

CHAPTER 8

HONG KONG TELECOMMUNICATIONS INDUSTRY

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INTRODUCTION

Hong Kong is the largest teleport in Asia. Satellite-based telecommunications and television broadcasting services are provided via 36 satellite earth antennas. 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. Hong Kong is connected to nine submarine cable systems. Three overland systems have also been put into operation to service the growing traffic between Hong Kong and the mainland. The Telecommunications Authority of Hong Kong issued letters of intent to 13 companies in February 2000 for cable based External Fixed Telecommunications Network Services (EFTNS). These companies, after finalizing business negotiations, are to set up seven new submarine cables and four new overland cables, with an estimated investment of HK\$9 billion over the next three years. These new cables will increase the band-width for external connections, which is important in Hong Kong's development as a leading regional telecommunications center and Internet and broadcasting hub.

HONG KONG'S TELECOMMUNICATIONS ENVIRONMENT

Hong Kong has a hands-off approach to industry and believes that the market is a better method of allocating resources. Hong Kong government does not get directly involved in R&D. It does not select one industry to support. It provides funds to universities through a competitive grants program. The Innovation and Technology Commission supports high tech research. Hong Kong is a small market of less than 7 million that is unlikely to influence global direction. The government provides a regulatory environment that attempts to provide a level playing field for all business.

Hong Kong began to liberalize the telecommunications industry in 1995 by adding three new wire line licenses to compete with the Cable and Wireless (HK) monopoly. In 2000, five new wireless licenses and one cable TV license were allowed to increase competition in the telecommunications market. In the 2001-2002 timeframe, three new wireline competitors will begin operation. To provide an investment incentive, the three licenses provided in 1995 were given six years before new licenses were issued. Citizens were promised that all homes would have the option of an extra carrier by 2003. The new players have taken different strategies, from commercial to household targets. New applications will be required to initiate service by January 2003.

Hong Kong's mobile telephone penetration rate rose to 69% in June 2000, the highest in Asia. Hong Kong has broadband coverage to practically all commercial buildings. At present, about 95% of the households can now access broadband telecommunications networks, as compared to below 75% in mid-1999. Following the liberalization of the external telecommunications facilities market in January 2000, all sectors of the telecommunications market, local and external, services-based and facilities-based, are open to competition. Competition has resulted in a substantial reduction in International Direct Dialling (IDD) call rates (saving over \$670 million in 2000) and improved quality of services.

Since the facilities markets were liberalized in January 2000, 16 satellite-based operations and 18 cable-based operations have invested US\$1.25 billion. HK has no foreign ownership controls and encourages effective competition. In telecommunications, by law operators cannot use dominance for anti-competitive behavior.

HONG KONG'S TELECOMMUNICATIONS AUTHORITY

Information Technology and Broadcasting Bureau (ITBB) was established in 1997 to facilitate the development of the telecommunications industry and enhance Hong Kong's position as a telecommunications hub. To implement the policy decisions made in 1999 to progressively liberalize the local and external fixed telecommunications market, ITBB has put in place the appropriate regulatory regime and completed the first licensing exercise in early 2000.

ITBB's targets for 2001 include:

- To enable Hong Kong to be recognized as a world-class telecommunications center for doing business.
- To ensure that Hong Kong has available high quality telecommunications services at competitive prices.

The Office of Telecommunications Authority (TA) regulates telecommunications in Hong Kong. TA is a statutory organization with its own telecommunications ordinance. The Telecommunication (Amendment) Ordinance 2000 was enacted to improve the regulatory framework, which includes enhancement of competition safeguards, improvement to interconnection and access arrangements for telecommunications services, and empowerment of the Telecommunications Authority over certain technical matters.

The Telecommunications Authority has issued six new local licenses to enhance competition in the local fixed telecommunications market. These include the five local fixed telecommunications network services (FTNS) licenses for the operation of local fixed wireless networks as well as the FTNS license to the existing cable television operator to provide telecommunications services over its hybrid fibre coaxial cable network.

Regarding external telecommunications facilities licenses, TA invited 15 successful applicants to obtain licenses to operate satellite-based external facilities and issued Letters of Intent to grant licenses to 15 successful applicants who will bring new overland and submarine cables into Hong Kong. In 2000, TA made the teleport site ready for use by operators to enable external facilities competition to commence from 2000. Tying in with the first licensing exercise for new external facilities operators using satellites and cables, TA awarded the first Teleport site in January 2000. External connectivity at 44 Gbps is amongst the highest in Asia and will increase by 10-fold in the next two to three years.

