

Digital 21

Hong Kong Special Administrative Region Information Technology Strategy

An electronic copy of this booklet is available on the web site of the
Information Technology and Broadcasting Bureau,
the Government of the Hong Kong Special Administrative Region at
<http://www.info.gov.hk/itbb>

November 1998

PREFACE

The rapid development and wide adoption of digital technology has led to great changes in the past two decades. These changes are not simply in the context of data processing or computing. They are changes which affect how we communicate with each other, how we organise our daily activities, how we educate the younger generation, and how we run business.

The driving force behind all these changes is the digital convergence which is driving the whole world into a digital age – an age which offers lots of possibilities and opportunities.

As a city with one of the world's most advanced telecommunications infrastructure, Hong Kong is well positioned to take advantage of the opportunities in the digital world. We must build on our strengths in order to be even more competitive in the digital and globally connected world of tomorrow.

In this publication, "Hong Kong Special Administrative Region: Information Technology Strategy", we have set out our vision, initiatives and targets of how Government, business, industry and the academia can work together to make Hong Kong a leading digital city in a globally connected world. It presents an all-encompassing strategy based on four enabling factors: developing a high capacity communications infrastructure, establishing an open and secure common interface for electronic transactions, empowering our people with the know-how to use information technology (IT), and nurturing a culture which stimulates creativity and welcomes advances in the use of IT.

We shall regularly review and revise this strategy in response to the rapid pace of technology development, and update our goals and targets.

K C Kwong

Secretary for Information Technology and Broadcasting

CONTENTS

Part 1 : Hong Kong and the Information Age

- 1.1 Introduction
- 1.2 The Information World of Tomorrow
- 1.3 Strategy in a Globally Connected World
- 1.4 The Enabling Factors

Part 2 : The Initiatives

- 2.1 High Capacity Communications Systems
 - 2.1.1 Telecommunications Infrastructure
 - 2.1.2 Electronic Service Delivery Infrastructure
 - 2.1.3 Asia Pacific Internet Traffic Hub
- 2.2 Common Software Interface for Secure Electronic Transactions
 - 2.2.1 Chinese Language Interface
 - 2.2.2 Public Key Infrastructure
 - 2.2.3 Regulation and Legislation
 - 2.2.4 Year 2000 Problem
- 2.3 People Who Know How to Use IT
 - 2.3.1 IT in Education
 - 2.3.2 IT Manpower Supply

2.4 A Cultural Environment that Stimulates Creativity and Welcomes Advances in the Use of IT

2.4.1 Government IT Exploitation

2.4.2 TV Market

2.4.3 Asia Pacific Internet Content Hub

2.4.4 Chinese Language Applications

2.4.5 IT Industry Support

2.4.6 IT Investment

2.4.7 IT Excellence

2.4.8 Knowledge and Awareness of IT and Information Services

2.4.9 IT in the Community

Part 3 : The IT Strategy Plan – Milestones and Targets

Part 4 : Conclusion

1.1 INTRODUCTION

1.1.1 In his 1997 Policy Address, the Chief Executive stated his vision to make Hong Kong a leader, not a follower, in the information world of tomorrow. In his 1998 Policy Address, he further emphasised the importance of using information technology (IT) to help Hong Kong to retain its competitive edge and to drive its overall economic expansion.

1.1.2 The Information Technology and Broadcasting Bureau (ITBB) was set up in April 1998 to lead and co-ordinate the work of all those in government involved in IT and the related areas of broadcasting and telecommunications. To assist ITBB in this task, the Information Infrastructure Advisory Committee (IIAC) was set up in August 1998.

1.2 THE INFORMATION WORLD OF TOMORROW

1.2.1 EXPANSION OF CYBER SPACE

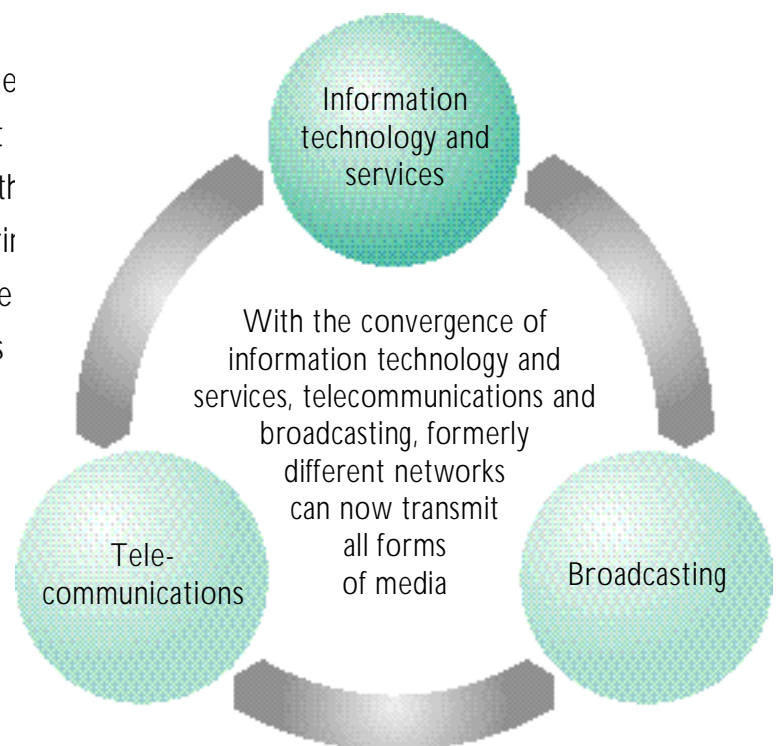
The most prominent feature of the information world of tomorrow is the expansion of what is commonly known as cyber space. The emergence of a cyber counterpart to our physical reality is becoming an all-encompassing experience. As the volume and variety of on-line transactions grow, our activities in cyber space will be as influential on us as those conducted in the physical world. The cyber world, however, could operate in ways very different from its physical counterpart. Its use, exploitation and regulation would therefore require somewhat different approaches in many respects.

1.2.2 DIMINISHING DISTANCE

Physical distance will have less of an effect on us in the future as telecommunications and physical transportation become more efficient and less expensive. Furthermore, the linking of the world via the Internet shrinks distance even further, in effect changing everywhere in the world into neighbourhoods. More cross border activities will thus be enabled with the shortening of distance. Development of a knowledge-based economy will only accelerate this trend. The result is that we are as likely to compete or co-operate with someone across the globe as with someone from the next street. Both customers and competitors come together from afar. Friends and families living in different parts of the world are re-united via modern means of getting in touch.

