

# Business Overview

## Telecommunications Services (TSS)

# New Generation Fixed Line Services



Year 2003 saw PCCW's Telecommunications Services (TSS) division begin a reinvention of the fixed-line telephone experience in Hong Kong.

With the launch of our New Generation Fixed Line Services in July 2003, the phone in the home and office entered the world of information communications technology – alongside the mobile phone, PC and handheld devices.

Then in September 2003, the Company launched its groundbreaking pay-TV service, NOW Broadband TV.

Phonelines into the home were empowered to deliver fast Internet access and high-quality television, as well as telephone and fax services – all at the same time.

Customers responded positively and rapidly. By year-end 2003 – a little over five months after launch – more than 650,000 residential and business lines had subscribed to

New Generation Fixed Line Services. NOW Broadband TV too achieved early popularity, with more than 200,000 residential customers signing up for service in the four months to December 31, 2003.

The TSS division continued to revolutionize Hong Kong's telephone and Internet experience in November 2003 with the launch of PCCW Convergence.

With simplicity, priority and mobility as its watchwords, PCCW Convergence enables busy executives to optimize their office communications anywhere, anytime.

A common theme throughout our 2003 launches was the PCCW message to customers: *Accept no less!*

In starting a trend for the fixed-line phone to play a greater role in everyday Hong Kong life, PCCW experienced a slowing in churn among residential and business customers. This was evidenced by a 25 percent reduction in net line loss between the first and second halves of 2003.

In November 2003, a user survey of network service providers run by the Gartner research and advisory firm rated PCCW first out of 20 operators across Asia, including Japan, in terms of quality of local-access lines.

Gartner stated: 'PCCW was a solid provider, with top marks for reliability, performance, installation and repairs.'

The survey also rated PCCW highly in quality provision of international leased lines, international frame relay and international ATM (asynchronous transfer mode).

In mainland China, the PCITC venture involving PCCW and China Petroleum and Chemical Corporation (Sinopec) continued to serve Sinopec's IT needs in 2003, while pursuing opportunities throughout China's petrochemical industry. PCITC is 45 percent owned by PCCW, with Sinopec holding 55 percent.

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The imagery that captures the all-embracing functionality of PCCW Convergence has become well known to the Hong Kong business community through our marketing campaign themed 'Orchestrating Communications in One View, One Experience'.



**PCCW Convergence** allows busy executives to prioritize all calls and messages at the click of a mouse – in the office or on the move. Delivered over PCCW's IP virtual private network (IP-VPN) and integrated with popular email clients, this new breed of service brings office communications together into one onscreen view – in English or Chinese.

### Local Telephony

Rather than take part in a price war, as competitors fought over market share in 2003, PCCW's strategy has been to innovate, add value and maintain high quality of service to win and retain customers.

For example, New Generation Fixed Line Services now enable customers to enjoy SMS (short messaging service) and information downloads onto large-screen phones. Our fixed-line SMS offering was the first of its kind in the world, in terms of its dual-language facility.

Another new generation service is our network-based Personal Assistant to store personal and corporate directories and dial numbers by voice command.

In addition, businesses can improve relationships with their customers by using our network's Auto Receptionist to greet and relay incoming calls.

Approximately 447,000 residential lines and 208,000 business lines subscribed to New Generation Fixed Line Services in the last five-and-a-half months of 2003 following the July launch.

By December 31, 2003, more than 70 percent of residential lines and 62 percent of business lines that had adopted New Generation Fixed Line Services were using the features.

TSS is planning to launch a cordless SMS phone in 2004 and create a fixed-line SMS culture in Hong Kong by encouraging extensive use of this new communications medium.

The division is also exploring further potential in the infotainment it delivers to phone screens, with more variety planned for 2004.

Already, customers access content as diverse as soccer gaming odds, news, weather, downloadable home-cooking menus and extracts from popular Hong Kong radio chat shows.

In transforming the fixed-line phone into a multi-application communications tool, PCCW will continue to explore potential to offer more features such as closed-user-group messaging and gaming services.

A marketing campaign themed 'Orchestrating Communications in One View, One Experience' was pitched at Hong Kong's business community following the November launch of PCCW Convergence.

This new breed of service, delivered over PCCW's IP-VPN and integrated with popular email clients, brings together fixed and mobile phones, voicemail, email and fax into one onscreen view in English or Chinese. PCCW Convergence allows busy executives to prioritize all calls and messages at the click of a mouse – in the office or on the move.

