

MESSAGE

The new generation of telecommunications technology and services gives the Information Age a new definition. New means of communications of voice, data, images, and multi-media applications have begun to change the way we live and work. We must anticipate the changes ahead and get Hong Kong ready for the exciting developments in the global village.



Hong Kong is proud of our leading role in developing wireless technology and services. Competitive mobile services, in terms of quality as well as price, have spurred the mobile penetration rate to 83%. We are indeed very well-placed to reap the benefits of the business opportunities to be brought by the third generation mobile services (3G). We have announced the four successful bidders, and will complete the whole licensing exercise by end-2001. Under our unprecedented but pragmatic approach, the industry's financial burden is reduced to the minimum given they only have to pay a royalty spread over 15 years. We have also spearheaded the introduction of an open network access requirement. This will allow smaller content and service applications operators to provide attractive and innovative services to their customers. We firmly believe that our 3G market will be vibrant and competitive, making 3G a powerful and versatile information and communications tool for businesses and consumers in the new century.

We will press on with our commitment under the existing liberalisation policy to issue local wireline-based fixed telecommunications licences for operation from 1 January 2003. We plan to invite licence applications from interested operators in 2001.

A pro-competition, open and fair regulatory regime will continue to underpin our liberalisation policy for the telecommunications industry. Having enjoyed the advantage of an early mover in liberalising the telecommunications market in Asia and attracted substantial private

investment in our local and external telecommunications infrastructure, we must maintain such a favourable investment environment in order to serve as a telecommunications and Internet hub in the region.

A handwritten signature in black ink, appearing to read 'Carrie Yau', written in a cursive style.

(Mrs Carrie Yau)
Secretary for Information Technology
and Broadcasting

Telecommunications

Policy Objective and Key Result Areas

TELECOMMUNICATIONS

Our Policy Objective is to facilitate the development of the telecommunications industry and enhance Hong Kong's position as a telecommunications hub.

Overall Targets

Our targets this year in pursuing this Policy Objective are –

- to enable Hong Kong to be recognised as a world-class telecommunications centre for doing business
- to ensure that Hong Kong has available high quality telecommunications services at competitive prices
- to ensure that Hong Kong has high performance in telecommunications as measured against the Organisation for Economic Co-operation and Development (OECD) economies

Progress

In the past year, we aimed to deliver results in the four Key Result Areas (KRAs). We have achieved satisfactory results in all these KRAs. These will be further described later in this booklet.

At the Policy Objective level, we had three targets last year.

Our first target was to enable Hong Kong to be recognised as a world-class telecommunications centre for doing business. To achieve this target, it is vital for us to maintain a fair and transparent regulatory framework. The Telecommunication (Amendment) Ordinance 2000 has provided us the legal backing for an improved regulatory framework, which includes enhanced competition safeguards, improved interconnection and access arrangements for telecommunications services, and strengthened powers for the Telecommunications Authority (TA) over certain technical matters. During the year, we have put in place the improved framework including a streamlined licensing regime.

Our second target was to ensure that Hong Kong has available high quality telecommunications services at competitive prices. We believe that liberalisation of the markets will bring about more effective competition, which in turn will lead to improvements in service quality, as well as better value for the consumers. With our progressive liberalisation policy, all sectors of our telecommunications market, local and external, services-based and facilities-based, have been liberalised.

During the past year, we have seen that the liberalisation policy is taking effect. In the local fixed telecommunications market, we have been closely monitoring the progress of the nine new fixed telecommunications network services (FTNS) operators (five new local wireless-based FTNS operators and a cable TV operator licensed in 2001 to provide telecommunications services, and three wirelined-based FTNS operators) in rolling out their networks. The aim is to provide an alternative choice of service provider to the dominant local FTNS operator. Due to competitive prices for quality services, the number of broadband connections to the Internet has doubled from 207 000 in July 2000 to 442 000 in July 2001.

In the external telecommunications facilities market, we have continued our efforts in inviting successful applicants to take up their licences and launch services. As at August 2001, we have 34 successful applicants, 15 for satellite-based operations and 19 for cable-based operations. Of them, 20 have taken up licences (eight for satellite-based operations and 12 for cable-based operations). The cable-based operators, in particular, have increased our external connectivity by ten-fold from 44 Giga bits per second (Gbps) in early 2000 to 454 Gbps, with two new submarine cables and one new overland cable already brought into Hong Kong. In addition, competition in the external telecommunications services market continues to benefit consumers with the further reduction in International Direct Dialling (IDD) call rates. Consumer savings since liberalisation of the external services market in 1999 and 2000 amount to an estimated HK\$9.4 billion.