1.2.3 CONVERGENCE OF MEDIA

The technology behind the telephone, broadcasting used to be very different technology is uniting all of these, so that now more likely to find combinations of different means of communication deliver integrated information via the same piece of wire and via a common interface. This development could create new media types and applications never seen before. Coupled with the growth of the Internet, itself a global network of networks, it is possible that any such development happening in one place will have a significant impact elsewhere. The enabling factor is a digital network, permeating throughout the world of the future.



1.2.4 PACE OF CHANGE

The pace of innovation will be very rapid in the information world of tomorrow. This is facilitated by the development of the cyber world, which enables the flow of

information worldwide in a very economical and very rapid manner. To cope with this, we will see people engaged in life long learning to continually renew their skill sets. Since decisions must be made in a short time, responsibilities will have to be delegated as far as possible to the front line with the result that a more fluid kind of organisation will emerge. Communication within such organisations will be speeded up and this in turn facilitates the creation and exchange of new ideas, and further increases the pace of innovation.

1.2.5 Predicting the changes the world will see over the coming decades cannot be done precisely. However, the trends already evident point to a world where people and businesses are able to obtain services in a quicker, better and cheaper way. These trends should enable people and business, for example, to –

- buy products and services from anyone, anywhere, any time and at lower prices;
- sell more easily to customers beyond their traditional markets;
- rely on IT tools in the workplace to enable them to work more effectively and efficiently;
- communicate with their families, friends, and colleagues over long distances more easily and cheaply;
- share their knowledge and experiences with a wider global audience more easily;
- have access to a wealth of information and knowledge to enhance their own personal, educational, social and working lives; and
- have their own unique choices and needs for products and services delivered more easily and efficiently.

1.2.6 To sum up, the information world of the 21st century offers people worldwide the opportunity to transform the way they live and work. New computing and communication technologies offer new ways of learning, conducting business, and interacting socially. More specifically,

- High-speed connections will make geographical distance increasingly insignificant and, as a result, there will be more opportunities for co-operation and competition in various parts of the world.
- Apart from facilitating communication, digital technology also brings new business opportunities. By using the latest technology, operators may provide new

multimedia services, overcome geographical and time constraints to enter markets that were not possible in the past, and reduce operating costs.

- As the use of digital technology enables the transmission of information to every corner of the world within a very short time, the capability to make optimum use of IT will be critical to continued competitiveness in the information world of tomorrow.

1.3 STRATEGY IN A GLOBALLY CONNECTED WORLD

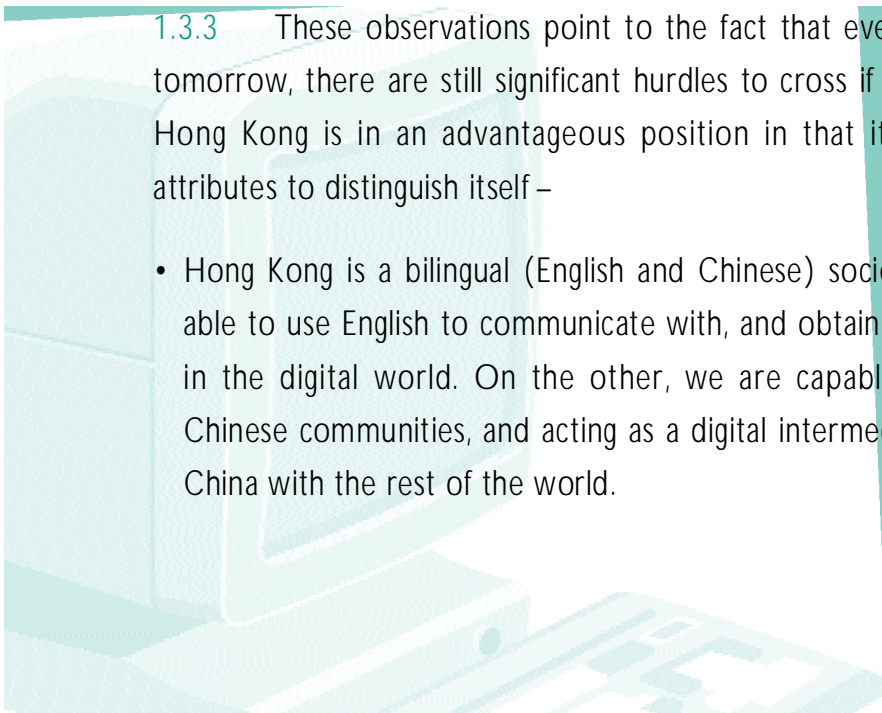
1.3.1 The rapid pace of technology innovation, adoption and application necessitates a coherent strategic response from the Government. For Hong Kong to maintain its status as a leading international financial and business centre and to remain competitive in the global market, it must keep itself in the forefront of IT development.

1.3.2 While the digital world is unfolding, there are obstacles to the full realisation of its economic and social benefits –

- Despite the rapid development of communication networks, the dissemination of information is still, to a very great extent, subject to language barriers.
- Differences in culture will remain in spite of the advancement of global means of transportation and telecommunication.
- Differences in regulatory, legal, and institutional arrangements will still have an impact on information flow and electronic transactions.

1.3.3 These observations point to the fact that even in the information world of tomorrow, there are still significant hurdles to cross if one is to reap its full benefits. Hong Kong is in an advantageous position in that it possesses a combination of attributes to distinguish itself –

- Hong Kong is a bilingual (English and Chinese) society. On the one hand, we are able to use English to communicate with, and obtain information from, most places in the digital world. On the other, we are capable of co-operating with other Chinese communities, and acting as a digital intermediary in linking the Mainland of China with the rest of the world.



- Hong Kong is a cosmopolitan city. We are open to the cultures of the world and are ready to assimilate the latest knowledge and technology.
- Hong Kong has a free and market-based economy. We allow free flow of information, which is distinctively important in a world where knowledge drives economic growth.

1.3.4 In line with the global trends described above, and in consideration of our own strength and resources, the Digital 21 IT strategy for the Hong Kong Special Administrative Region has been formulated by ITBB and its aim is to –

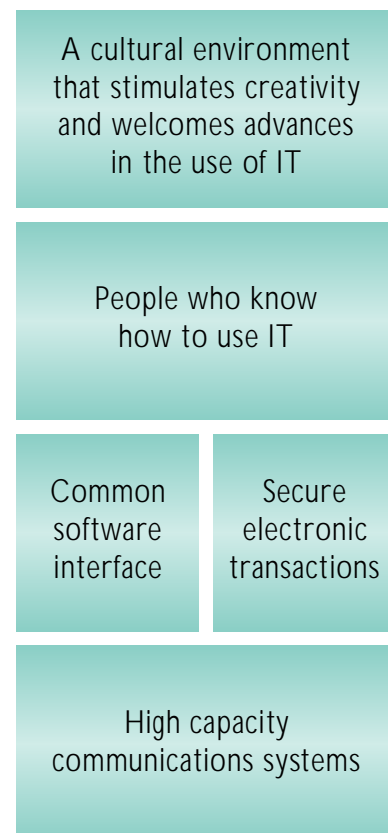
Enhance and promote Hong Kong’s information infrastructure and services so as to make Hong Kong a leading digital city in the globally connected world of the 21st century.