Fixed telecommunications services: Hong Kong 's 10 local fixed line telecommunications network service operators provide

- Fully digitalized networks since 1995
- Over 388,000 kilometers of optical fiber
- 3.94 million exchange lines

- 58 exchange lines per 100 inhabitants
- 110 residential lines per 100 households
- 23 facsimile lines per 100 business lines
- 172 external telecommunications services operators (as at September 2000)
- 218 Internet service providers (as at September 2000)
- 377 minutes of outgoing external telephone traffic per capita (1999)
- 7 digital submarine cables for external connectivity (amongst the largest capacity in the region)

Mobile telecommunications services: Hong Kong's six mobile telephone operators provide

- 11 mobile telephone networks
- 4 digital standards (GSM-900, GSM-1800, D-AMPS, CDMA)
- 5 million mobile telephone subscribers
- 74 mobile telephone subscribers per 100 inhabitants, the highest in Asia and only after Scandinavia
- 29 radio paging service operators
- 335,372 radio paging service subscribers
- 5 radio paging subscribers per 100 inhabitants

Mobile Operations

Hong Kong has six mobile operators operating 11 networks that cover GSM (9), TDMA IS936 (1), and CDMA IS95 (1). The mobile market is very aggressive and cutthroat: as low as \$88 HK for 800 minutes. HK has mobile penetration of 79%, one of the highest in the world. Citizens have a propensity to use mobile, while home penetration of computers is 50%. Internet users are about 30%. Since HK has so many business travelers, business applications will be important.

Hong Kong has 5.5 million mobile phone users, greater than the 3.9 million number of fixed lines, business and residential combined. Mobile penetration continues to grow at a rate higher than fixed lines. In 2000, the mobile penetration rate grew from 59 per cent to 76 per cent. Spending on mobile services has increased by more than ten-fold in the last five years, from slightly less than US\$4 to US\$46 per month for each household.

The Hong Kong Cyberport

A Cyberport will also be developed in partnership with the private sector at a cost of HK\$13 billion. Hong Kong's Cyberport project intends to attract a strategic cluster of 150 to 200 companies to Hong Kong in wireless service and applications. Cyberport will open in phases and provide a state-of-the-art information infrastructure capable of providing secure and seamless fiberoptic connectivity. There will also be a Wireless Local Area Network to provide wireless connectivity throughout the development. Cyberport firms will specialize in applications of information technology, information services and multimedia content creation. Motorola, Nortel, StarTV, Sybase, 3M and Vtech have also announced plans of investment in Hong Kong over the next few years.

Looking ahead, Hong Kong is moving fast to tap into the market potential of wireless applications. With the convergence of mobile technology and the use of Internet and handheld computing facilities, the world has

now entered an era where information and services can be provided anywhere, at any time, through wireless devices. Mobile banking is becoming available. According to the Data Monitor, revenues generated from providing mobile content in the Asia Pacific will increase from US\$550 million in 2000 to over US\$32 billion in 2005. Industry analysts also forecast that the number of wireless Internet users will grow to 1.3 billion by 2004. With an excellent telecommunications infrastructure and strengths in service provision, Hong Kong is best positioned to be a regional center of developing wireless applications

Orange and Compaq Computer Limited developed wireless corporate solutions for business users in Hong Kong using the new CDMA 64kbps wireless modem card - the first in Hong Kong to support IS95B packet data transmission technology with Compaq iPAQ Pocket PC and Notebook PC. This provides users a one-box solution to enjoy high-speed access to the "Wirefree Office" service and the Internet at speeds of up to 64kbp. Users can access the Internet and the "Wirefree Office", and download files, bringing them the convenience of high-speed wireless data communications.

Third-generation mobile services (3G)

The Telecommunication Authority will auction four 3G licenses in September 2001. There will be a minimum quality of service, rollout, financial capability, and investment plan. The spectrum fee will be based on a percent of royalty plus some minimum payment depending on the bid. After Europe's cash auctions, it became apparent that up-front cash requirements do not leave enough money for investment in the systems. HK's approach will reduce the risks, allow bankers and capital markets to support investors, and open the bidding to smaller firms.

There will also be an open network requirement for winners of 30% of network capacity. Additional licenses will not be offered until 2005. The intent is to allow non-affiliated mobile virtual network operators and content providers to develop applications and provide additional competition from creative small and medium sized enterprises. This means that even small content operators may have access to the 3G networks to provide attractive and innovative services to their customers. TA believes that this will provide a vibrant and competitive environment for content and service applications to flourish on the 3G platforms, making the 3G phone the most powerful and versatile information and communications tool in the next century.

REFERENCES

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IT Hong Kong

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