Our third target was to ensure that Hong Kong sustains a high performance in telecommunications as measured against OECD economies. Our telecommunications sector continued to outperform its counterparts in many developed economies in the world. For instance, our mobile telephone penetration rate rose from 69% in June 2000 to 83% in June 2001, one of

the highest in the world. Hong Kong has broadband coverage to practically all commercial buildings and over 95% of households.

We also achieved the following progress in our four KRAs.

1 Provide the necessary regulatory framework and set standards for telecommunications in Hong Kong

Further to the passage of the Telecommunication (Amendment) Ordinance 2000, we have started to implement the improved regulatory framework provided for in the Ordinance. In September 2000, we consulted the public and the industry on our proposal on carrier licences which could be mainly divided into three categories as fixed carrier, mobile carrier and space station carrier licences respectively. We have also proposed that the validity period of the mobile carrier licences be 15 years to pave way for the issue of new licences for third generation mobile services (3G). After considering the views received, we made and brought into operation the Telecommunications (Carrier Licences) Regulation in April 2001. We also issued guidelines for the application of other licences issued by the TA at the same time. As a result, all licences are now issued and renewable under the streamlined licensing regime. Furthermore, we conducted a consultation on the creation of a class licence for terminal equipment in April 2001, with the aim to further streamlining the licensing procedure.

On formulating the licensing and regulatory framework for 3G, we have made significant progress. Following extensive consultations since March 2000, we announced in February 2001 an innovative and pro-competition licensing and regulatory framework to issue four licences by a hybrid method. The method consists of a pre-qualification exercise followed by spectrum auctioning, which is based on bidding of a royalty percentage subject to minimum guaranteed payment. To provide sufficient legal backing for the implementation of the framework, we proposed amendments to the principal legislation under the Telecommunications (Amendment) Ordinance 2001, and thereafter made under the amended principal legislation two pieces of subsidiary legislation, that is, Telecommunications (Designation of Frequency Bands Subject to the Payment of Spectrum Utilisation Fee) Order and Telecommunications (Method for Determining Spectrum Utilisation Fees)(Third Generation Mobile Services) Regulation. The

Amendment Ordinance and the subsidiary legislation were passed in May and July 2001 respectively. We issued an Information Memorandum to invite applications in July 2001. We have already announced the four successful bidders, and will complete the whole licensing exercise by end-2001.

We have also made satisfactory progress in the development of new standards. In multilateral fora, we have continued to play a proactive role in the Asia-Pacific Economic Co-operation (APEC) in establishing a Mutual Recognition Arrangement (MRA) for telecommunications equipment. We have now implemented Phase I of the MRA and are among the first to indicate readiness to implement Phase II of the MRA.

2 Create an open and competitive telecommunications market

To ensure open and fair competition, we have reviewed and proposed a set of regulation on the merger and acquisition activities in the telecommunications market. The aim is to ensure that the level of competition in the telecommunications market will not be undermined by such activities. To this end, we conducted a consultation on our proposal in April to June 2001 and we are now reviewing the submissions received.

In order to introduce further competition to the local telecommunications market, we will invite application for local wireline-based FTNS licences by end-2001.

3 Facilitate the development of an open, integrated broadband telecommunications network

There has been continued improvement in the coverage of the broadband telecommunications networks. Our broadband coverage for residential households has risen during the past year from 90% to the present over 95%. Practically all commercial buildings are already covered by broadband telecommunications networks.

Having conducted two rounds of industry consultation in November 1999 and June 2000 on the principles and costing standards for the interconnection of broadband networks, the TA issued a Statement on broadband interconnection in November 2000. The regulatory framework would serve to facilitate the continued broadband network roll-out and promote effective competition for broadband services.

Apart from principles and costing standards, we have also stepped up our liaison efforts to facilitate the wireline and wireless broadband network operators to have access to buildings with the aim to facilitating their network roll-out. The specialised in-building access team in the Office of the Telecommunications Authority (OFTA) has organised various seminars, attended regular meetings with owners' corporations and property management companies and launched television publicity campaigns.

