized operation strategies. However, as they accelerate their overseas expansion, and seek broader development space, Chinese enterprises still need to further enhance their brands and various soft powers to respond to increasingly intense international competition.
- Brand: Chinese enterprises still have notable room for improvement in brand awareness. They need to enhance brand influence and customer trust through participating in international exhibitions, sponsoring large engineering projects, and other methods, to gradually narrow the gap with international leading enterprises.
- Deepened Localized Operations: Facing continuously rising trade barriers and technical standard restrictions in European and American countries (such as the U.S. tariffs on Chinese mechanical equipment, the EU CE certification, and the U.S. EPA emission standards), Chinese enterprises need to further strengthen localized adaptation. By establishing production bases in target markets and optimizing supply chains, they can reduce tariffs and logistics costs, enhancing market competitiveness.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Competitive Landscape Overview (6/6)

With Increased Challenges in Overseas Markets, Chinese Enterprises Need to Further Enhance Competitiveness (Con't)

- Full-Lifecycle Service: Through establishing globally unified after-sales service platforms, combined with intelligent and digital technologies, they can quickly respond to customer needs, especially provide customized services in high-end markets and large projects, comprehensively enhancing customer experience and satisfaction. At the same time, through regular customer revisits and data analysis, they continuously optimize service processes, to ensure efficient problem resolution, further enhancing customer loyalty and brand trust.
- Risk Resistance Capability: Facing uncertainties in the international trade environment, Chinese enterprises need to strengthen technological innovation and diversified layout, increase R&D investment in intelligent and electric technologies, enhance product competitiveness, and optimize global supply chain management, to enhance risk resistance capabilities.
- In the future, with Chinese enterprises' continuous improvement in localized operations, services, brands, and risk-resistance capabilities, their competitiveness in the global construction machinery market is expected to be further enhanced, with the prospect of occupying more important positions in high-end markets.

COMPETITIVE LANDSCAPE OF THE GLOBAL CONSTRUCTION MACHINERY INDUSTRY

- The global construction machinery industry is experiencing profound changes in its competitive landscape, with continuously rising market concentration, expanding market share of leading enterprises, and accelerated industry integration. Meanwhile, Chinese enterprises are rapidly narrowing the gap with international leading enterprises and achieving breakthroughs in multiple market segments. In the future, competition in the global construction machinery market is expected to become more intense, which requires enterprises to consolidate market positions and enhance competitive advantages through technological innovation, supply chain optimization, global operations, and brand building.
- In recent years, market concentration in the global construction machinery industry has continuously increased, with steadily rising market share of top enterprises. As industry competition intensifies, small- and medium-sized enterprises face notable financial, technological, and market challenges, with their survival space gradually shrinking as the market accelerates concentration toward leading enterprises .According to Frost & Sullivan, the market share of the top five global construction machinery manufacturers reached 46% in 2024, an increase of 4 percentage points compared to 2020. In the coming years, the concentration of the global market is expected to further increase, with leading companies continuing to expand their market share. The trend towards industry oligopoly is expected to become increasingly evident.

Rapid Rise of Chinese Enterprises in the Global Market

- In various core construction machinery categories, Chinese enterprises are rapidly enhancing their market competitiveness, with those in some segments already reaching global leading positions.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Competitive Landscape of Main Products Coverage

	Excavator Machinery	Concrete Machinery	Piling Machinery	Cranes	Road Machinery
					
CATERPILLAR	✓		✓		✓
KOMATSU	✓		✓		✓
SANY	✓	✓	✓	✓	✓
XCMG 徐工集团	✓	✓	✓	✓	✓
VOLVO	✓				✓

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Competitive Landscape of Major Electrification Application

	Excavator Machinery	Concrete Machinery	Cranes	Others
				
CATERPILLAR	• Electric excavator			• Electric loader • Electric dozer • Electric truck
KOMATSU	• Electric excavator			• Hybrid loader • Electric dump truck
SANY	• Electric excavator	• Electric trailer pump • Electric truck mixer	• Hybrid truck crane • New energy crawler crane	• Electric dump truck • Electric loader
XCMG 徐工集团	• Electric excavator	• Electric truck mixer		• Electric loader • Electric hook lifter garbage truck
VOLVO	• Electric excavator			• Electric loader • Electric asphalt compactor

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Analysis of Major Players Market Share – by Revenue

Ranking of Construction Machinery Manufacturers by Accumulative Revenue of Six Main Construction Machinery Categories, Global, 2020-2024*

Rank	Company Name	Country	Revenue (USD Bn)
1	Caterpillar	US	173.3
2	Komatsu	Japan	113.6
3	**Sany**	**China**	**56.5**
4	John Deere	US	53.5
5	XCMG	China	52.2

- From 2020 to 2024, in terms of the accumulative revenue of six main categories of construction machinery, the Company was the third largest construction machinery manufacturer in the world, achieving USD 56.5 billion accumulative revenue of six main categories of construction machinery. And it was also the largest construction machinery manufacturer in China by accumulative revenue of six main construction machinery categories from 2020 to 2024. In terms of revenue from the six main categories of construction machinery, the Company ranked third in 2020 and 2021, fourth in 2022, sixth in 2023, and fifth in 2024.