Further development of the service will include a cross-border feature for companies with business in mainland China, and a customer-owned IP-PABX solution for large enterprises.

Although year 2003 saw an overall decline in our share of the fixed-line market, progress in winning back customers showed as an increase in the numbers of residential and business-line customers returning to PCCW in the last quarter of 2003 versus 2002.

PCCW's share of the residential fixed-line market at December 31, 2003 was 73 percent, against 84 percent the previous year. Similarly, our business-line market share was 73 percent, compared to 79 percent in 2002.

Overall, Hong Kong's fixed-line market experienced a 2003 reduction in lines of just under 1 percent, compared to 2 percent the year before.

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### International Telecoms Services

IDD in Hong Kong has become a commodity in a fiercely competitive market. Yet PCCW grew IDD minutes by 18 percent in 2003, while maintaining market share. This was achieved by careful segmentation of the market, along with promotions to reward loyalty and boost customer retention.

### Broadband

Hong Kong boasts the world's second most developed broadband market, with PCCW able to reach all major business areas and more than 95 percent of households.

According to figures from OFTA, broadband use in Hong Kong grew by 24.4 percent in 2003 over the previous year.

In January 2004, OFTA reported that more Hong Kong people were using broadband services to access the Internet than the old-style, dial-up method.

The launch of PCCW's innovative pay-TV service, NOW Broadband TV, attracted a large number of customers to broadband for the first time.

At December 31, 2003, PCCW's residential broadband customer-base numbered 517,000 against 424,000 at year-end 2002.

Retail business broadband lines, which form part of the Business eSolutions portfolio, numbered 62,800 at the end of 2003, compared to 51,800 at the end of the previous year.

PCCW has maintained steady growth in business broadband customers, particularly in the SME (small to medium enterprise) sector. The strategy has been to build more value into the service to maintain pricing levels. For example, PCCW was the first player in Hong Kong to integrate anti-virus and anti-hacking features as standard to address Internet security concerns among commercial users.

The Company provided a large number of wholesale broadband access lines during 2003, and some 95 percent of Hong Kong's ISPs (Internet service providers) continued to use PCCW's broadband capacity.

### NOW Broadband TV

NOW Broadband TV was launched in September and attracted more than 200,000 customers by year-end 2003 – a period of less than four months.

Particularly popular is NOW Broadband TV's 'à la carte' pricing model, which allows customers to subscribe only to channels they want, with no basic monthly fee.

The service was launched with 23 channels of high-quality programming but soon expanded to more than 30 with the addition of soccer, major golf tournaments, BBC World and the Animax channel, as well as the popular Cantonese Star Chinese Movies and Xing Kong channels.

More world-class video and audio programming scheduled for 2004 will underscore NOW Broadband TV's commitment to variety and quality in its content offerings, as it continues to revolutionize Hong Kong's home entertainment scene.

### NETVIGATOR

This high-profile brand maintained its lead in Hong Kong's competitive ISP arena, with a market share of about 50 percent.

NETVIGATOR won *Next* magazine's Top Service Award 2003 in the ISP category – an accolade it has won every year since 1999.

Further recognition came in July from the UK technology research firm BroadGroup, which ranked *wireless.netvigator.com* the world's No.1 hotspot website and saluted its customer-friendliness.

**nOW Broadband TV** began a revolution in Hong Kong's home entertainment scene in 2003, attracting more than 200,000 customers within less than four months of launch. Quality and variety are the hallmarks of nOW Broadband TV's programming, some of which has been delivered to Hong Kong screens for the first time.

Particularly popular is nOW Broadband TV's unique 'a la carte' pricing model, which allows customers to subscribe only to channels they want.



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NETVIGATOR took to the skies when PCCW entered into a partnership to enable Cathay Pacific passengers to access email on their laptops while in flight. NETVIGATOR Inflight became available in about half the Cathay Pacific fleet by the end of 2003. Fleetwide installation should be complete by mid-2004.



#### Wi-Fi Services

NETVIGATOR customers are able to access the Internet without wires in more than 200 Wi-Fi hotspots in public areas such as Hong Kong International Airport, shopping malls and hotels, plus Pacific Coffee, Delifrance and Häagen-Dazs branches.

In 2003, Wi-Fi hotspots went live at various Starbucks coffee houses, more five-star hotels and a number of key business buildings.

In addition, an agreement has been signed with the MTR Corporation to provide Wi-Fi at all stations along the Airport Express line in 2004.