4 Establish Hong Kong as a world-class telecommunications centre

Last year, we continued to make the teleport site ready for use by operators to enhance external facilities competition. Progress towards this target has been satisfactory. We have awarded two teleport sites in November 2000, making a total of three sites granted to external facilities operators already.

To enhance Hong Kong's position as a telecommunications hub in the region, we successfully hosted the International Telecommunication Union (ITU) TELECOM ASIA 2000 (exhibition cum conference) during 4-9 December 2000. Around 50 000 visitors were attracted to the event. Over 700 representatives from 80 countries and 1 000 press members from 45 countries visited Hong Kong. Tangible benefits included over HK\$200 million total foreign spending, and over HK\$100 million revenue from construction of exhibition booths. The event was described by the ITU as its "largest and most successful regional event ever". In view of the tremendous success, we have successfully bid for the hosting of ITU TELECOM ASIA 2002 in December 2002.

Progress on each previously announced initiative under the above KRAs is set out in the "Detailed Progress" section of this report.

Looking Forward

To achieve our overall targets this year, we will undertake the following initiatives and targets under each of the KRAs for the coming year.

1

Provide the necessary regulatory framework and set standards for telecommunications in Hong Kong

As Hong Kong's telecommunications services and facilities are provided by the private sector, a pro-competition and pro-consumer regulatory framework is essential in providing a good investment environment for the telecommunications industry. We aim to adopt international best practices in this regard.

As amended by the Telecommunication (Amendment) Ordinance 2000 in June 2000, the Telecommunications Ordinance provides the legal framework for the regulation of the telecommunications industry in Hong Kong. The enhanced competition safeguards, improved interconnection and access arrangement for telecommunications services, streamlined licensing procedure and empowerment for TA over certain technical matters will provide the pro-competition and pro-consumer regulatory framework for the further development of telecommunications industry in Hong Kong.

Hong Kong's open operating environment and the adoption of a technology-neutral approach has assured our access to the most modern technology. This has benefited telecommunications service operators, equipment manufacturers and consumers. We aim to develop and implement standards appropriate to Hong Kong, in conjunction with regional and international bodies. Hong Kong will continue to play a leading role in the implementation of the APEC's multilateral arrangement for mutual recognition of conformity assessment for telecommunications equipment. This will facilitate our manufacturers' access to markets in other economies and ensure our access to advanced telecommunications equipment.

We will assess our performance in respect of this KRA against the following indicators –

- The issuance of codes of practice and guidelines which adopt international best practices. Our target is to ensure that all the codes of practice and guidelines will adopt international best practices.
- The implementation of the improved regulatory framework provided for in the Telecommunications Ordinance.

- The timely revision and implementation of new or revised regulations and standards. Our target is to anticipate market development and provide a timely response.

We will pursue the following initiative and target to deliver results in this area –

Initiative *	Target
To take an active part in the development of new standards in multilateral fora with Hong Kong's requirement in mind <i>(Office of the Telecommunications Authority)</i>	To implement Phase II of the APEC Mutual Recognition Arrangement for telecommunications equipment by 2002

* the bracketed information denotes the agency with lead responsibility for the initiative

Hong Kong's telecommunications market is one of the most open in the world. Our telecommunications services and facilities are not subject to foreign ownership restrictions and we are committed to a level playing field in telecommunications. Greater and more effective competition gives consumers greater choice and increases market efficiency. Telecommunications services also underpin all other business and commercial services. The provision of quality telecommunications services at competitive prices will enhance Hong Kong's overall competitiveness.

Hong Kong is committed to the progressive liberalisation of the telecommunications sector. We now have ten licensed operators in the local fixed telecommunications market, all of which is capable of providing broadband networks and services. We monitor and publish the delivery of the milestones and commitments pledged by the three existing new local wireline-based FTNS licensees, the five new local wireless-based FTNS licensees and the cable TV operator licensed to operate telecommunications services. For the external telecommunications facilities market, we have 34 successful applicants, 15 for satellite-based operations and 19 for cable-based operations. Of them, 20 have taken up a licence (eight for satellite-based operations and 12 for cable-based operations). With the advent of 3G, we would issue four more mobile carrier licences. We invited applications in July 2001.