** The ranking includes the revenue of six main categories of construction machinery (including excavators, loaders, concrete machinery, crane machinery, pilling machinery and road machinery) for Chinese companies, while includes the whole construction machinery revenue for overseas companies due to data availability.*

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Analysis of Major Players Market Share – by Revenue

Ranking of Construction Machinery Manufacturers by Accumulative Revenue of Six Main Construction Machinery Categories, Global, 2020-2024*

Rank	Company Name	Country	Revenue (USD Bn)
1	Company A	US	173.3
2	Company B	Japan	113.6
3	**Sany**	**China**	**56.5**
4	Company C	US	53.5
5	Company D	China	52.2

- From 2020 to 2024, in the cumulative revenue ranking of the six core global construction machinery products (excavators, loaders, hoisting machinery, road machinery, concrete machinery, and piling machinery), Company A ranked first globally with US$173.3 billion, followed by Company B at US$113.6 billion. Sany Heavy Industry placed third with cumulative revenue of US$56.5 billion, leading among Chinese firms and ahead of Company C (US$53.5 billion) and Company D (US$52.2 billion). The ranking highlights a market still dominated by global leaders, though Chinese companies are steadily closing the gap through innovation and expansion.

**The ranking includes the revenue of six core categories of construction machinery (including excavators, loaders, concrete machinery, hoisting machinery, piling machinery, and road machinery) for Chinese companies, while including the whole construction machinery revenue for overseas companies due to data availability.*

Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Analysis of Major Players Market Share – by Revenue

Ranking of Construction Machinery Manufacturers by Revenue of Six Main Construction Machinery Categories*, Global, 2024*

Rank	Company Name	Country	Revenue (USD Bn)
1	Caterpillar	US	37.8
2	Komatsu	Japan	24.7
3	John Deere	US	11.6
4	Liebherr	Germany	9.5
5	**Sany**	**China**	**8.8**

- In 2024, the Company ranked as the world's fifth largest construction machinery manufacturer by revenue of six main categories of construction machinery, which accounted for USD 8.8 billion. The Company was also the largest machinery manufacturer in China by revenue of six main categories of construction machinery.

** The ranking includes the revenue of six main categories of construction machinery (including excavators, loaders, concrete machinery, crane machinery, pilling machinery and road machinery) for Chinese companies, while includes the whole construction machinery revenue for overseas companies due to data availability.*

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Analysis of Major Players Market Share – by Revenue

Ranking of Construction Machinery Manufacturers by Accumulative Revenue, Global, 2015-2024

Rank	Company Name	Country	Revenue (USD Bn)
1	Caterpillar	US	311.9
2	Komatsu	Japan	202.9
3	**Sany**	**China**	**93.9**
4	John Deere	US	89.9
5	XCMG	China	89.1

- From 2015 to 2024, based on the accumulative revenue of global construction machinery, the Company was the third largest construction machinery manufacturer in the world, generating an accumulative revenue of USD93.9 billion. Also, the Company was the largest construction machinery manufacturer in China by accumulative revenue from 2015 to 2024.

** Measured accumulatively over the last full industry cycle (with 2015 as the start of the previous cycle and 2024 as the end of the previous cycle)*

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Analysis of Major Players Market Share – by Revenue

Ranking of Construction Machinery Manufacturers by Accumulative Revenue of Six Main Construction Machinery Categories, Global, 2022-2024*

Rank	Company Name	Country	Revenue (USD Bn)
1	Caterpillar	US	116.4
2	Komatsu	Japan	73.3
3	John Deere	US	35.9
4	Volvo CE	Sweden	28.2
5	**Sany**	**China**	**27.7**

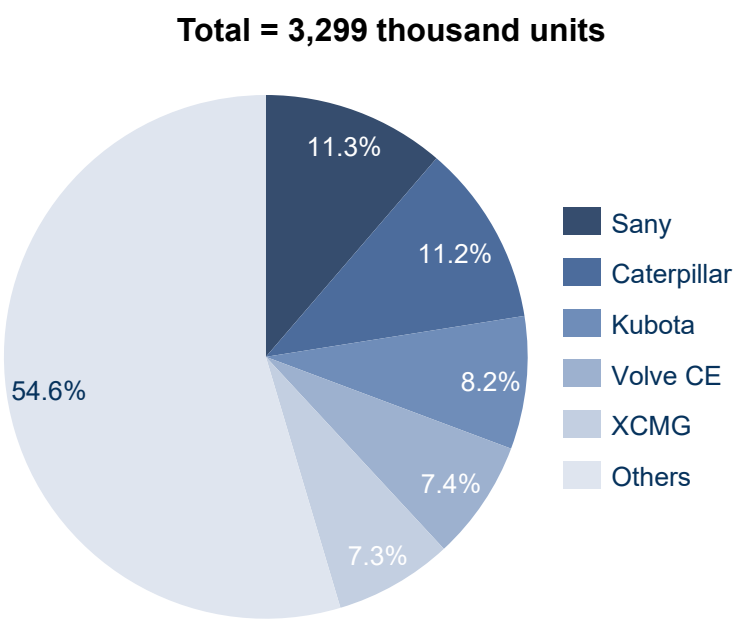
- From 2022 to 2024, in terms of the accumulative revenue of six main categories of construction machinery, the Company was the 5th largest construction machinery manufacturer in the world, achieving USD27.7 billion accumulative revenue of six main categories of construction machinery. And it was also the largest construction machinery manufacturer in China by accumulative revenue of six main construction machinery categories from 2022 to 2024.