In 2003, Hong Kong was able to claim the first hotspots in Asia with Bluetooth and infrared service for PDA users after PCCW installed facilities in some of its Wi-Fi locations.

#### NETVIGATOR Inflight

Year 2003 also saw NETVIGATOR take to the skies as PCCW entered into a partnership to enable Cathay Pacific passengers to access email on their laptop computers while in flight.

An onboard server communicates with the Internet via satellite at frequent intervals, enabling customers to use their regular email accounts.

This innovative service was launched in September, with about half the Cathay Pacific fleet equipped with NETVIGATOR Inflight by year-end 2003. Fleetwide installation should be complete by mid-2004.

International business travellers now enjoy almost total access to NETVIGATOR while on the move – at Hong Kong International Airport by Wi-Fi, in flight with Cathay Pacific and overseas via the NETVIGATOR Internet Roaming Service from 4,800 cities in 150 countries.

#### Value-added Services

During 2003, NETVIGATOR value-added service subscriptions rose to 330,000 from 250,000 the previous year.

These provide features to enable video communications, guard against undesirable material getting to youngsters, block spam and store digital images.

Some 29 percent of NETVIGATOR customers pay for one or more value-added service.

#### UK Broadband

PCCW opened a new chapter in its broadband story in 2003 with the acquisition by auction of 13 licenses to provide the UK with wireless broadband services in the 3.4Ghz band of the radio spectrum.

PCCW later acquired the remaining two licenses in that band, giving the Company a nationwide footprint.

The UK company established by PCCW – UK Broadband Limited (UK Broadband) – will provide customers with instant, high-speed Internet access to their homes and offices.

The 'plug and play' technology means users will not need to erect antennas or wait for technicians to install equipment. The customer experience will be simply to buy a wireless NETVIGATOR, take it home, plug it in and use immediately.

UK Broadband (a PCCW subsidiary) is due to trial the NETVIGATOR broadband service in the second quarter of 2004. The trial area will be in southeast England and will cover approximately 400,000 homes and offices. Our intention is to consider a national strategy, once the proposition proves to be attractive to customers.



NETVIGATOR provides a total experience in broadband home entertainment, with *now.com.hk* for PC users and **NOW** Broadband TV for television viewers. *now.com.hk* offers content tailored to appeal to young people.

PCCW's Public Fixed Wireless Access licenses cover the entire UK population, except in the Channel Islands and the Isle of Man, and were purchased for approximately HK\$98 million (about US\$13 million) with no rollout obligations attached.

The UK broadband market holds huge potential, with only about 11 percent of households accessing the Internet via broadband, compared with 55 percent in Hong Kong.

The highly-developed broadband market in Hong Kong has allowed PCCW to gain advanced technical and marketing expertise.

The Company will utilize those home-grown skills, as well as international bandwidth, to provide UK Broadband customers with billing, technical support and call-center services from Hong Kong.

Our UK wireless broadband experience could provide an excellent basis for expansion into other markets, including mainland China.

#### *now.com.hk*

PCCW's *now.com.hk* has become Hong Kong's premier broadband information and entertainment portal, with 169,500 subscribing households, as of December 31, 2003.

NETVIGATOR provides a total experience in broadband home entertainment – *now.com.hk* for PC users, and **NOW** Broadband TV for television viewers.

Launched in January 2002, *now.com.hk* has tailored its content to appeal to Hong Kong's Internet-savvy PC users at the younger end of the market.

Most of the on-demand video and channel programming is locally-sourced material in Cantonese, offering the kind of infotainment favored by Hong Kong's avid Internet users.

NETVIGATOR customers are able to sign up to *now.com.hk* online and access content streamed at 800 Kbps, enabling high-quality, full-screen program enjoyment. No installation or special software is required.

PCCW has negotiated agreements with leading content providers, which include a top Korean online games provider. In fact, *now.com.hk* is planning a range of web-based games to bring players together into a growing, interactive online community.

Current TV and radio programs, plus selected magazines, are available on demand, as well as recorded concerts, variety shows, Asian drama and a 'jukebox' offering pop music videos.

### CPE (Customer Premises Equipment)

PCCW offers a range of IT&T solutions to commercial customers via a team of account managers, while consumer customers are served through our retail outlets and 24-hour sales hotline. These also serve the needs of small-to-medium enterprise (SME) customers and carry the latest communications, data and digital products.

Provision of CPE means the Company is able to provide its customers with total solutions.