We will assess our performance in respect of this KRA against the following indicators –

- The number of local FTNS licensees. Our target is to maintain the existing number of local FTNS licensees in operation in the market until end-2002.
- The number of external telecommunications services licensees. Our target is to maintain a level playing field so as to ensure that the market determines the optimal number of licensees.
- The number of external FTNS licensees. Our target is to maintain a level playing field so as to ensure that the market determines

the optimal number of licensees, subject to any physical constraint.

- The number of mobile phone licensees. Our target is to maintain a level playing field so as to ensure that the market determines the optimal number of licensees, subject to any spectrum constraint.
- The number of paging services licensees. Our target is to maintain a level playing field so as to ensure that the market determines the optimal number of licensees, subject to any spectrum constraint.
- The number of Internet Service Providers. Our target is to maintain a level playing field so as to ensure that the market determines the optimal number of providers.

We will pursue the following initiatives and targets to deliver results in this area –

Initiative	Target
<p>To introduce further competition in the local wireline-based Fixed Telecommunications Network Services (FTNS) market</p> <p><i>(Office of the Telecommunications Authority)</i></p>	<p>To complete in 2002 the licensing exercise for new local wireline-based FTNS for operation from 1 January 2003</p>
<p>To promote fair competition in the telecommunications sector</p> <p><i>(Information Technology and Broadcasting Bureau)</i></p>	<p>To implement the regulatory framework on effective competition, and provide support for the new independent appeal channel under the Telecommunications (Competition Provisions) Appeal Board</p>

3

Facilitate the development of an open, integrated broadband telecommunications network

An important consideration in designing the regulatory framework is that it should encourage the provision of broadband services which are widely available at reasonable cost to the consumer. This will facilitate the development of an open information infrastructure, accessible throughout Hong Kong, through which government, businesses and individuals can exchange information and conduct transactions easily. The availability of such broadband services at reasonable prices will enhance our overall competitiveness, promote electronic business and improve the social and personal life of individuals.

We aim to improve access for telecommunications services so as to facilitate the development of an open, integrated broadband network to provide the necessary infrastructural support for information technology and broadcasting development and upgrading.

We will assess our performance in respect of this KRA against the following indicators –

- The coverage of households or businesses by broadband telecommunications networks. Our target is to facilitate the private sector’s continued network roll-out.
- Prices for broadband services. Our target is to promote effective competition for broadband services in order to bring about more competitive prices.

We will pursue the following initiative and target to deliver results in this area –

Initiative	Target
To set up new industry fora and prepare industry/statutory code of practice for broadband network roll-out <i>(Office of the Telecommunications Authority)</i>	To complete in 2002 the implementation of all measures identified in the 2000 “broadband interconnection” review

Hong Kong is already a key regional telecommunications hub. The capacity of our submarine cable and satellite communications links is amongst the largest in the region. Through maintaining an open and competitive telecommunications market, we will encourage private sector investment and innovation necessary for Hong Kong to maintain its position as a world-class telecommunications centre.

We aim to strengthen our position by establishing Hong Kong as the Internet hub for the Asia-Pacific Region. We shall develop a world-class teleport for external telecommunications and broadcasting services, which will enable external facilities providers and broadcasters to provide sufficient capacity for satellite links to and from Hong Kong to cope with demand in the coming years.

We will assess our performance in respect of this KRA against the following indicators –

- The timely development of a world-class teleport. Our target is to closely monitor the demand for sites for building external telecommunications facilities.
- The level of fixed line penetration, mobile telephone penetration and access to broadband telecommunications networks. Our targets are as follows: First, to facilitate the market to determine the optimal level of fixed line and mobile telephone penetration. Second, to facilitate access to broadband telecommunications networks.
- The capacity of external telecommunications connectivity. Our target is to facilitate expansion of external telecommunications connectivity by the private sector by licensing all satisfactory applications for external telecommunications facilities.