To achieve this aim, ITBB will work in partnership with the private sector, the community and other government bureaux and departments.

1.4 THE ENABLING FACTORS

1.4.1 In his 1997 Policy Address, the Chief Executive identified the following enabling factors which together would “make Hong Kong a leader, not a follower, in the information world of tomorrow” –

- the hardware of high capacity communications systems;
- a common software interface mounted on established communications networks, through which individuals, business and Government can interact easily and securely using their own systems;
- people who know how to use IT; and
- a cultural environment that stimulates creativity and welcomes advances in the use of IT.



1.4.2 Under the Digital 21 IT strategy, we have proposed initiatives in the following areas to strengthen these enabling factors –

High capacity communications systems

- Telecommunications infrastructure
- Electronic Service Delivery infrastructure
- Asia Pacific Internet traffic hub

Common software interface for secure electronic transactions

- Chinese language interface
- Public key infrastructure
- Regulation and legislation
- Year 2000 problem

People who know how to use IT

- IT in education
- IT manpower supply

A cultural environment that stimulates creativity and welcomes advances in the use of IT

- Government IT exploitation
- TV market
- Asia Pacific Internet content hub
- Chinese language applications
- IT industry support
- IT investment
- IT excellence
- Knowledge and awareness of IT and information services
- IT in the community

2.1 HIGH CAPACITY COMMUNICATIONS SYSTEMS

2.1.1 TELECOMMUNICATIONS INFRASTRUCTURE

2.1.1.1 OBJECTIVE

To enhance Hong Kong as a place for investment in telecommunications, to encourage competition and innovation under an open, fair and predictable regulatory framework, and to maintain Hong Kong's position as the pre-eminent telecommunications centre in Asia.

2.1.1.2 DESCRIPTION

This initiative aims to further open up the telecommunications market in Hong Kong and will cover the following two areas –

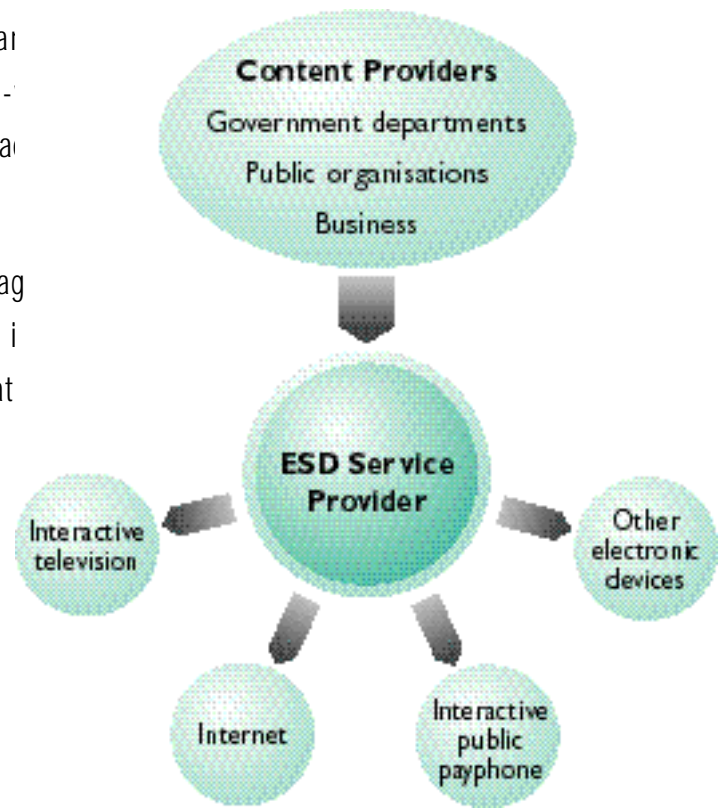
- External telecommunications
We have recently announced our policy that there should be free competition for external telecommunications services from January 1999. We have also proposed that we should liberalise the market for external telecommunications facilities from January 2000. The aims of liberalisation are to promote innovation, increase choice, and encourage better services at lower prices.
- Local fixed telecommunications market
We will ensure that there is more effective competition in the local telecommunications market, and will encourage investment in the networks in Hong Kong, in particular, to provide broadband connections to the office, the workplace and the home.

2.1.2 ELECTRONIC SERVICE DELIVERY INFRASTRUCTURE

2.1.2.1 OBJECTIVE

To provide public services to business and community with 24-hours-a-day, 7-days-a-week access through a wide range of electronic access means.

Private sector participation will be encouraged in setting up of this common information infrastructure which may be used by the private sector at a later stage for the conduct of electronic commerce. Thus, a common information infrastructure will be made available to the whole community for various kinds of electronic transactions.



2.1.2.2 DESCRIPTION

An Electronic Service Delivery (ESD) infrastructure will be developed with private sector participation. The features of this infrastructure are as follows –

- It will enable the public to obtain services through various channels, including but not limited to personal computer, interactive public payphone or television.
- The facilities will be inter-operable, secure and reliable. Using the facilities to be provided and following the interface standards, one can use diverse access means to obtain services provided by different agencies. The public will find a more efficient and effective alternative to the conventional form of public service delivery. The new means will be as secure and reliable as the conventional paper-based form.
- The interface standards used in the infrastructure will be open market-based standards. This is an important feature to ensure that we are not locked into a particular solution that will not be sustainable and that we build in the necessary flexibility for the adoption of advanced technology.

- The user interface of this infrastructure will be bilingual. Being a bilingual society, we need both Chinese and English interfaces for the successful implementation of ESD.

Public services will be made available on this infrastructure as an alternative to conventional means. Government has embarked on the preparatory work of ESD. The initial batch of services targeted for delivery in the year 2000 will include the filing of salaries tax returns, renewal of driving licences, payment of Government bills, etc.

2.1.3 ASIA PACIFIC INTERNET TRAFFIC HUB

2.1.3.1 OBJECTIVE

To establish Hong Kong as a gateway in the Asia Pacific region with regard to Internet traffic and electronic commerce information flow.

