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 HD Telecommunications Industry in Hong Kong
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Overview ? Hong Kong's role as a leading business centre in the Asia-Pacific region owes much to its advanced telecommunications infrastructure, which facilitates domestic and international communications by voice or data. The role of telecommunications is especially vital to Hong Kong's competitiveness in the age of electronic commerce. In 2011, the industry of information and communications generated HK\$ 63 billion (US\$ 8 billion), contributing to 3.3% of GDP. ? Digital 21, the blueprint for Hong Kong's information and communication technology (ICT) development, was last updated in 2008. The 2008 Digital 21 Strategy highlighted five action areas: (1) Facilitating a digital economy; (2) promoting advanced technology and innovation; (3) developing Hong Kong as a hub for technological cooperation and trade; (4) enabling the next generation of public services; and (5) Building an inclusive, knowledge-based society. ?

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To increase the land supply for science and technology development, the government has allocated a site of about two hectares in Tseung Kwan O to develop a high-tier data centre, opened for tender in 2013. ? The advanced technology and quality services of Hong Kong's telecommunications sector attract multinational companies, such as AT&T and Verizon, to set up their regional operations in Hong Kong. ? Hong Kong's telecommunications industry is totally privately owned and faces no restriction on foreign investment. All telecommunication services are open for competition. ? With the opening up of the telecommunications market in most countries, many Hong Kong operators, such as Hutchison, have gained a foothold in overseas markets, particularly in the mobile phone sector. ? In the Global Information Technology Report 2013 by the World Economic Forum, Hong Kong ranks fourth in Asia (14th in the world) in the Network Readiness Index, indicating Hong Kong's advanced position in telecommunication infrastructure, regulatory environment, and business readiness of using information technology. Industry Data March 2013 No. of establishments 321 Employment 18,048 Source: Quarterly Report of Employment & Vacancies Statistics, Census and Statistics Department Business Receipts (HK\$ billion) 2009 2010 2011 Public local phone/facsimile/telegraph/telegram services 6.7 4.8 4.9 Public long distance phone services 4.5 4.6 6.6 Mobile phone services 15.4 16.2 18.8 Internet, satellite communication, and other services 21.4 23.7 24.0 Total 48.0 49.3 54.3 Sources: Key Statistics on Business Performance and Operating Characteristics of the Information and Communications, Financing and Insurance, Professional and Business Services Sectors, Census and Statistics Department Phone / Household Broadband Penetration Rate April 2013 Household fixed phone line penetration rate 103.3% Mobile subscriber penetration rate 229% Household broadband penetration rate 85.2% Source: Office of the Communications Authority External Telephone Traffic Volume (million minutes) 2009 2010 2011 2012 Total Outgoing Calls 7,759 7,727 7,646 7,888 Total Incoming Calls 2,271 2,582 2,896 2,637 Source: Office of the Communications Authority Local Fixed Telecommunications Network Services (FTNS): The FTNS market has been fully liberalised since 1 January 2003, with no pre-set limit on the number of licences issued, nor specific requirement on network rollout or investment. As at June 2013, there were 20 local fixed network operators in Hong Kong. As at September 2012, there were about 4.3 million exchange lines in the city, a density of 102 lines per 100 households or 60% by population, which was among the highest in the world. Mobile Services: As at December 2012, there were 5 mobile network operators. In April 2013, the number of mobile service subscribers reached 16.4 million, representing one of the highest penetration rates in the world at about 229%. Among these subscribers, 10.7 million were 2G and 3/4G service customers. Broadband Services: As at June 2013, there were 194 Internet Service Providers (ISPs) licensed to provide broadband services. As at September 2012, more than 2.27 million customers are now using broadband services with speed up to 1,000 Mbps (Megabits per second). In the residential market, 87% of the households are using broadband service. Internationally, Hong Kong's