Of the 12 PCCW Shops in Hong Kong, seven have been upgraded in line with a concept designed to offer a new shopping experience. The new look combines modern decor with a systematic product-and-service display that encourages interactivity.

Major commercial CPE contracts in 2003 included provision of a communications center for the Hong Kong Science and Technology Park, an advanced communications solution for the Langham Place Hotel and a telephone system for Hong Kong Police Headquarters.

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Already, **Cascade** has completed projects for customers in mainland China and southeast Asia and is pursuing contracts with a number of telecoms operators and network-reliant organizations across the Asia-Pacific region.

### Local and International Data

PCCW scored a world first in June 2003 by striking a data-carrying deal with China Telecom that opened up the whole of the Chinese mainland to business customers in Hong Kong.

The breakthrough means PCCW can offer companies a one-stop-shop package to connect their Hong Kong operations with locations in as many mainland provinces as customers require.

PCCW is now the only point of contact businesses need for every aspect of their data-carrying needs between Hong Kong and anywhere in mainland China.

Despite fierce competition in the local data market, PCCW grew bandwidth by about 15 percent, with signs of further increases in demand as the economy continues to improve.

In addition, major IP-VPN projects were undertaken in the public sector and financial services industry.

Sales of International Private Leased Circuit (IPLC) bandwidth increased to 1,592 Megabits per second (Mbps) at the end of December 2003, from 855 Mbps at the end of December 2002. Our 2003 unit prices for IPLC and other managed data products were lower than those of 2002, in line with the global market trend.

Over the year, the number of customers signing up to longer-term international data contracts increased by about 25 percent.

The Group also provides international connectivity services via its BtNAccess unit (see page 25).

### Global Business

This unit increased the size of PCCW's footprint in Asia in 2003 by winning new business from customers such as Bank of America, Microchip Technology Hong Kong Limited and Reebok International Limited. The Global Business unit offers services to customers to bring their business to Asia and carry business from Asia to the rest of the world.

In 2003, the unit focused on expanding the scope of PCCW's relationships with multinational corporations (MNCs) outside Hong Kong and pursuing international networking business across Asia.

The Company will continue to enhance its capability to serve MNCs in Asia and round the world, with help from its REACH joint-venture (see page 24). In particular, the Global Business unit is keen to explore opportunities offered by large organizations seeking to outsource their network operations in Asia.

### Cascade Limited (Cascade)

PCCW's Cascade technical services arm met its targets for 2003 by cutting costs, improving efficiencies and boosting quality, while getting into commercial shape to win business across Asia-Pacific in 2004.

Already, this wholly-owned subsidiary has completed projects for customers in mainland China and southeast Asia and is pursuing contracts with a number of telecoms operators and network-reliant organizations across the Asia-Pacific region.

Cascade was formed from PCCW's technology and engineering workforce in 2002 and launched in January 2003, since when it has served its parent's technical needs.

For example, the subsidiary was responsible for the innovative planning, development and delivery of PCCW's three major new services in 2003 – New Generation Fixed Line Services, NOW Broadband TV and PCCW Convergence – which have attracted enquiries from telecoms players round the world.

In 2003, Cascade delivered significant cost savings and pushed service quality metrics to near 100 percent levels. In fact, Cascade's 2003 network service performance compared very favorably with telecoms operators benchmarked as the world's best.



Amber Yeung is an engineer in Cascade's Network Planning department. Her work often involves data network design, project bidding and project management, as part of Cascade's service to PCCW and external customers.



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### Telecommunications Services (TSS)



PCCW's Contact Centers unit is highly skilled in all forms of customer contact and has won a number of awards, including six in 2003 from the Hong Kong Call Center Association. PCCW was also responsible for the operation that won Panasonic China the 2003 Customer Value Enhancement Award for Call Centers from Frost & Sullivan.

In addition to the 3,000 PCCW staff absorbed by Cascade in 2002, the subsidiary also managed the outsourcing of about 1,600 employees into a number of sub-contractor companies. These have continued to serve PCCW while being coached to seek business from other organizations.

Cascade achieved major quality accreditations during 2003 in terms of the TL 9000 standard and BS 7799-2 certification for information security management (see Quality Accreditation, right).

### Contact Centers

PCCW runs one of Asia's largest and most sophisticated call-center operations.

More than 3,000 agents handle inbound and outbound customer calls in 15 languages from call-center setups in Hong Kong, Guangzhou, Beijing, Shanghai, Taipei and Kuala Lumpur.