We will pursue the following initiative and target to deliver results in this area –

Initiative	Target
To host an international telecommunications exhibition cum conference ITU TELECOM ASIA 2002 organised by the International Telecommunication Union <i>(Information Technology and Broadcasting Bureau)</i>	To facilitate the staging of “ITU TELECOM ASIA 2002” in end-2002

Telecommunications

Detailed Progress

1

Provide the necessary regulatory framework and set standards for telecommunications in Hong Kong

To achieve results in this area, various initiatives have been undertaken in the past years. Details are set out below –

Initiative *	Target #	Present Position +
<p>To implement the improved regulatory framework provided under the Telecommunication (Amendment) Ordinance 2000</p> <p><i>(Office of the Telecommunications Authority (OFTA))</i></p>	<p>To issue in 2000-2001 the guidelines as required under various provisions of the Telecommunication (Amendment) Ordinance 2000, including those for licence applications under the streamlined licensing regime</p> <p><i>(2000)</i></p>	<p>Licences are issued and renewable under the streamlined licensing regime provided for in the Telecommunication (Amendment) Ordinance 2000. Class licences will be introduced in phases from 2001.</p> <p><i>(Action in Progress: On Schedule)</i></p>
<p>To establish and implement the licensing framework for third generation mobile communication services</p> <p><i>(OFTA)</i></p>	<ul style="list-style-type: none"> ● To issue in 2001 licences for the provision of third generation mobile communication services <p><i>(2000)</i></p>	<p>We issued an Information Memorandum to invite applications for the third generation mobile services licences in July 2001 and received applications in September 2001. We have already announced the four successful bidders, and will complete the whole licensing exercise by end-2001.</p> <p><i>(Action in Progress: On Schedule)</i></p>

* the bracketed information denotes the agency with lead responsibility for the initiative

the bracketed information denotes the year in which the target was set

+ the bracketed information denotes the status of the target

Initiative	Target	Present Position
	<ul style="list-style-type: none"> To establish a regulatory framework and invite licence applications in 2000, after consultation with the industry (1999) 	<p>After two rounds of consultations in March and October 2000 and an industry workshop on open network access requirement in January 2001, the licensing and regulatory framework was announced in February 2001.</p> <p><i>(Action Completed)</i></p>
<p>To set quality standards for metering and billing accuracy for public telecommunications operators (OFTA)</p>	<p>To stipulate the required standards and implement a quality control system in 2001 with support and input from licensees through an industry forum (2000)</p>	<p>A standing industry forum has been established and the first set of standards will be ready by end-2001.</p> <p><i>(Action in Progress: On Schedule)</i></p>
<p>To develop and implement standards appropriate to Hong Kong so that the industry can adopt the most modern technology to improve services (OFTA)</p>	<ul style="list-style-type: none"> To implement the APEC Mutual Recognition Arrangement for telecommunications equipment by 2000 (1999) 	<ul style="list-style-type: none"> Hong Kong has reached agreement with Australia, Singapore and Chinese Taipei on the implementation of Phase I of the Arrangement. Hong Kong was among the first APEC economies to pledge to implement Phase II of the Arrangement. <p><i>(Action in Progress: On Schedule)</i></p>

Initiative	Target	Present Position
	<ul style="list-style-type: none"> ● To take an active part in the development of new standards in multilateral fora in 1999, with Hong Kong's requirements in mind <i>(1998)</i> 	<ul style="list-style-type: none"> ● OFTA has actively participated in the standardisation activities of various fora, including the International Telecommunication Union on the standards for third generation mobile services. <i>(Action Completed)</i>
<p>To review the regulatory framework for universal services in the light of development of an information society <i>(OFTA)</i></p>	<p>To conduct public consultation and complete the review in 2000 <i>(1999)</i></p>	<p>OFTA has completed the review in September 2001. OFTA will further examine the detailed framework to ensure that it will keep with the fast-changing developments of the telecommunications industry. <i>(Action Completed)</i></p>

2

Create an open and competitive telecommunications market

To achieve results in this area, various initiatives have been undertaken in the past years. Details are set out below –

Initiative	Target	Present Position
<p>To promote fair competition in the telecommunications sector</p> <p><i>(Information Technology and Broadcasting Bureau (ITBB))</i></p>	<p>To review in 2000-2001 the regulatory framework to ensure effective competition, having regard to the advent of the third generation mobile communication services (3G)</p> <p><i>(2000)</i></p>	<p>We have spearheaded the open network access requirement for the 3G licences. This would enhance competition in the content and service applications in 3G.</p> <p><i>(Action Completed)</i></p>
<p>To introduce further competition in the local wireline-based fixed telecommunications network services (FTNS) market</p> <p><i>(Office of the Telecommunications Authority)</i></p>	<p>To invite in 2001 licence applications for operation of local wireline-based FTNS from 1 January 2003</p> <p><i>(2000)</i></p>	<p>We will invite licence applications by end-2001. Preparatory work is underway.</p> <p><i>(Action in Progress: On Schedule)</i></p>