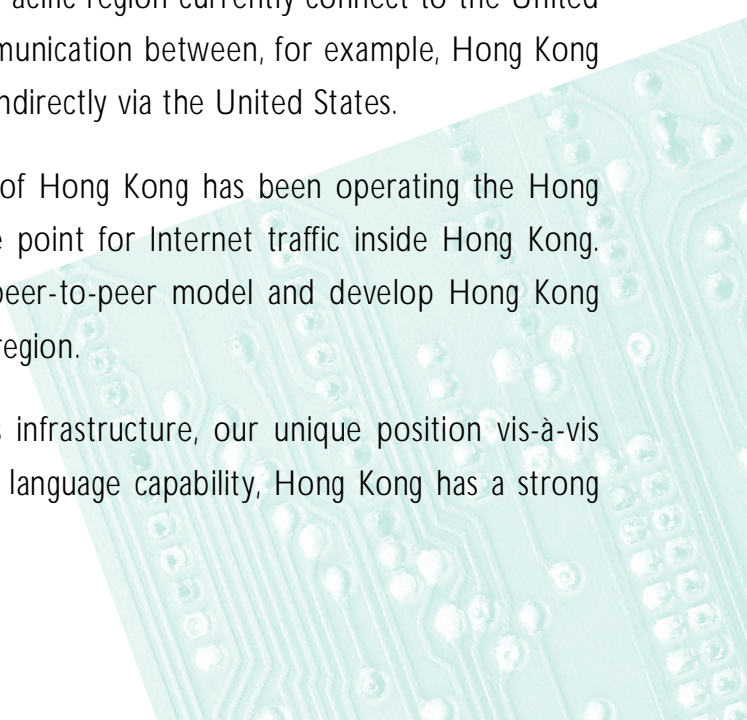
In a way not so different from the physical world, the cyber world also has its own geography. Information resides unevenly in different parts of the world, and such information travels to places via different paths. In order to establish Hong Kong as an Internet hub, we will work to establish the infrastructure to support the routing of Asia Pacific Internet traffic through Hong Kong. In linking the Mainland of China through Hong Kong to the rest of the world, we will be able to act as a digital intermediary which will help stimulate economic growth.

2.1.3.2 DESCRIPTION

Most of the Internet circuits in the Asia Pacific region currently connect to the United States with the result that Internet communication between, for example, Hong Kong and Guangdong often has to be routed indirectly via the United States.

For some time, the Chinese University of Hong Kong has been operating the Hong Kong Internet Exchange as an exchange point for Internet traffic inside Hong Kong. We will explore ways to expand this peer-to-peer model and develop Hong Kong into an Internet hub for the Asia Pacific region.

With our excellent telecommunications infrastructure, our unique position vis-à-vis the Mainland of China and our bilingual language capability, Hong Kong has a strong



competitive advantage in seeking to serve as an information gateway to the Mainland. Working with our Mainland counterparts, we will improve our mutual Internet links, making it easier for Hong Kong companies to integrate their manufacturing and supply operations in the Mainland.

The Governments of the Hong Kong Special Administrative Region and Guangdong Province reached an agreement in September 1998 to establish a direct broadband communication link by mid-1999. Both sides will also explore further areas of IT co-operation.

On-going regulatory reviews with regard to the fixed telecommunications networks are already targeted towards the establishment of Hong Kong as a pro-competition telecommunications centre. This will contribute to the development of Hong Kong into an Internet hub.

2.2 COMMON SOFTWARE INTERFACE FOR SECURE ELECTRONIC TRANSACTIONS

2.2.1 CHINESE LANGUAGE INTERFACE

2.2.1.1 OBJECTIVE

To develop a Chinese language open and common interface for users in the community who prefer to communicate in Chinese.

Initially, this common interface will be used for the electronic delivery of public services locally. Ultimately, the community should be able to use this open and common interface for communication in the Chinese language both within Hong Kong and with other parts of the world.

2.2.1.2 DESCRIPTION

Developing a Chinese language interface is crucial to the success of ESD, as Chinese is the mother tongue of the majority of Hong Kong people. It will be critical if the same infrastructure is to be extended for the use of the private sector for electronic commerce with Chinese communities both within and outside Hong Kong.

The current critical issues of using the Chinese language in electronic communication revolve around the existence of multiple standards and the constraints created by the practical need to rely on only a subset of Chinese characters which are commonly used. This problem is not apparent on stand-alone computers but is serious in networked communication. If the Chinese communities all over the world are to participate fully in the digitally connected world, this issue will have to be resolved.

We are working closely with other governments and institutions under the aegis of the International Standards Organisation (ISO) in the development of the ISO 10646 standard, which is an international coding standard aimed at encompassing the "Han" characters of all Asian languages into one single common character set. The new ISO 10646 standard now being worked on and scheduled for release in 2000 will ease the existing limitations of Chinese language computing.

Even after the new standard becomes available, however, we believe that the existing standards and the new one will co-exist for some time. There will be a demand for easy-to-use conversion tools capable of supporting different standards. This requires close collaboration between Government, the information technology and services industry, and academia.

For the implementation of ESD, we will adopt a common Chinese character set to facilitate data exchange between government departments and the public. Furthermore, we will provide easy-to-use tools for the community to transact with the government in the Chinese language.