This unit reaches out to PCCW's own customers to help maintain high levels of user satisfaction, while providing outsourcing solutions to serve the customers of large organizations such as banks, airlines and manufacturers.

The operation is highly skilled in all forms of customer contact and has won a number of awards, including six in 2003 from the Hong Kong Call Centre Association.

PCCW was also responsible for the operation that won Panasonic China the 2003 *Customer Value Enhancement Award for Call Centers* from Frost & Sullivan.

### Quality Accreditation

PCCW has achieved the highest level of quality accreditation among telecoms operators in Asia-Pacific.

In December 2003, the Company was awarded TL 9000 certification for its IP-related broadband engineering operations. This added to PCCW's existing TL 9000 accreditation for engineering operations supporting voice and data services.

TL 9000 is tailor-made for the telecoms industry and incorporates all the requirements of the ISO 9000 international quality standard.

In November 2003, PCCW was awarded BS 7799-2 certification, which is the most widely-accepted information security management standard in the world. The award meant PCCW was in possession of four of Hong Kong's total of 13 BS 7799 certifications across all industries.

In addition, Cascade, PCCW Beijing and PCCW's Unihub were granted special Associate Consulting Partner status. This means they can offer services to organizations to help them achieve BS 7799

certification, which is aligned with the international ISO 17799 standard. The Company holds a number of other certifications and accolades, including Customer Service Excellence Awards from the Hong Kong Association of Customer Service Excellence.

### Regulatory Developments

The Group's results are influenced by various policies established by the Hong Kong Government and the regulator. Other influences include agreements with the government and market forces.

These government policies include compulsory provision to competitors of our local-loop assets (phonelines into homes and businesses), the regulation of PCCW as a dominant provider of residential and business-line services and other retail and wholesale matters.

### Wholesale services

PCCW continued to provide network-to-network interconnection to other telecoms providers in 2003, with some per-minute interconnection rates being lowered.

PCCW provides ISPs with bandwidth services, and Fixed Telecommunications Network Services (FTNS) competitors with access to 'last mile' phonelines between exchanges and customers – known as 'local-loop unbundling'.

Running one of Asia's largest and most sophisticated call-center operations, **PCCW's Contact Centers** unit is responsible for more than 3,000 agents handling inbound and outbound customer calls in 15 languages from call-center setups in Hong Kong, Guangzhou, Beijing, Shanghai, Taipei and Kuala Lumpur.

Interconnection and unbundled local-loop services are provided to competitors on a non-discriminatory basis. The Group offers wholesale ISP access and broadband unbundled local-loop service by way of tariffs. Determination proceedings relating to broadband unbundled local-loop with other fixed-network operators are in abeyance pending the outcome of a consultation initiated in May 2003 to review the policy of compulsory unbundling.

In December 2003, the Government released a further consultation paper in which it indicated that, as a preliminary conclusion, it would end the compulsory fixed-line unbundling policy after a transition period. This consultation should be completed, with a final determination made by mid-2004.

#### 2003 Fixed telecommunications network services market liberalization

Full market liberalization was implemented by OFTA on January 1, 2003 in the local and external (cross-border) fixed-telecoms network service markets. In the local market, no pre-set limit exists for the number of licenses to be issued, and license applications are not subject to any time limit. OFTA will not consider fixed-carrier licenses for applicants who intend to rely on interconnection and wholesale services using infrastructure owned by other operators. In the external market, new licensees now have

the option of being facilities or service based.

#### Licensing regime

In-building telecoms systems are now authorized under a class license regime by which a building's owner is automatically licensed to establish, maintain and operate an in-building telecoms system within common parts of a building and to provide telecoms services within the building. No public telecoms service can be provided. As a fixed telecoms operator, HKTC continues to enjoy the right to building access and to interconnect with in-building systems on a non-discriminatory basis.

The Wireless LAN (Local Area Network) – known as Wi-Fi – class license was implemented in 2003, allowing operators meeting the license criteria to provide Wi-Fi services that do not cross a public street.

#### Merger and Acquisition Bill

The Telecommunications (Amendment) Bill 2002 became law in 2003 to deal specifically with merger-and-acquisition activities in Hong Kong's telecommunications network sector. The new law gives the Telecommunications Authority the power to review mergers and acquisitions concerning carrier licensees and to take appropriate action when it is of the opinion that the transaction would substantially lessen competition in the market. The law will

become operational once merger guidelines are finalized in 2004.