** The ranking includes the revenue of six main categories of construction machinery (including excavators, loaders, concrete machinery, crane machinery, pilling machinery and road machinery) for Chinese companies, while includes the whole construction machinery revenue for overseas companies due to data availability.*

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Analysis of Major Players Market Share – by Excavator Sales Volume

Market Share of Excavator Manufacturers Accumulative by Sales Volume, Global, 2020-2024



Ranking of Excavator Manufacturers by Accumulative Sales Volume, Global, 2020-2024

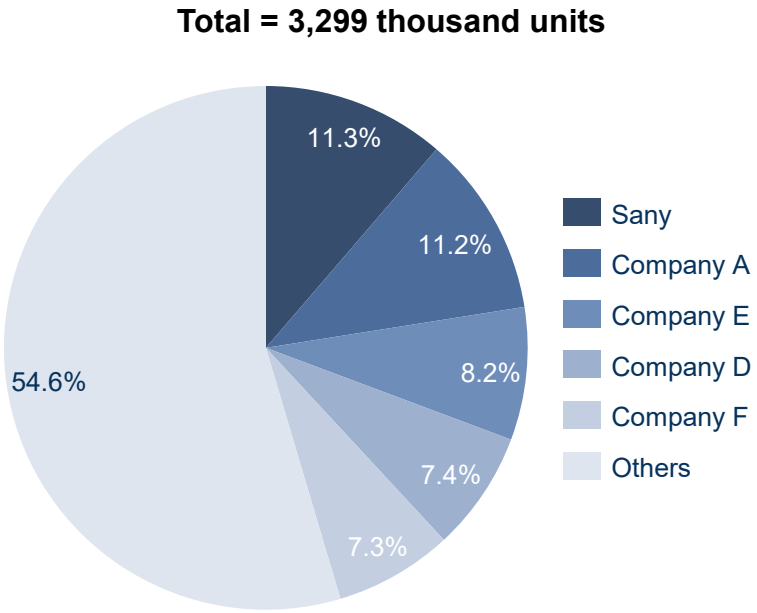
Rank	Company Name	Country	Sales Volume (thousand units)	Market Share
1	**Sany**	**China**	**380**	**11.3%**
2	Caterpillar	The U.S.	376	11.2%
3	Kubota	Japan	270	8.2%
4	XCMG	China	243	7.4%
5	Volve CE	Sweden	240	7.3%
	Others		1,791	54.6%
	Total		**3,299**	100.0%

- From 2020 to 2024, the accumulative sales volume of global excavator market reached at 3,299 thousand units. The top five excavator manufacturers, in terms of accumulative sales volume, accounted for 45.8% market share of global excavator market.
- From 2020 to 2024, in terms of accumulative excavator sales volume, the Company was the world's largest excavator manufacturer with 380 thousand excavators sold accumulatively, accounting for 11.5% of the global market share. In terms of excavator sales volume, the company ranked first globally in 2020, 2021, and 2022, and second in 2023 and 2024, with market shares of 13.0%, 13.3%, 11.2%, 8.8%, and 9.2%, respectively.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Analysis of Major Players Market Share – by Excavator Sales Volume

Market Share of Excavator Manufacturers Accumulative by Sales Volume, Global, 2020-2024



Ranking of Excavator Manufacturers by Accumulative Sales Volume, Global, 2020-2024

Rank	Company Name	Country	Sales Volume (thousand units)	Market Share
1	**Sany**	**China**	**380**	**11.3%**
2	Company A	The U.S.	376	11.2%
3	Company E	Japan	270	8.2%
4	Company D	China	243	7.4%
5	Company F	Sweden	240	7.3%
	Others		1,791	54.6%
	Total		**3,299**	100.0%

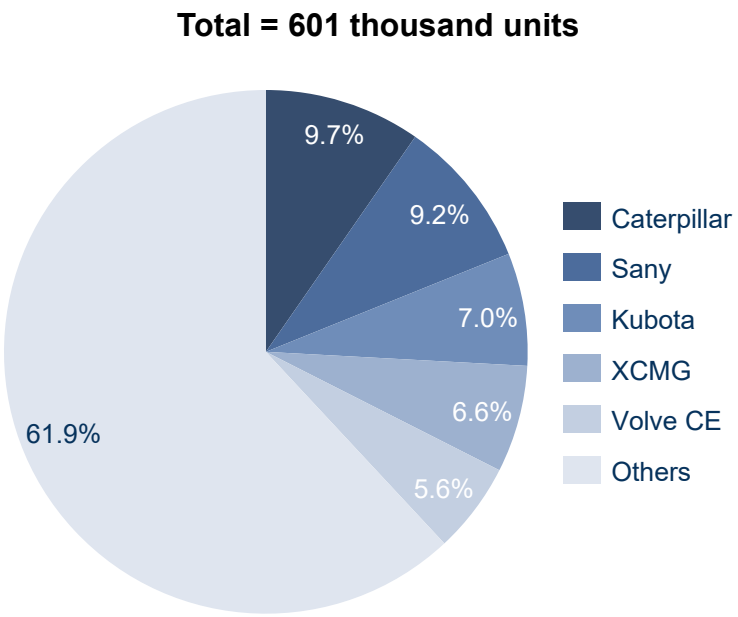
- Excavators represent one of the most competitive segments in the global construction machinery industry, long dominated by international companies such as Company A and Company E. However, in recent years, Chinese companies have continuously increased their global market shares. From 2020 to 2024, the cumulative sales volume of the global excavator market reached 3,299 thousand units, with Sany Heavy Industry ranking first globally with 380,000 units sold, accounting for 11.3% of the market, ahead of Company A (376,000 units, 11.2%) and Company E (270,000 units, 8.2%). Company D ranked fourth with cumulative sales volume of 243,000 units and a 7.4% share. These figures reflect the growing global presence and competitive position of Chinese brands. The top five manufacturers together hold 45.4% of the market share, demonstrating the high concentration of global leaders in the industry. In the future, with the growth of emerging market demand and the popularization of intelligent technologies, the competitive landscape of the excavator market will further evolve.

Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Analysis of Major Players Market Share – by Excavator Sales Volume

Market Share of Excavator Manufacturers by Sales Volume, Global, 2024



Ranking of Excavator Manufacturers by Sales Volume, Global, 2024

Rank	Company Name	Country	Sales Volume (thousand units)	Market Share
1	Caterpillar	The U.S.	58	9.7%
2	**Sany**	**China**	**55**	**9.2%**
3	Kubota	Japan	42	7.0%
4	XCMG	China	40	6.6%
5	Volve CE	Sweden	34	5.6%
	Others		372	61.9%
	Total		**601**	100.0%

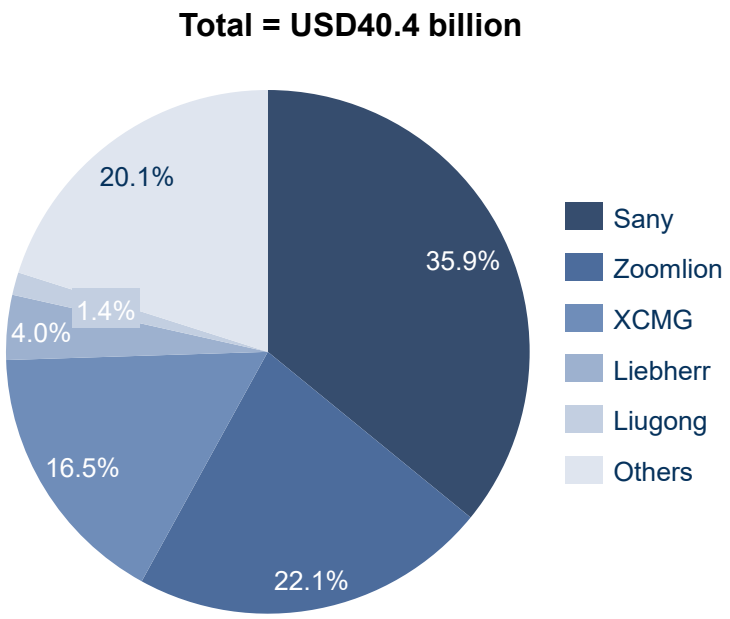
- In 2024, the sales volume of global excavator market reached at 601 thousand units. The top five excavator manufacturers, in terms of sales volume, accounted for 38.1% market share of global excavator market in 2024.
- The ranking of the Company in the global excavator market has also been significantly improved. In 2011, the Company sold 21 thousand excavators, making it the largest excavator manufacturer in China for the first time, with a 2.4% global market share. In 2024, in terms of excavator sales volume, the Company was the world's second largest excavator manufacturer with over 55 thousand excavators sold, accounting for 9.2% of the global market share.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Analysis of Major Players Market Share – by Concrete Machinery Revenue

Market Share of Concrete Machinery Manufacturers by Accumulative Revenue, Global, 2020-2024



Ranking of Concrete Machinery Manufacturers by Accumulative Revenue, Global, 2020-2024

Rank	Company Name	Country	Revenue (USD Bn)	Market Share
1	**Sany**	**China**	**14.5**	**35.9%**
2	Zoomlion	China	8.9	22.1%
3	XCMG	China	6.7	16.5%
4	Liebherr	Germany	1.6	4.0%
5	Liugong	China	0.6	1.4%
	Others		8.1	20.1%
	Total		**40.4**	100.0%

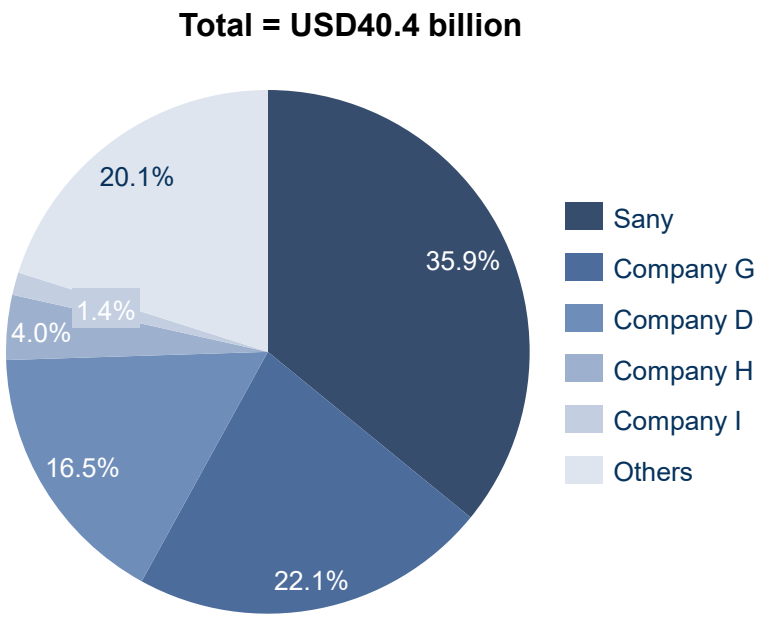
- From 2020 to 2024, the accumulative revenue of the global concrete machinery market reached USD 40.4 billion. The top five excavator manufacturers, in terms of accumulative sales volume, accounted for 79.9% of the market share in the global concrete machinery market.
- From 2020 to 2024, in terms of accumulative revenue, **the Company was the world's largest concrete machinery manufacturer**, with USD 14.5 billion in accumulative revenue, accounting for 35.9% of the global market share.
- In terms of revenue, the Company ranked as the world's largest concrete machinery manufacturer in 2020, 2021, 2022, 2023, and 2024, with market shares of 35.9%, 40.3%, 36.1%, 32.3%, and 31.5%, respectively.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Analysis of Major Players Market Share – by Concrete Machinery Revenue

Market Share of Concrete Machinery Manufacturers by Accumulative Revenue, Global, 2020-2024