2.2.2 PUBLIC KEY INFRASTRUCTURE

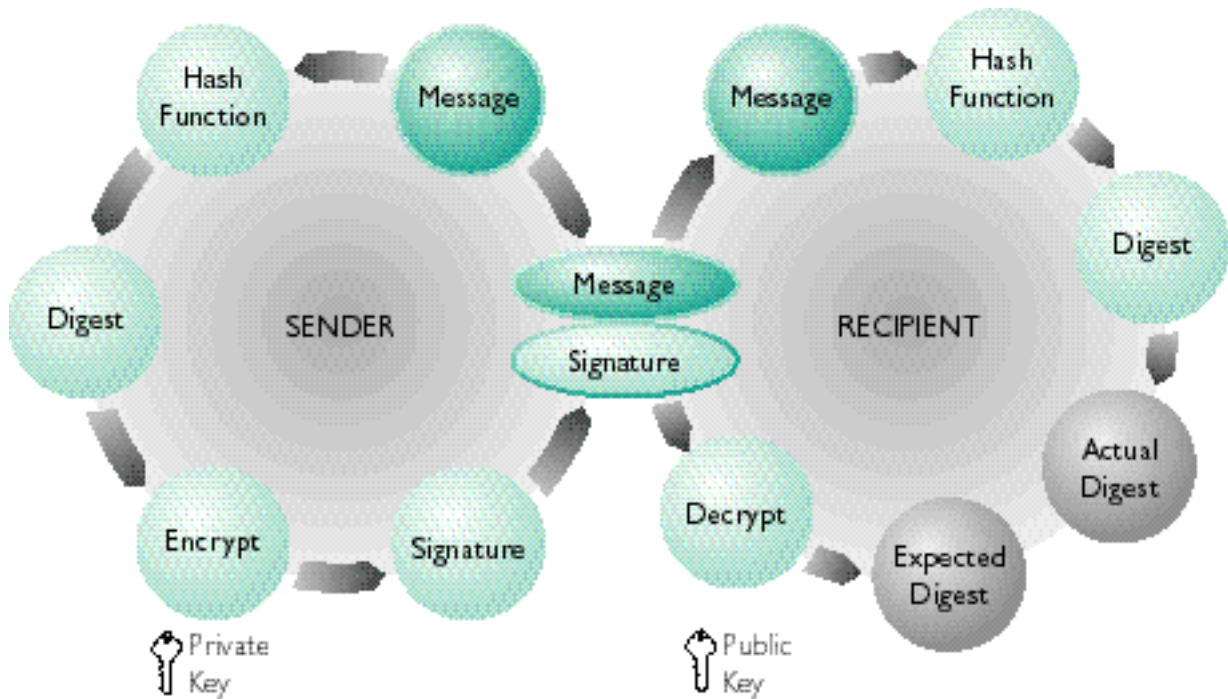
2.2.2.1 OBJECTIVE

To enable safe and secure electronic transactions by providing a framework for ensuring the integrity of information exchanged and for authenticating the identity of participants in such transactions.

2.2.2.2 DESCRIPTION

To facilitate the development of electronic commerce, it is important to instil trust in the security and integrity of transactions performed electronically. This is especially

OPERATION OF ELECTRONIC SIGNATURE



the case when cross-border transactions are involved. With a locally established public key infrastructure, and collaboration with other governments and institutions, we can promote electronic commerce in this digitally connected world.

The Government is working towards the development of a public key infrastructure to promote the competitiveness and economic growth of Hong Kong. We will develop –

- A framework for authenticating the identity of participants in electronic commerce by establishing Certification Authorities that issue digital certificates, and
- A definitive and supportive legal environment that creates certainty and builds business confidence, for example, by clarifying the legal status of electronic signatures.

The infrastructure will begin with the setting up a “root Certification Authority” which will be the defining source of all other Certification Authorities in Hong Kong. The Hongkong Post has agreed in principle to set up such a root Certification Authority and is planning for its establishment in 1999.

2.2.3 REGULATION AND LEGISLATION

2.2.3.1 OBJECTIVE

To develop a regulatory and legislative framework which will support and encourage the development of electronic commerce within Hong Kong and internationally.

2.2.3.2 DESCRIPTION

To facilitate the development of electronic commerce in Hong Kong, there is a need to establish a clear legal framework to provide for certainty in the conduct of electronic transactions. The framework will cover the following main issues –

- Legal backing for the use of data message and digital signatures in electronic transactions; and
- Establishment of Certification Authorities to provide for trust and security in electronic transactions.

We will introduce legislation in 1999 to establish the legal framework.

2.2.4 YEAR 2000 PROBLEM

2.2.4.1 OBJECTIVE

To minimise the possible adverse impact of the Year 2000 problem on Hong Kong.

2.2.4.2 DESCRIPTION

With the extensive use of IT in Hong Kong, the Year 2000 problem, if not rectified in time, could have a serious impact on our economy and the community. The Government has set up a high-level inter-departmental steering committee to ensure the early rectification of the Year 2000 problem within Government and in non-government organisations (NGOs) which provide essential services to the public, as well as to promote awareness of the problem in the community.

As far as the Government is concerned, every department has developed a Year 2000 compliance action plan. Progress is closely monitored by the steering



committee. As of September 1998, over 80% of Government's mission-critical computer and embedded systems have been confirmed to be compliant or rectified. Our target is to rectify all mission-critical systems by the middle of 1999.

The steering committee is also monitoring the rectification work in NGOs which provide essential services to the public. Steady progress has been made. For example, in the financial services sector, 97% of the banking institutions are expected to achieve Year 2000 compliance by end 1998. Corrective measures will be completed in good time in other critical sectors such as power supplies, telecommunications, transport, public health and aviation.

Apart from monitoring rectification progress, the steering committee is also working with government departments and regulatory bodies to ensure that adequate contingency plans are in place both within Government and in critical sectors to deal with possible system failures arising from the Year 2000 problem.

At the community level, a series of publicity activities have been organised to promote public awareness of the Year 2000 problem and to urge businesses and professionals to take early rectification action. To address the need for assistance from small and medium sized enterprises (SMEs), the steering committee is working closely with the Hong Kong Productivity Council in strengthening and promoting its Year 2000 compliance service programmes for SMEs.

In the run-up to 2000, the steering committee will continue to co-ordinate compliance efforts in different sectors to ensure the smooth transition of Hong Kong into the new millennium.

2.3 PEOPLE WHO KNOW HOW TO USE IT

2.3.1 IT IN EDUCATION

2.3.1.1 OBJECTIVE

To work with the Education and Manpower Bureau (EMB) and other educational organisations in the application of IT in education.

2.3.1.2 DESCRIPTION

Public consultation in respect of a five-year strategy on IT in education was completed in August 1998. The objectives of this strategy are –

- To help teachers to settle in their new role as “facilitators” and become comfortable and habitual IT users;
- To incorporate IT elements in the school curriculum and enhance provision of educational software in a more structured framework;
- To progressively increase IT facilities for schools in line with their readiness, and working with schools to overcome physical constraints in the adaptation to IT-based teaching and learning; and
- To build up a networking infrastructure to facilitate sharing of educational resources and communication among schools, teachers, students and parents, and to facilitate communication between the school sector and the community.

Furthermore, we will work with tertiary institutions to promote the use of IT, which may include –

- Developing and making available a number of tertiary level courses on-line to improve subject choice.
- Establishing partnerships with higher education institutions overseas which would allow Hong Kong students to exploit electronic links and share in the educational experiences offered by overseas institutions.
- Developing and implementing the leading edge technology in education administrative systems to support student registration, progression tracking, fee payment, etc.

The tertiary institutions may also be able to assist in providing IT awareness and skills training to the public.

2.3.2 IT MANPOWER SUPPLY

2.3.2.1 OBJECTIVE

To work with the EMB to identify how the right quantity, quality and type of IT professionals can be developed, attracted to, and retained in Hong Kong.