#### Retail pricing flexibility

PCCW has been granted non-dominant status in respect of all IDD routes, as well as in the provision of external bandwidth services and broadband services.

A large number of new tariffs and tariff changes were made during the year. Rates were revised to address competition, to enhance operations and to support further network investment. These tariffs also included a variety of promotions and loyalty programs.

PCCW continues to seek a streamlined tariff-review process, as well as greater pricing flexibility over fixed-line service offerings for which it is currently classified as dominant.

A significant event in 2003 centered on an application from PCCW after which the Competition Appeals Board quashed an OFTA decision to reject a discount proposal from the Company.

In August 2003, PCCW made a filing with OFTA to seek non-dominant status in the provision of business line (BDEL) services. In October 2003, PCCW filed a similar application in respect of residential line (RDEL) services. Consultations for these filings have been initiated and should be completed in 2004.

# IT Excellence under a New Brand



Information technology (IT) expertise held by our Business eSolutions division forms the spearhead of PCCW's activities in mainland China, where the IT services market grew by 8 percent last year, according to Gartner.

A major branding exercise in 2003 resulted in the name Unihub, which will serve to identify all PCCW's IT business in Hong Kong and China.

IT skills honed in Hong Kong form the basis of Unihub's offer to businesses and organizations throughout mainland China.

Perhaps the greatest showcase example of those skills was the development of the Hong Kong Government's SMARTICS ID card system. This much-publicized project is fast becoming the envy of the world, as a number of nations express interest in how it was done.

PCCW provided the innovation behind SMARTICS, as well as leading the consortium to design, build and operate the system.

Meanwhile, a major exercise for China Mobile has demonstrated that Unihub is able to roll out solutions in mainland China on a nationwide scale, which presents many challenges in terms of logistics and cultural diversity across the provinces.

The project will see the completion of a nationwide management information system in 2004 – one of the largest such projects ever undertaken in mainland China – underscoring Unihub's reputation as a total business solutions provider.

Other Unihub projects in mainland China include a credit-card 'back office' processing system for the Bank of China, plus a flight-information display solution at Xiamen Airport and a traffic-management control system for Shanghai's busy seaport.

Gartner forecasts that by 2007, the mainland China and Hong Kong IT services market will be worth more than US\$9.3 billion, with compound annual growth of 14 percent for the period 2003 to 2007.

Also in 2003, PCCW joined with China Telecom to form Unihub China Information Technology Company Limited (UCIT) to provide IT solutions to large organizations in mainland China.

UCIT began negotiations with China Telecom's CTSI systems-integration arm at the end of 2003. The intention is to provide outsourcing services to CTSI and embrace most of CTSI's IT expertise. The move will double UCIT's size and capability, transforming it into one of China's most formidable systems-integration players.



UCIT will absorb CTSI's existing customers, revenues and infrastructure and will acquire its systems-integration know-how.

As part of the agreement, UCIT will be able to serve China Telecom's own systems-integration needs. UCIT will take over all outstanding CTSI business, amounting to some RMB40 million (about US\$5 million) in contract value.

Back in Hong Kong, other Unihub contracts included a Human Resources Management and Financial Management System for the Hong Kong Council of Social Service. These are typical of the kind of IT projects outsourced by governments that Unihub plans to pursue.

Unihub is made up of about 2,000 IT professionals who specialize in a range of technologies and are backed by a network of technology partners.

Among its many accreditations, including ISO 9001 for IT services and CMM Level 4 for software engineering excellence, Unihub was awarded BS 7799-2 certification in November 2003. This is the most widely-accepted information security management standard in the world (see page 18). Unihub also operates one of the largest data center operations in Hong Kong, based on its premium service brand **Powerbase**.

**LEFT:** One of the greatest showcase examples of PCCW's IT skills is the Hong Kong Government's SMARTICS ID card system, which has prompted enquiries from a number of nations wanting to know how it was done.

**RIGHT:** An example of the growing number of Unihub projects in mainland China is the traffic-management control system built for Shanghai's busy seaport.



This award-winning operation offers full resilience for critical business applications and reliable Internet-exchange connectivity for local, regional and international customers. Unihub is also able to design and build data centers and serve outsourcing needs.

The Internet data center market in Hong Kong was weakened by tough economic conditions in early 2003, but signs of a recovery are sparking an increase in demand from the business community.

Accreditations and awards include a SunTone Certificate for quality data center operations and processes. In December 2003, PCCW was named as the Gold Performer in Hosting and Data Center Services by *Asia Computer Weekly*.