Ranking of Concrete Machinery Manufacturers by Accumulative Revenue, Global, 2020-2024

Rank	Company Name	Country	Revenue (USD Bn)	Market Share
1	**Sany**	**China**	**14.5**	**35.9%**
2	Company G	China	8.9	22.1%
3	Company D	China	6.7	16.5%
4	Company H	Germany	1.6	4.0%
5	Company I	China	0.6	1.4%
	Others		8.1	20.1%
	Total		**40.4**	100.0%

- The concrete machinery market presents a highly concentrated competition landscape, with Chinese companies holding a dominant position. From 2020 to 2024, the cumulative revenue of the global concrete machinery market reached US$40.4 billion, with Sany Heavy Industry ranking first globally in concrete machinery with cumulative revenue of US$14.5 billion in revenue and a 35.9% market share. Company G followed with cumulative revenue of US$8.9 billion (22.1%), and Company D ranked third with cumulative revenue of US$6.7 billion (16.5%). Together, the top three account for over 74.5% of the market, underscoring the dominance of Chinese companies in this segment. Company H (Germany) and Company I (China) ranked fourth and fifth, with 4.0% and 1.4% market share, respectively. This concentration highlights the strong competitive position Chinese firms have established, one that is increasingly difficult for international peers to challenge. Continued global infrastructure and urbanization are expected to support further growth and consolidation.

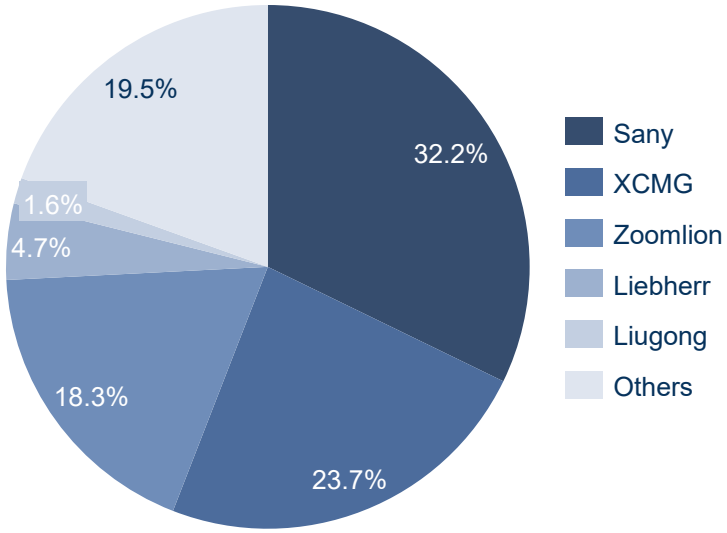
Source: Interviews with Industry Experts, Public Information, Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Analysis of Major Players Market Share – by Concrete Machinery Revenue

Market Share of Concrete Machinery Manufacturers by Revenue, Global, 2024

Total = USD6.4 billion



Ranking of Concrete Machinery Manufacturers by Revenue, Global, 2024

Rank	Company Name	Country	Revenue (USD Bn)	Market Share
1	**Sany**	**China**	**2.0**	**32.2%**
2	XCMG	China	1.5	23.7%
3	Zoomlion	China	1.2	18.3%
4	Liebherr	Germany	0.3	4.7%
5	Liugong	China	0.1	1.6%
	Others		1.3	19.7%
	Total		**6.4**	100.0%

- In 2024, the market size of global concrete machinery market reached at USD 6.4 billion. The top five excavator manufacturers, in terms of revenue, accounted for 80.3% market share of global concrete machinery market in 2024.
- **The Company was the largest concrete machinery manufacturer in the world** with revenue of USD2.0 billion in 2024.
- **The Company was the largest concrete machinery manufacturer in China in 2024.**

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market

Leading Position of SANY in Construction Machinery Market (1/5)

Leading Position of SANY

Position of Chinese Enterprises in Global Market Segments

- From a segment perspective, Sany Heavy Industry is a global leader in excavators and concrete machinery. Company H has a strong presence in hoisting machinery. Companies C and J hold significant market share in road machinery, while Companies K and L are leading suppliers in piling machinery.

Cranes

- The global hoisting machinery market is dominated by traditional overseas industrial powerhouses, such as European countries and regions, with longstanding technological and brand strength. Currently, leading overseas companies like Company H occupy a relatively dominant position, with the top five companies having a market concentration of 57%, making the market relatively concentrated. However, with the development of Chinese hoisting machinery manufacturers in the fields of globalization and electric technology innovation, it is expected that the global hoisting machinery market will gradually improve its position. From 2020 to 2024, the cumulative revenue in the global hoisting machinery market reached US$163.2 billion, with Sany Heavy Industry ranking eighth globally with US$11.7 billion in revenue, accounting for 7% of the proportion of market share. In terms of hoisting machinery revenue, the company ranked sixth, fifth, eighth, ninth, and eighth in each year from 2020 to 2024, with market shares of 7.9%, 9.9%, 6.1%, 5.7%, and 6.0%, respectively.

Road Machinery

- Global road machinery has seen significant consolidation through mergers and acquisitions, resulting in a highly concentrated competitive landscape. The top five companies have a market concentration of 77%, with leading American and European companies like Company C and Company J occupying a relatively dominant position. From 2020 to 2024, the cumulative revenue in the global road machinery market reached US$41.5 billion, with Sany Heavy Industry ranking seventh globally with US$2.1 billion in revenue, accounting for 5% of the proportion of market share. However, with the innovation breakthroughs of Chinese companies in the fields of electrification and intelligence in road machinery, as well as the acceleration of globalization strategies, the global road machinery market landscape is expected to be reshaped in the future. In terms of road machinery revenue, the company ranked sixth in 2020 and 2021, and seventh in 2022, 2023, and 2024, with market shares of 6.0%, 5.2%, 4.8%, 3.9%, and 5.0%, respectively.