broadband penetration rate is among the highest in the world. This has facilitated the development of IPTV - as at November 2012, there were nearly 1.36 million IPTV subscribers. The International Direct Dialling (IDD): International Direct Dialling (IDD) service to most countries and regions of the world is available. In 2011, the volume of outgoing and incoming traffic for telephone calls was 7,646 million minutes and 2,896 million minutes respectively. Cost of IDD calls has gone down significantly since January 1999, when fixed-line operators were allowed to offer non-exclusive international services. Satellite: As at November 2012, there were 41 licensees permitted to operate either external cable or non-cable based facilities for the provision of external communication services in Hong Kong, with more than 185 satellite earth station antennas in operation. Hong Kong adopts an open sky policy in regulating the provision of satellite services. Hong Kong provides dedicated relay services for multinational companies, international press agencies and TV channels to downlink or uplink their satellite signals over the Asia Pacific region. Submarine Cable: Hong Kong is connected to a number of submarine cable systems, including: ? The Okinawa-Luzon-Hong Kong system connects Hong Kong to the Philippines, Japan and North America. ? The Asia Pacific Cable (APC) system links Hong Kong to Malaysia, Singapore, Taiwan and Japan. ? The Thailand-Vietnam-Hong Kong (TVH) system connects Hong Kong to Thailand and Vietnam. ? The Asian Pacific Cable Network (APCN) system connects Hong Kong to Taiwan, Korea, Japan, Thailand, the Philippines, Malaysia, Singapore, Indonesia and Australia. ? The Fibre-optic Link Around the Globe (FLAG) connects Hong Kong to Thailand, Shanghai, South Korea, Japan and other countries around the world. ? The SEA-ME-WE-3 cable connects Hong Kong to various countries in South East Asia, Middle East and the Western Europe. ? The Asian Pacific Cable Network 2 (APCN2) connects Hong Kong to the Chinese Mainland, Taiwan, Korea, Japan and other Asian countries. ? C2C Network connects Hong Kong to the Philippines, Taiwan and Singapore. ? The Asia America Gateway (AAG) connects Southeast Asia and North America, via Hong Kong, Guam and Hawaii. ? The East Asia Crossing (EAC) connects Hong Kong with Japan, South Korea, Taiwan, the Chinese mainland, Singapore and the Philippines. ? The North Asia Cable System (NACS) connects Hong Kong with Japan and Taiwan. ? The Reach North Asia Loop (RNAL) connects Hong Kong with Taiwan, Korea and Japan. ? The Trans Pacific Cable (TPC-1 & TPC-2) connects Hong Kong with Vietnam, the Philippines, Japan, Taiwan, Singapore, South Korea, Guam and Hawaii. ? The VSNL SG HK JP Guam connects Hong Kong with Singapore, Japan and Guam. Exports The main form of cross-border exports of telecommunications services is through incoming calls from another country, in the form of revenue collected for the service of completing the call. Other export incomes are derived from: ? offering roaming services to overseas mobile phone users; ? selling satellite transponder capacities to other telecommunications operators, broadcasting and multinational corporations to meet their regional communications, broadcasting and international communications needs; ? consultancy services (e.g. technology transfer and training programmes) to overseas customers; and ? telecommunications services provided to travellers to Hong Kong. With the opening up of the telecommunications market in most countries, many Hong Kong operators have gained a foothold in the overseas markets, particularly in the mobile telephone sector. For example, Hutchison Telecom has 3G operations in different regions and countries (e.g. the UK, Denmark, Italy, Sweden, Ireland, Israel, Macau, Australia and Austria). Many other operators have invested in the development of telecommunications networks in Asia, including India, Indonesia, the Philippines, Sri Lanka, Taiwan and Vietnam. The bulk of Hong Kong's international call traffic is now with the Chinese mainland. International private leased circuits are offered to several mainland gateway cities, while some operators provide roaming services to mobile phone and pager users when they are on the mainland. Exports of telecommunication services (HK\$ million) 2009 2010 2011 Exports - Telecommunication services 4,614 7,343 9,695 Sources: Report on Hong Kong Trade in Services Statistics for 2011, Census and Statistics Department Industry Development and Market Outlook Local industry developments As of end-June 2008, mandatory type II interconnection policy had been withdrawn. Type II interconnection is a regulatory tool widely deployed in the world, requiring the incumbent fixed network operator ("FNO") to open up its copper-based customer access network (CAN) to new entrants so that the latter may provide competing service to customers in the start-up phase when their own self-built CANs are not as extensive as the incumbent's. Now over 86% of local households have the choice of more than one FNO. The increasing use of data services such as instant messaging and mobile internet services among the younger generations helps stimulate the mobile data usage in Hong Kong. As at September 2012, local mobile data usage recorded a remarkable surge to 6,347,228 Gigabytes. This represents a double in the mobile data usage over 2011 and 4.3 times over the same period in 2010. After 29 new digital terrestrial television (DTT) fill-in stations launched in 2011, the coverage of DTT services has been expanded to 96% in early 2012. Citing a public survey conducted in June 2012, take-up rate of DTT increased to 73.5% of total number of households in Hong Kong. The development of FTTH (Fibre-to-the-home) technologies goes fast in Hong Kong. The household penetration of FTTH, FTTB (Fibre-to-the-home) and local area networks is around 45%, as at February 2012. WiFi access is increasingly widespread in Hong Kong. As at June 2013, there were more than 19,495 public WiFi hot spots in Hong Kong. Since the Hong Kong government launched the Government WiFi programme in 2007, there were free public WiFi services in 415 government premises as at May 2013. Macro-trends in the industry "Going wireless" continues to gain momentum in the global consumer market - according to the GSM Association, mobile networks provides coverage to over 90% of the world's population in 2012. Worldwide mobile data bandwidth usage continues to grow as the mobile phone increasingly integrates into users' daily life. Services and functions