2.3.2.2 DESCRIPTION

EMB is planning a consultancy study on the manpower and training needs of the IT industry. The study will focus on assessing the existing manpower supply and demand of the IT sector, the extent of mismatch between supply and demand, comparing our position with other competitors in the world, and providing recommendations for a long-term strategy for IT manpower planning and training. The study is expected to commence by the end of 1998 and be completed by mid-1999.

2.4 A CULTURAL ENVIRONMENT THAT STIMULATES CREATIVITY AND WELCOMES ADVANCES IN THE USE OF IT

2.4.1 GOVERNMENT IT EXPLOITATION

2.4.1.1 OBJECTIVE

To develop the capacity, capability and commitment of officers and staff at all levels within government to take full advantage of the benefits and opportunities offered by new information technologies.

2.4.1.2 DESCRIPTION

Provision of on-line public services by government departments

By means of secure central gateways, the communications networks of various government departments will be linked with the Internet. Government departments will be able to use these gateways to provide services to the public through the ESD. In addition, the gateways will also make it more convenient for government departments to use the Internet for other communication purposes with the public. Exploiting the ESD infrastructure to deliver public services electronically will be a major step in this wider programme of work.

Promoting the wider use of IT within the government so as to increase efficiency

Leading by example and by establishing an environment that embraces change, the government will establish itself as a champion of the IT strategy, and thereby create a business and working environment that fully exploits IT opportunities.

This will contribute to achieving efficiency and productivity improvements in the business of government and significantly enhance the quality of services delivered to the public, especially by exploiting the ESD infrastructure.

2.4.2 TV MARKET

2.4.2.1 OBJECTIVE

To create an environment conducive to the flourishing of television market and to the introduction of innovative services using new technologies, and to enhance Hong Kong's position as a leading broadcasting hub in the region.

2.4.2.2 DESCRIPTION

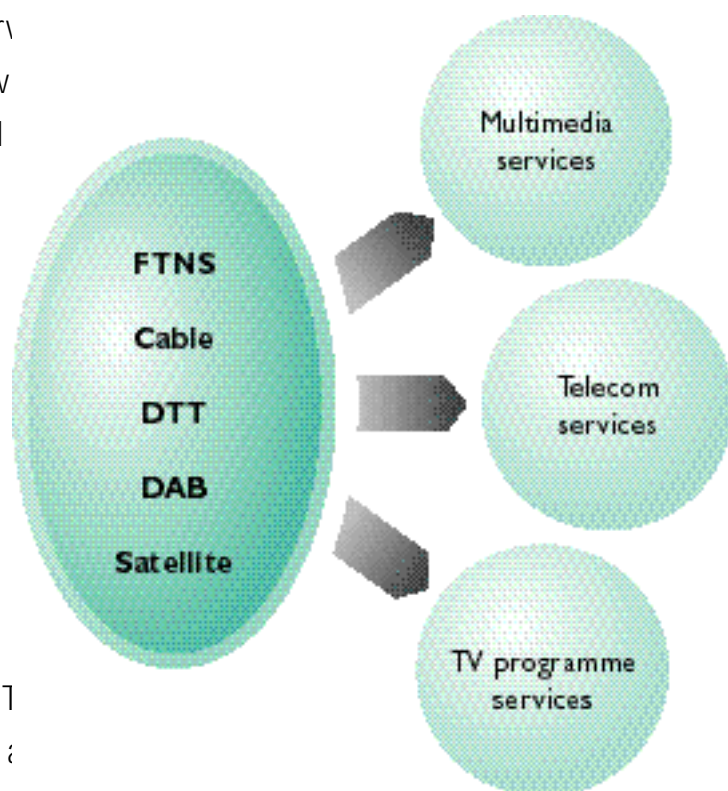
This initiative will involve the following –

- Network sharing

To facilitate the development of new services and competition, it is important that service providers must have equal access to all the network facilities available in the market. To achieve this, we have proposed to open up the existing cable TV network. We have also proposed that the telecommunications networks be allowed to deliver multi-media and other electronic services.

- Pay TV market

We have proposed to open up the pay TV market thereby helping to speed up the adoption of new technologies, stimulate growth of related industries including the programme production industry, attract new investment and create employment opportunities.



- Digital terrestrial TV (DTT)

We will facilitate the development of DTT which will allow better utilisation of the spectrum as well as open up opportunities for innovation and improvement in services. We also plan to conduct technical trials in early 1999 so as to pave the way for the early introduction of DTT.

2.4.3 ASIA PACIFIC INTERNET CONTENT HUB

2.4.3.1 OBJECTIVE

To encourage the development and hosting of innovative and attractive Internet sites locally, especially those that contribute to developing Hong Kong as a gateway for electronic commerce with the Mainland of China.

2.4.3.2 DESCRIPTION

This initiative is closely related to the Internet traffic hub initiative. We will encourage the development and hosting of innovative and attractive Internet sites locally. Examples of sites include those that provide information, sell products and services to consumers, and trade goods and services between organisations. Providing creative, innovative and high quality digital content in both Chinese and English will be essential if Hong Kong is to distinguish itself from others in the region and internationally. In addition, developing Hong Kong as an Internet content hub for Hong Kong companies trading with the Mainland will be an important part of developing Hong Kong as an electronic commerce hub and gateway to the Mainland. We will work with the private sector to create an enabling environment for the development of local content.

2.4.4 CHINESE LANGUAGE APPLICATIONS

2.4.4.1 OBJECTIVE

To encourage the development of close working ties with the Mainland of China to promote Chinese language software application development through promoting standards adoption, engaging in dialogue with the public sector in the Mainland, and

facilitating private sector and academic efforts to develop Chinese language applications.

2.4.4.2 DESCRIPTIONS

This initiative will involve the following –

- Developing and promoting Chinese computing standards, which will be upheld internationally and regionally to the benefit of Chinese language system developers;
- Engaging in dialogue with the public sector in the Mainland for creating an environment for industrial co-operation, which will enable Chinese application developers in the Mainland and in Hong Kong to work together to exploit the commercial potential of application development efforts; and
- Promoting the interests of those private sector enterprises, academics and private individuals who have invested resources in developing Chinese language applications by facilitating their efforts to yield commercial benefits.

In its first report submitted in September 1998, the Chief Executive's Commission on Innovation and Technology has recommended a number of measures to strengthen technological collaboration between Hong Kong and the Mainland, including –

- The setting up of a comprehensive electronic database of the Mainland's technological resources;
- Establishing a liaison mechanism with the relevant bodies in the Mainland to exchange information and identify opportunities for co-operation; and
- Co-operating with the Mainland in the area of technological support infrastructure including joint R&D, partnership between the future Hong Kong Science Park and its Mainland counterparts, and technological exchanges between universities.