Piling Machinery

- The global piling machinery market features a diverse product range and a highly concentrated competitive landscape, with the top five companies having a market concentration of 71%. Over the years, European, American, and Japanese players like Company K and Company L have maintained a dominant presence in overseas markets, backed by longstanding technological expertise, global reach, and strong brand influence. From 2020 to 2024, the global piling machinery market generated US$36.7 billion in revenue, with Sany Heavy Industry ranking sixth globally with US$2.8 billion, representing an 8% market share. Chinese companies are steadily gaining ground. As overseas expansion continues and intelligent, low-carbon technologies advance, their global market share is expected to grow further. In terms of sales volume in 2024, we ranked top three in China, according to Frost & Sullivan. In terms of piling machinery revenue, the company ranked fifth in 2020 and 2021, sixth in 2022, and seventh in 2023 and 2024, with market shares of 7.6%, 6.5%, 9.5%, 9.5%, and 8.5%, respectively.

Competitive Analysis of Global Construction Machinery Market
Leading Position of SANY in Construction Machinery Market (2/5)

Leading Position of SANY

Others Leading Position

- 2000: Ranked first in China by market share in both the trailer pump and pump truck markets
- 2011: Ranked first in China in terms of annual sales volume of excavators for the first time and ranked first globally in terms of annual sales revenue of concrete machinery for the first time
- 2019: Ranked among the top three construction machinery companies globally in terms of annual revenue
- 2020: Ranked first globally in terms of annual sales volume of excavators for the first time
- 2021: Our Beijing Piling Machinery Plant was recognized by the World Economic Forum as the first Lighthouse Factory in the global construction machinery industry. Debuted on the Fortune Global 500 list
- 2022: Our Changsha No. 18 Plant was recognized by the World Economic Forum as the second Lighthouse Factory in the global construction machinery industry
- 2024: Our overseas revenue exceeded 60% of our total revenue, significantly surpassing our domestic peers
- In 2024, we successfully launched more than 40 new energy products, including excavators, loaders, pump trucks, mixer trucks and cranes. In the sectors covered by our products, the variety of our new energy products surpasses that of our competitors, according to Frost & Sullivan.
- The research and development expenses as the percentage of our revenue surpasses the average level of our global peers during the same period, according to Frost & Sullivan.
- It also significantly reduces the cost of spare parts, enabling us to maintain an industry-leading gross margin, according to Frost & Sullivan.
- In the sectors covered by our products, the variety of our new energy products surpasses that of our competitors, according to Frost & Sullivan.
- Both the contribution and the growth rate of our overseas revenue continue to outpace the industry average in China, according to Frost & Sullivan.
- It also significantly reduces the cost of spare parts, enabling us to maintain an industry-leading gross margin, according to Frost & Sullivan.
- According to Frost & Sullivan, our revenue, profitability and operational quality have consistently maintained a leading position in the industry, continuously creating value for our shareholders.
- According to Frost & Sullivan, among Chinese construction machinery companies, we have achieved the highest level of globalization in terms of overseas revenue contribution.

Competitive Analysis of Global Construction Machinery Market
Leading Position of SANY in Construction Machinery Market (3/5)

Leading Position of SANY

Others Leading Position (Con't)

- With our rigorous customer qualification reviews, standardized contractual provisions and receivables tracking as well as dynamically-optimized production to sales ratio, our core financial indicators continue to lead the industry, with operating cash flow, payments collection ratio, accounts receivable turnover and inventory turnover significantly outperforming the industry average, according to Frost & Sullivan.
- We are a global leader in excavating machinery. According to Frost & Sullivan, (i) in terms of cumulative sales volume of excavating machinery from 2020 to 2024, our global market share was 11.3%, ranking us first globally; and (ii) in terms of sales volume of excavating machinery in 2024, our market share in China was 24%, ranking us first in China since 2011 for 14 consecutive years.
- We are a global leader in concrete machinery. According to Frost & Sullivan, (i) in terms of cumulative sales revenue of concrete machinery from 2020 to 2024, our global market share was 35.9%, ranking us first globally; and (ii) in terms of the annual sales revenue of concrete machinery, we have been ranking first globally since 2011 for 14 consecutive years.
- According to Frost & Sullivan, (i) in terms of cumulative sales revenue of hoisting machinery from 2020 to 2024, our global market share was 7%, ranking us among the top eight globally, (ii) in terms of the sales revenue in 2024, our global market share was 6%, (iii) in terms of sales revenue of hoisting machinery, our overseas market share increased from 3% in 2022 to 4% in 2023, and further increased to 5% in 2024, (vi) in terms of sales volume of hoisting machinery in 2024, we ranked top three in China, and (v) in terms of the sales volume in 2024, the market share of our crawler cranes in China exceeded 40%, ranking us first in China.According to Frost & Sullivan, based on the revenue contribution of new energy products in 2024, we ranked among one of the world's most advanced leaders in decarbonization in the construction machinery industry. In 2024, the revenue from our new energy construction machinery products was approximately RMB4,025.0 million, with the contribution ratio significantly exceeding the global industry average, according to Frost & Sullivan. In terms of sales volume in 2024, we ranked first in China for various new energy products, including electric excavators, electric mixer trucks and electric dump trucks, according to Frost & Sullivan.
- According to Frost & Sullivan, in terms of the sales volume in 2024, the market share of our excavators in the overseas markets was 6%, ranking us among the top five globally. In addition, in terms of sales revenue of hoisting machinery, our overseas market share increased from 3% in 2022 to 5% in 2024, according to Frost & Sullivan.
- Our overseas revenue increased from RMB36,788.7 million in 2022 to RMB48,861.7 million in 2024, representing a CAGR of 15.2% from 2022 to 2024. In 2024, our overseas markets contributed 62.3% of our total revenue, significantly surpassing our peers in China, according to Frost & Sullivan.
- We possess one of the largest international workforces among construction machinery companies in China.