### PCCW Directories Limited

PCCW Directories Limited (PCCW Directories) is a wholly-owned subsidiary of PCCW and one of Asia's directory market leaders.

As the official publisher of the Hong Kong Yellow Pages, White Pages, Fax Directory and a series of trade and professional directories, PCCW Directories also hosts and operates online services at *yp.com.hk*.

In 2003, average monthly page views online increased by 23 percent to 16 million, while the number of individual visitors per month increased by 22 percent over the previous year to 211,249.

The total number of advertisers using our print and Internet directories dropped in 2003 because of unfavorable economic conditions in the first half-year. Meanwhile, volume of all our print advertising publications in Hong Kong rose 15 percent to 1,795,000 copies.

In October 2003, PCCW Directories launched three new trade and professional directory titles – the *Hong Kong Transportation and Logistics Directory*, the *Electronics Directory* and the *Electronic Components Directory* for industry manufacturers and buyers in mainland China and Hong Kong.

*Fun in Hong Kong* was launched in September 2003 to capture the lucrative advertising market arising from easier passage into Hong Kong for mainland China residents.

November 2003 saw the launch of the *ypcard.yp.com.hk* website to explain how YP cards enable consumers to take advantage of special offers and promotions from more than 1,500 merchant outlets.

A full-scale launch of YP cards took place in February 2004, together with distribution of the *Yellow Pages Consumer* directory to reach more than 1 million consumers.

In early 2004, PCCW Directories and Yahoo! Hong Kong announced the launch of the Yahoo! Yellow Pages Website (<http://yp.yahoo.com.hk>) and Yahoo! YP Card at Yahoo! Hong Kong's website.

The new website integrates the Internet Yellow Pages classified database with Yahoo! Hong Kong's search engine and platform. The result is wide-ranging company information and special offers for Internet audiences in Hong Kong and worldwide.

Business Overview

PCCW Infrastructure

# A Year of Sales Success

**BELOW AND RIGHT:** Residence Bel-Air at the Cyberport complex sets a new standard for luxury apartment accommodation in Hong Kong, offering an innovative lifestyle concept.

**FAR RIGHT:** Comprising 2 million square feet of office, retail, diplomatic and residential real estate, Pacific Century Place in Beijing is one of the premium-grade investment properties in the PCCW Infrastructure portfolio.





Year 2003 will be remembered as a year of sales success for PCCW Infrastructure.

By early 2004, the division had sold 1,204 luxury apartments at Residence Bel-Air – part of Hong Kong's Cyberport project – for approximately US\$1.25 billion.

Pre-sale proceeds in 2003 are sufficient to cover all construction costs for future phases of the development. The Company expects to see its investment, plus returns, flowing back from the project from 2004 onwards.

PCCW Infrastructure handles all property development, investment and facilities-management functions for the Group.

Cyberport is a multi-use campus for IT companies – developed by PCCW for the Hong Kong Government – and was the highest-profile feature of the division's portfolio in 2003.

This low-density project comprises commercial, retail, hotel, entertainment and residential facilities and is designed to attract and nurture information technology (IT) and information systems (IS) industry players.

Despite the subdued property market in early 2003 – further dampened by the war in Iraq and the impact of SARS – PCCW Infrastructure scored a 100 percent success rate in selling more than 1.9 million square feet of residential real estate by early 2004.

Residence Bel-Air sets a new standard for luxury apartment accommodation in Hong Kong, offering an innovative lifestyle concept enjoyed by its international community.

Meanwhile, other elements of the Cyberport project are nearing completion, including Le Meridien Cyberport Hotel, which should be open for business in early 2004, and a shopping mall.

PCCW Infrastructure owns a portfolio of premium-grade investment properties, such as the 2-million-square-foot office, retail, diplomatic and residential Beijing city-center complex Pacific Century Place. The division's portfolio also includes the 42-storey PCCW Tower office building in Hong Kong's Quarry Bay.

In 2003, the PCCW Infrastructure division recorded high occupancy rates for Pacific Century Place and PCCW Tower. Both properties house a number of multinational corporation tenants.

PCCW Infrastructure's facilities-management service provides essential support to the Group's IT and communications network, as well as to the investment property portfolio and other premises occupied by the Group.

On March 7, 2004, PCCW announced its intention that the PCCW Infrastructure division should become part of a separate listed company to be majority owned by PCCW. More detail can be found in Note 40(g) to the financial statements.