2.4.5 IT INDUSTRY SUPPORT

2.4.5.1 OBJECTIVE

To collaborate with the Industry Department to identify ways to support the development of the local IT industry.

2.4.5.2 DESCRIPTION

Government currently provides support through various institutions to assist technology development by the industry and business sectors, especially SMEs. They include technical development and advisory services provided by the Hong Kong Productivity Council, the Hong Kong Industrial Technology Centre, as well as the Science Park project currently under planning. Separately, Government will start outsourcing from 1999 – 2000 its IT projects to create a market of sufficient size to stimulate the development of the IT industry locally.

In its first report submitted in September 1998, the Chief Executive's Commission on Innovation and Technology (CIT) has recommended various measures to stimulate greater collaboration between the universities and the industry. They include –

- Fostering a better understanding by industry of the research resources available in the universities, and by the universities of the needs of industry;
- Stimulating greater interest in commercially relevant research in the universities through award schemes and funding incentives;
- Introducing a package of incentive measures to stimulate industry to forge partnership with the universities in R&D;
- Establishing technology research centres in universities; and
- Promoting and facilitating the implementation of technology incubator scheme in universities.

CIT has also recommended the establishment of an Applied Science and Technology Research Institute, and setting up of an Innovation and Technology Fund with an injection of \$5 billion to finance specific projects which will contribute to innovation and technological upgrading in our manufacturing and service industries. These recommendations have been accepted by the Chief Executive.

2.4.6 IT INVESTMENT

2.4.6.1 OBJECTIVE

To collaborate with the Industry Department to develop programmes to provide support to the local IT industry through a variety of funding mechanisms and to promote investment in the local IT industry.

2.4.6.2 DESCRIPTION

Government is financing technology development projects and researches undertaken by the industry and business sectors and the academia through various channels including –

- The Industrial Support Fund which finances projects beneficial to the industrial and technology development of Hong Kong (\$274m in 1998-99);
- The Applied Research Fund which seeks to promote a culture conducive to technology venture by providing seed capital for local technology companies (capital of \$750m as of 1998); and
- The Research Grants Council which finances research projects by universities (\$161m for computer science and IT projects since 1991).

2.4.7 IT EXCELLENCE

2.4.7.1 OBJECTIVE

To encourage and promote the use of IT across the private sector, especially in small and medium sized enterprises, by establishing public recognition and award mechanisms.

2.4.7.2 DESCRIPTION

Public recognition and award will be given to private sector organisations that have demonstrated excellence in the use of IT and have had a visible impact on the way business is conducted. Possible promotion schemes may include publishing and communicating IT “success stories”, providing IT awards for demonstrated excellence, virtual or physical centres of excellence, etc.

The Hong Kong Computer Society has secured \$2.66 million from the Industrial Support Fund to develop a process for rewarding entrepreneurs and individuals that demonstrate achievements in IT. The first awards will be made in 1999.

2.4.8 KNOWLEDGE AND AWARENESS OF IT AND INFORMATION SERVICES

2.4.8.1 OBJECTIVE

To promote knowledge and awareness of IT and information services –

- To enhance the awareness of market trends by the local IT industry so that it will be able to make informed decisions on the deployment of resources and investment; and
- To enable Government to be better informed of Hong Kong's strengths and weaknesses in IT development and its development pace in relation to other places so that policies and measures can be made accordingly to keep Hong Kong in the forefront of IT development.

2.4.8.2 DESCRIPTION

This initiative is to provide IT related information on Hong Kong's relative position in using IT so that both the private and the public sectors can make informed decisions on IT research, development and applications. It will involve defining the information types required to establish a reliable and comprehensive IT baseline for Hong Kong for different groups of potential users, e.g. the level of detail required and how the information is to be presented. It will also develop the information dissemination strategy by defining the target audience, the means of dissemination, the style and format of information presentation and the quality of information provision required on an on-going basis.

2.4.9 IT IN THE COMMUNITY

2.4.9.1 OBJECTIVE

To raise the awareness, confidence, and familiarity of the community in the use of IT in all spheres of their lives, especially towards life long learning and knowledge renewal.