Competitive Analysis of Global Construction Machinery Market
Leading Position of SANY in Construction Machinery Market (4/5)

Leading Position of SANY

Others Leading Position (Con't)

- For example, our excavators were the first in China to meet Euro 5 emission standards and obtain the EU CE certificate, while our electric mixer truck was China's first electric construction vehicle to pass the EU's WVTA certification and secure access to the European market, according to Frost & Sullivan.
- According to Frost & Sullivan, we have successfully established one of the most extensive overseas sales network among the construction machinery companies in China.
- According to Frost & Sullivan, based on the revenue contribution of new energy products in 2024, we ranked among one of the world's advanced leaders in decarbonization in the construction machinery industry.
- According to Frost & Sullivan, (i) in terms of cumulative sales revenue of road machinery from 2020 to 2024, our global market share was 5%, ranking us among the top seven globally, (ii) in terms of sales volume of road machinery in 2024, we ranked top three in China, (iii) in terms of the sales volume of asphalt batching plants in 2024, we ranked first in China, and (iv) in terms of the sales volume of pavers in 2024, we ranked second in China.
- Given our technological advantages in the sector of truck-mounted pumps, our fire trucks can achieve fire suppression in the case of high-rise buildings from a distance, which is the first of its kind in the industry, according to Frost & Sullivan.
- Our crane smart operation solution is leading the digital transformation of the hoisting machinery sector, providing digital management capabilities, according to Frost & Sullivan.
- According to Frost & Sullivan, it is not uncommon for business utilizing distribution model in China to hold minority equity interests in distributors.
- According to Frost & Sullivan, our insurance coverage during the Track Record Period and up to the Latest Practicable Date was in line with industry practices.
- According to Frost & Sullivan, China is a pivotal market in the global construction machinery industry. In 2024, in terms of sales revenue, the market size of the core construction machinery segments in China accounted for 11.6% of the global market, and we hold a leading position in the construction machinery market in China, with a market share of 18.4% in 2024.
- According to Frost & Sullivan, the market share of our core construction machinery segments in the overseas market, measured by sales revenue, has steadily increased from 3.8% in 2022 to 4.6% in 2024, with significant growth potential that will further drive our revenue growth.

Competitive Analysis of Global Construction Machinery Market
Leading Position of SANY in Construction Machinery Market (5/5)

Leading Position of SANY

Others Leading Position (Con't)

- According to Frost & Sullivan, it is not uncommon for construction machinery companies in China to provide finance lease and mortgage loan as payment options to customers/buyers, mainly attributable to advantages in industry expertise as well as their capability to manage risk.
- According to Frost & Sullivan, it is not uncommon for businesses using distribution models in China to jointly provide guarantees with distributors for end customers' repayment obligations to financial institutions.
- According to Frost & Sullivan, it is not uncommon for businesses using distribution models in China to hold minority equity interests in distributors.
- According to Frost & Sullivan, our utilization rate during the Track Record Period was relatively higher than the industry average.
- According to Frost & Sullivan, the criteria and requirements to become a "Lighthouse Factory" are comprehensive, which include integrating advanced industry 4.0 technologies, high operational efficiency and lean manufacturing, ESG-driven sustainability practices and talent development to address workforce challenges.

Competitive Analysis
Appendix

Note:

Company A established in 1925 is a company listed on NYSE and headquartered in Illinois, The U.S., and main products include excavators, piling machinery, loaders, and off-highway trucks.
Company B established in 1921 is a company listed on TSE and headquartered in Tokyo, Japan, and main products include excavators, pavement machinery, and loaders.
Company C established in 1837 is a company listed on NYSE and headquartered in Illinois, The U.S., and main products include construction machinery and agricultural machinery.
Company D established in 1943 is a company listed on SZSE and headquartered in Jiangsu, China, and main products include excavators, concrete machinery, and hoisting machinery.
Company E established in 1890 is a company listed on TSE and headquartered in Osaka, Japan, and main products include tractors, agricultural machinery, construction equipment, engines, and water treatment systems.
Company F established in 1832 is a company headquartered in Vastra Gotaland, Sweden, and main products include excavators, pavement machinery, and loaders.
Company G established in 1992 is a company listed on SZSE and headquartered in Hunan, China, and main products include concrete machinery, hoisting machinery, road machinery, and agricultural equipment.
Company H established in 1949 is a company headquartered in Fribourg, Switzerland, and main products include concrete machinery and hoisting machinery.
Company I established in 1958 is a company listed on SZSE and headquartered in Guangxi, China, and main products include wheel loaders, excavators, bulldozers, motor graders, and forklifts.
Company J established in 1957 is a company headquartered in Nouvelle-Aquitaine, France, and main products include road construction equipment, civil engineering services, and energy infrastructure solutions.
Company K established in 1790 is a company headquartered in Bavaria, Germany, and main products include foundation construction equipment, construction services, and groundwater management solutions.
Company L established in 1970 is a company listed on TSE and headquartered in Tokyo, Japan, and main products include hydraulic excavators, wheel loaders, and mining dump trucks.