Initiative	Target	Present Position
<p>To enhance the regulatory framework for fair and effective competition to facilitate further development in the local and external fixed telecommunications market (ITBB)</p>	<p>To bring into effect in 2000 the enhanced competition safeguards and the streamlined licensing framework under the Telecommunication (Amendment) Bill 1999, subject to the passage of the Bill by the Legislative Council (1999)</p>	<ul style="list-style-type: none"> ● The provisions on competition safeguards in the Telecommunication (Amendment) Ordinance 2000 came into operation on 16 June 2000. ● The Telecommunications (Carrier Licences) Regulation was brought into effect on 1 April 2001. We will continue to implement the improved regulatory framework under Key Result Area 1. <p>(Action Completed)</p>

3

Facilitate the development of an open, integrated broadband telecommunications network

To achieve results in this area, various initiatives have been undertaken in the past years. Details are set out below –

Initiative	Target	Present Position
<p>To improve access to buildings for the extension of coverage of the broadband telecommunications network</p> <p><i>(Office of the Telecommunications Authority (OFTA))</i></p>	<p>To step up publicity and liaison efforts in 2000-2001 to facilitate the wireline and wireless broadband network operators to have access to buildings to extend the coverage of their networks</p> <p><i>(2000)</i></p>	<p>We have stepped up our liaison efforts with the various stakeholders. The specialised in-building access team within OFTA has organised various seminars, attended regular meetings with owners' corporations and property management companies and launched television publicity campaigns. We will also launch a major publicity campaign by end-2001 which is planned to go on for the next 12 months.</p> <p><i>(Action in Progress: On Schedule)</i></p>
<p>To develop principles and costing standards for the interconnection of broadband networks</p> <p><i>(OFTA)</i></p>	<p>To complete industry consultation and announce decisions in 2000</p> <p><i>(1999)</i></p>	<p>The Telecommunications Authority issued a Statement on broadband interconnection in November 2000.</p> <p><i>(Action Completed)</i></p>

To achieve results in this area, various initiatives have been undertaken in the past years. Details are set out below –

Initiative	Target	Present Position
<p>To improve the radio communication environment</p> <p><i>(Office of the Telecommunications Authority (OFTA))</i></p>	<p>In 2001, to implement an automated Direction Finding (DF) system to enhance the efficiency of interference investigation activities and to establish an information database on radio stations in Hong Kong and Guangdong to more effectively handle cross-boundary interference</p> <p><i>(2000)</i></p>	<ul style="list-style-type: none"> ● The DF system was put into operation on 15 May 2001. ● Both OFTA and the Guangdong authority have prepared their database on their radio systems. Both sides will exchange the database information by end-2001. <p><i>(Action in Progress: On Schedule)</i></p>
<p>To host an international telecommunications exhibition cum conference “ITU TELECOM ASIA 2000” organised by the International Telecommunication Union (ITU)</p> <p><i>(Information Technology and Broadcasting Bureau (ITBB))</i></p>	<p>To facilitate the staging of “ITU TELECOM ASIA 2000” to be held from 4-9 December 2000</p> <p><i>(1999)</i></p>	<p>The “ITU TELECOM ASIA 2000” was successfully held on 4-9 December 2000. It attracted over 50 000 visitors and was described by the ITU as its “largest and most successful regional event ever”.</p> <p><i>(Action Completed)</i></p>

Initiative	Target	Present Position
<p>To develop a world-class teleport at Chung Hom Kok to facilitate the installation of external telecommunications links</p> <p><i>(ITBB)</i></p>	<p>To make the teleport site ready for use by operators to enable external facilities competition to commence from 2000</p> <p><i>(1998)</i></p>	<p>Following the first tendering exercise in January 2000, we have conducted the second tendering exercise and awarded two more sites in September-November 2000. So far three sites have been awarded to successful tenderers. OFTA will tender the remaining sites to meet the needs of the telecommunications industry.</p> <p><i>(Action Completed)</i></p>