that can be done through the mobile phone include payment, receiving news, exchanging files, music, and movies, trading, etc. With the deployment of the 4G technologies such as the Long Term Evolution (LTE) and other advanced technologies progressively by the three broadband wireless access services providers in the 2.5/2.6 GHz band, consumers can enjoy even higher speed of mobile data services up to 100 Mbps. In **Hong Kong**, CSL launched its 4G network services in early 2012, while Hutchison and Smartone announced plans to launch 4G services in 2012. The expansion of 3G/4G networks drives up the demand for video telephony, sharing and messaging services over mobile networks. According to ABI Research, in 2011, there were fewer than 47 **million** consumers using such services, but the take up rate is expected to grow to 390 **million** in 2016. ABI Research also forecast that the global mobile TV's market revenue will exceed US\$ 20 **billion** by 2015. Following the first launch of 3D TV in 2009, NOW TV broadcast the first 3D movie on its channel in November 2011, while i-Cable broadcast the first 3D English Premier League match in January 2012. It is expected that more 3D TV channels will be introduced in the near future. More countries within the Asia Pacific region, such as Malaysia, Indonesia, Vietnam and Australia, have rolled out commercial IPTV services in the last 3 years. The **China** market According to the Ministry of Industry and Information Technology (MIIT), total fixed investment in the telecommunications sector reached RMB 361.4 **billion** as at end-2012, up 8.5%. Total revenue of the industry reached RMB 1,076.3 **billion**, up 9.0%. As at the end of 2012, the number of mobile phone users in **China** increased by 12.8% to 1.11 **billion** (equivalent to 82.6 subscribers per 100 persons) while fixed line phone subscribers dropped by 2.4% to 278.2 **million** (or 20.7 subscribers per 100 persons). Since the issue of 3G licences in January 2009 and the launch of 3G services in the following months, 3G usage has surged on the mainland. As at May 2013, there were more than 304 **million** 3G users on the **Chinese** mainland, 26.1% to the mobile phone subscribers. The explosive growth of 3G usage on the Mainland has stimulated the need for more 3G services or products, such as wireless music and mobile newspapers. Strong pricing advantage and improving quality of services has helped raise the competitiveness of **Chinese** telecom vendors, such as ZTE Corp. and Huawei Technology. According to the World Intellectual Property Organisation (WIPO) in 2011, ZTE and Huawei were ranked as first and third globally in terms of the number of international patent applications. TD-LTE-Advanced, domestically developed on the mainland and supported by **China** Mobile, has been recognised by International Telecommunication Unit (ITU) as a global 4G technology. **China** Mobile finished phase-I large-scale test of TD-LTE network in 6 cities in 2011, with the phase-II plan to be launched in nine cities in 2012. The Mainland-**Hong Kong** Closer Economic Partnership Arrangement (CEPA) Under CEPA, qualified **Hong Kong** service suppliers (HKSS) are allowed to set up joint-venture enterprises on the **Chinese** mainland from 1 October 2003, providing 5 types of value-added telecommunications services without geographic restriction. These services include Internet data centre services, store and forward services, call centre services, Internet access services (i.e. ISP) and content services (i.e. ICP). **Hong Kong** services suppliers' shareholding in the joint venture should not exceed 50%. From January 2008, HKSS are allowed additionally to provide mainland-IP-based Virtual Private Network (VPN) services as defined in the Telecommunications Business Classification in the form of a joint venture, with the **Hong Kong** partner holding a **stake** of not more than 50%. Taking effect in October 2009, HKSS can distribute in Guangdong Province fixed and mobile telephone service cards which can only be used in **Hong Kong**. Mobile satellite phone service cards, however, are explicitly excluded. According to CEPA Supplement IX, HKSS are allowed to set up wholly owned companies or **equity** joint ventures in providing offshore call centre services in Dongguan and Zhuhai Cities of Guangdong Province on a pilot basis, with no limitation on the **equity** ratio of the **Hong Kong** side. Under CEPA Supplement X, which will take effect from January 2014, HKSS are allowed to set up joint-venture enterprises in Guangdong Province to provide online data processing and transaction processing services (yet confined to e-commerce business websites only). HKSS's shareholding should not exceed 55%. Further, contractual service providers employed by HKSS are allowed to provide this type of services on the mainland in the mode of movement of natural persons. As at the end of September 2013, there were 48 approved HKSS in the sector of value-added telecommunications services (including calling cards) out of a total of 53 applications.

- CO** cthkng : China Mobile Limited | cmbile : China Mobile Communications Corp
- IN** i9741109 : Cable Broadcasting | ibrdbi : Broadband Infrastructure | i83944 : Internet Service Providers | i7902 : Telecommunications | i3302 : Computers/Electronics | i3303 : Networking | i97411 : Broadcasting | icomp : Computing | iint : Internet/Online | imed : Media/Entertainment | itech : Technology | i79022 : Wireless Telecommunications Services
- NS** c184 : Joint Ventures | c22 : New Products/Services | c18 : Ownership Changes | cactio : Corporate Actions | ccat : Corporate/Industrial News | ncat : Content Types | nfact : Factiva Filters | nfcpin : FC&E Industry News Filter
- RE** china : China | hkong : Hong Kong | vietn : Vietnam | taiwan : Taiwan | guam : Guam | phlins : Philippines | austr : Australia | guang : Guangdong | apacz : Asia Pacific | asiaz : Asia | ausnz : Australia/Oceania | bric : BRIC Countries | chinaz : Greater China | devgcoz : Emerging Market Countries | dvpcoz : Developing Economies | easiaz : Eastern Asia | indochz : Indo-China | pacisz : Pacific Islands | seasiaz : Southeast Asia

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