Competitive Analysis of Global Construction Machinery Market
Profiles of Major Competitors (1/5)

Caterpillar Inc.		Established Year	1925
CATERPILLAR		Business Description	Caterpillar is the world's leading manufacturer of construction and mining machinery. Caterpillar brands include offerings of machines, engines, components, services and solutions to meet the unique needs of a variety of industries and customers around the world.
		Major Products	Excavator, Piling Machinery, Loaders, Off-highway trucks, etc.
		Revenue of Construction Machinery	USD37.8 billion (2024)
Headquarter	Illinois, US	Market Coverage	160 dealers in 197 countries

Komatsu Ltd.		Established Year	1921
KOMATSU		Business Description	Komatsu is a leading manufacturer of construction, mining, forestry, and industrial machinery.
		Major Products	Excavator, Pavement Machinery, Loaders, etc.
		Revenue of Construction Machinery	USD24.7 billion (2024)
Headquarter	Tokyo, Japan	Market Coverage	Komatsu facilities, distributors and dealers are in 150 countries

Note: Financial data for competitors may be updated per disclosures in annual reports.

Source: Company reports, Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Profiles of Major Competitors (2/5)

Xuzhou Construction Machinery Group Co., Ltd. (XCMG)			
XCMG 徐工集团		Established Year	1943
		Business Description	XCMG is a Chinese multinational state-owned construction machinery manufacturing company.
		Major Products	Excavator, Concrete Machinery, Hoisting Machinery, etc.
		Revenue of Construction Machinery	USD13.5 billion (2024)
Headquarter	Jiangsu, China	Market Coverage	More than 280 overseas dealers over 190 countries

Volvo Construction Machinery (Volvo CE)			
VOLVO		Established Year	1832
		Business Description	Volvo CE is among the world's leading manufacturers of articulated haulers and wheel loaders, and one of the world's leading manufacturers of excavation machinery, road development machines and compact construction machinery.
		Major Products	Excavator, Pavement Machinery, Loaders, etc.
		Revenue of Construction Machinery	USD8.4 billion (2024)
Headquarter	Gothenburg, Sweden	Market Coverage	More than 980 dealers in over 150 countries

Note: Financial data for competitors may be updated per disclosures in annual reports.

Source: Company reports, Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Profiles of Major Competitors (4/5)

Liebherr Group		Established Year	1949
LIEBHERR		Business Description	Liebherr is a German-Swiss multinational construction machinery manufacturer, with its main production facilities and origins in Germany.
		Major Products	Concrete Machinery, Hoisting Machinery, etc.
		Revenue of Construction Machinery	USD9.5 billion (2024)
Headquarter	Bulle, Switzerland	Market Coverage	Liebherr Group now comprises over 150 companies in more than 50 countries

John Deere Co.		Established Year	1837
JOHN DEERE		Business Description	The largest manufacturer of agricultural machinery in the world and the second largest manufacturer of construction machinery in the world.
		Major Products	Construction machinery, Agricultural machinery, etc.
		Revenue of Construction Machinery	USD11.6 billion (2024)
Headquarter	Moline, America	Market Coverage	John Deere has facilities in more than 30 countries and market its products in more than 160 countries and regions

Note: Financial data for competitors may be updated per disclosures in annual reports.

Source: Company reports, Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Entry Barriers Analysis

1

Technology Barrier

- The industry is also technology-intensive, with long-term competitiveness closely tied to R&D strength. As electrification, intelligence, and digitalization accelerate, technology barriers continue to rise. Leading players build strong moats through sustained R&D and advanced technologies like intelligent driving, remote control, and data analytics — posing significant challenges for new entrants.

2

Brand Barrier

- Brand awareness and industry reputation are also important factors in customer purchasing decisions. Global leaders have built strong customer trust through years of market presence, consistent product quality, and reliable service capabilities, strengthening their resilience against market cycles. In contrast, new entrants face significant challenges in achieving comparable brand recognition in the short term, making it difficult to gain customer traction.

3

Channel Barrier

- Building sales networks is costly and time-intensive, but essential for market coverage and customer access. Global leaders have established mature dealer systems and formed stable partnerships, with the ability to quickly respond to customer needs. New players would find it difficult to replicate their global layout and channel depth in the short term, facing practical bottlenecks in channel expansion.

Source: Frost & Sullivan

Competitive Analysis of Global Construction Machinery Market
Entry Barriers Analysis

4 **Capital Barrier**

- The industry demands huge capital investment and long payback periods, particularly in design, production lines, and raw material procurement. New entrants with limited capital face high upfront costs and significant financial risk, posing major barriers to rapid market entry.

5 **Advanced Manufacturing Capacity and Industry Expertise Barrier**

- Strong manufacturing capabilities and deep industry experience are key to competitiveness. Global leaders leverage automated production lines and rigorous quality control to meet customization needs and ensure efficient, consistent delivery. These advantages are difficult for new entrants to replicate quickly, making it challenging to match production efficiency and cost control.

6 **Supply Chain Barrier**

- Construction machinery involves numerous components (such as chassis, hydraulic systems, engines, slewing bearings, etc.), requiring high stability in the supply chain. Global leaders typically maintain years of cooperation with global quality suppliers, and build efficient, low-cost procurement systems. New entrants, lacking supply chain foundations and experience in dealing with unexpected issues, would find it time-consuming and costly to build a mature system.

7 **After-sales Services Barrier**

- Construction machinery products typically have high unit prices and long usage cycles, requiring high after-sales guarantees. Global leaders have established comprehensive service points and parts networks worldwide, providing round-the-clock maintenance and fault response services, greatly enhancing customer satisfaction and loyalty. New entrants need to invest notable time and resources to establish comparable service systems, making it difficult to compete in the short term.

Source: Frost & Sullivan

Thank You

Partner with you on the Road to Growth