## Business Overview

## Asia and Beyond (Others)

# A world of Connections

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## REACH

As one of the region's largest wholesale global carriers of voice and data, REACH connects Asia with the rest of the world.

This 50:50 joint-venture between PCCW and Australia's Telstra Corporation Limited (Telstra) acts as carriers' carrier to some 300 telecoms operators and service providers round the world.

REACH enables access to more than 240 countries and territories, has operating licenses and landing rights in most Asian markets – as well as in the US and the UK – and holds more Type-1 (carrier) licenses than any other player in Asia.

Viewed as a strategic business by its two shareholders, REACH started an overhaul of its operations in 2003, concentrating on financial discipline, core competencies and creating a customer-centric organization.

The company re-appraised major areas of expenditure, such as transmission, repair and maintenance, rents, third-party support contracts and administrative and day-to-day expenses.

A project to improve customer experience sparked a number of initiatives such as a revamp of the pre- and post-sales process, dedicated service engineers for serving the company's top customers and a multi-featured online service center to give customers better control of the service they receive.

Looking to the future, a new customer-satisfaction research program will ensure REACH focuses on areas marked for improvement by customers, as it continues to operate in a long-haul market challenged by a glut in capacity and downward pressure on price. These very difficult conditions led to REACH reporting a loss for 2003.

On March 4, 2004, PCCW announced that it had written down its investment in REACH to zero (for more detail, please refer to Management's Discussion and Analysis on page 36).

As part of a refinancing move in 2003, PCCW and Telstra each committed to purchasing 90 percent of their international capacity from REACH for a set period at rates benchmarked against prevailing market

prices. Demand from the two shareholders during the year, however, amounted to just one-third of REACH's overall business. The remaining two-thirds came from other regional and international carriers, with REACH's bandwidth volumes doubling during 2003.

In a report issued in 2003, industry analysts at Gartner named REACH as Asia-Pacific's top IP backbone operator, while the *NetConfigs.Com* online network and Internet management resource ranked REACH's IP network as the best connected IP backbone in Asia-Pacific and 10th best in the world. In fact, REACH's IP network has the most international and intra-Asian capacity in the industry.





Headquartered in Hong Kong, with a strong presence in Australia and businesses across Asia, North America and Europe, REACH is able to boast a telecoms pedigree that stretches back 130 years, during which time it became a founding member of the ITU (International Telecommunication Union).

### BtNAccess

BtNAccess was formed in 2003 by the combination of the Beyond the Network (BtN) and Corporate Access units within PCCW, bringing together years of market experience and product innovation.

The move established BtNAccess as a market leader in global IP/MPLS-based connectivity solutions, with a network that comprises 40 on-net PoPs (points of presence) spanning North America, Europe and Asia.

In March 2004, our network covered 35 countries via partner-interconnect arrangements with 15 top MPLS network providers. The result is seamless, end-to-end VPN (virtual private network) connectivity.

BtNAccess strengthened its market position with the 2003 launch of the IP Centrex service, which provides complete voice and data convergence through a single IP port, plus direct connections to major international providers for superior call

quality. In addition, customers can access multiple data services – including dedicated Internet access, MPLS VPN and Virtual Circuit – through a single port.

BtNAccess continues to optimize its global IP/MPLS backbone with bandwidth upgrades and more than 280 strategic peering arrangements.

According to *NetConfigs.Com*, the BtNAccess backbone was ranked 29th out of 500 top global service providers in February 2004.

### TTNS

A milestone achievement for Taiwan Telecommunication Network Services Co., Ltd. (TTNS) in 2003 was a five-fold increase in subscribers for its broadband Internet-access business.

Served by an extensive fiber-optic network in Taiwan, TTNS's ADSL broadband offering now addresses more than 35,000 customers.

Another 2003 milestone for the TTNS data network service provider – 56.56 percent owned by PCCW – was a large-scale consultation and outsourcing contract awarded in November by Taiwan's largest automobile group.

Also in November, TTNS's IP-VPN and ADSL coverage was expanded to cover all 14 tariff zones across Taiwan.

Major products include high-speed packet data, utilizing ATM (asynchronous transfer mode), plus information networks, Internet access and other professional services.

The company is well positioned to provide mission-critical services to customers across financial, manufacturing and service industries.

Major customers include key financial institutions and large-scale enterprises such as the Over-the-Counter Securities Exchange Center in Taiwan, the Taishin Bank and the Formosa Group.