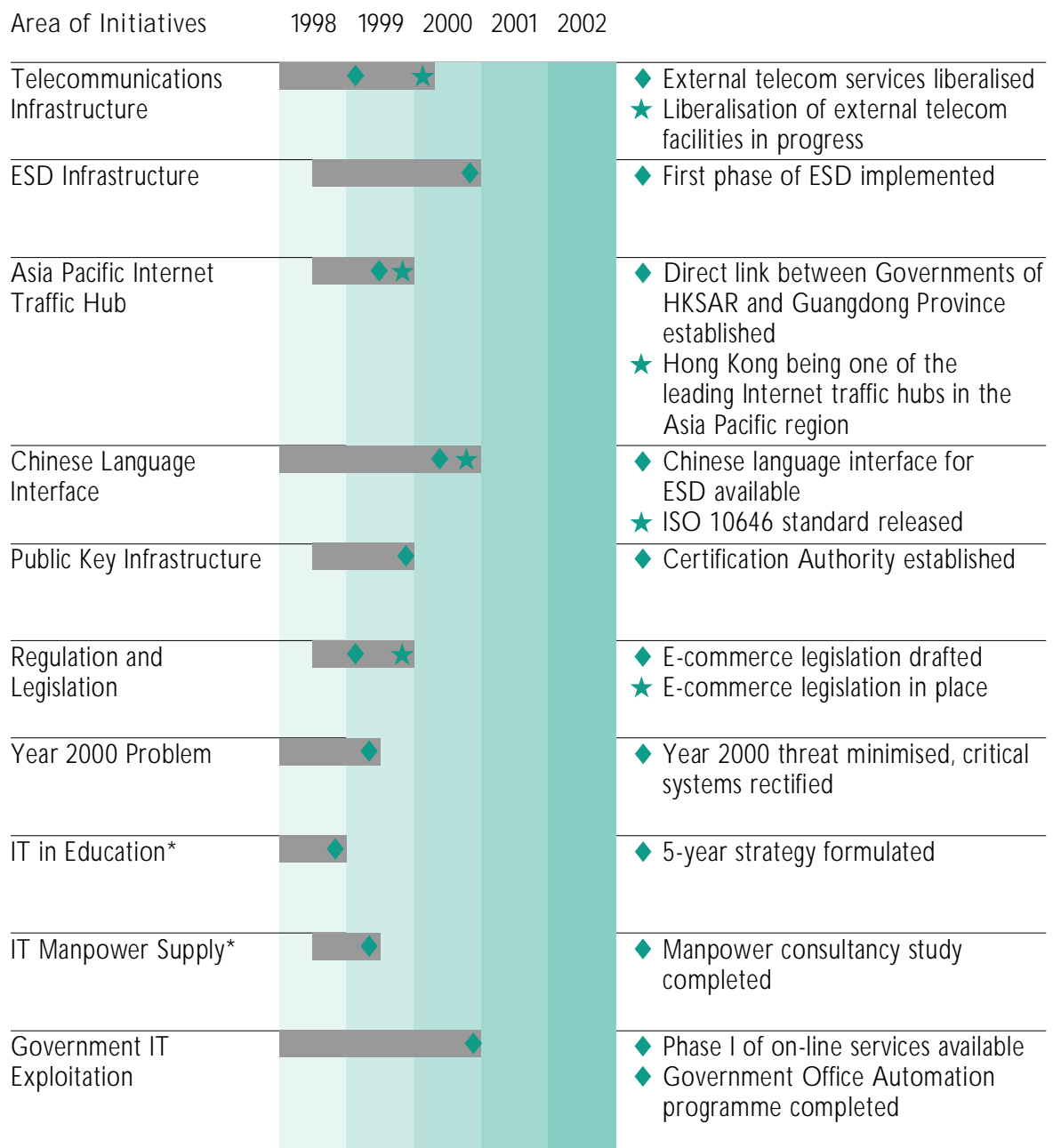
2.4.9.2 DESCRIPTION

As the rate of knowledge renewal quickens, individuals must constantly keep up their knowledge and skill sets. A life long learning process is essential. IT in itself will be an important skill to acquire, and an effective aid to the process of learning. This initiative will involve working with other government bureaux/departments such as EMB, and other community groups to develop ways to encourage the use of IT within the community.

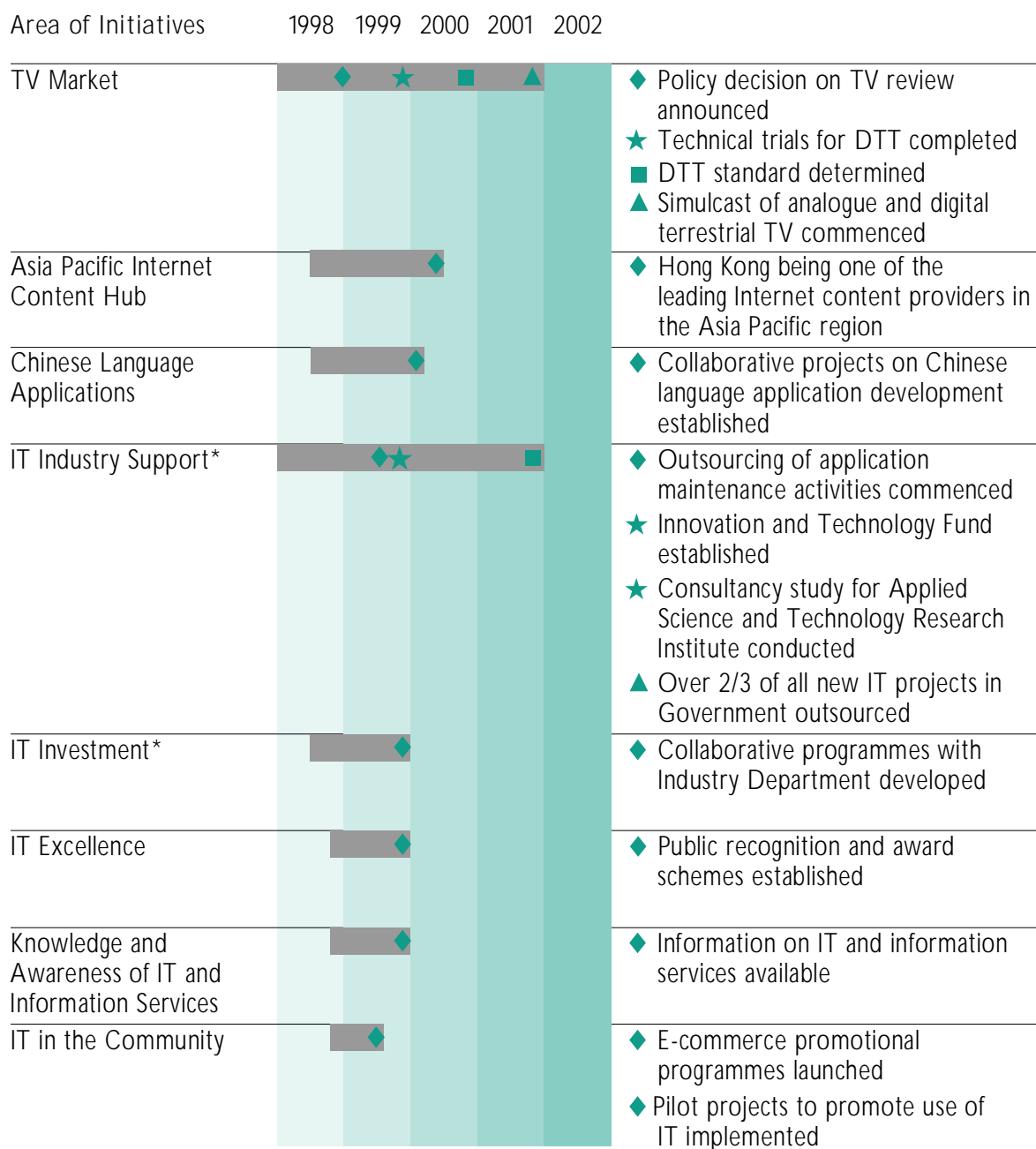
To encourage SMEs to widely use IT and conduct electronic transactions, Government will approach and join hands with the chambers of commerce and other representative bodies in organising various promotional programmes. Before the implementation of ESD, small scale pilot scheme on electronic transactions will be conducted to show to the public the benefits of electronic transactions and to motivate the development of electronic transactions.



PART 3 THE IT STRATEGY PLAN – MILESTONES AND TARGETS



* ITBB will collaborate with other bureaux / departments on these areas



* ITBB will collaborate with other bureaux / departments on these areas

4.1 Adapting to more change, more often and more quickly will become the norm. There will be a handful of players in the global arena that have the will and the capacity to take the opportunities, move with the times and achieve real and positive change for the benefits of its people. Hong Kong will be one of these players. We will build on our strengths of entrepreneurship, adaptability and determination to succeed.

4.2 The Digital 21 IT strategy will bring the following benefits –

For the community,

- More effective provision of public services
- Better use of IT to enhance personal and social life

For businesses,

- New ways of doing business to conquer new markets
- Attraction for international investors
- Maximised return on IT investment
- A competitive and healthy local IT market

For Hong Kong's position in the world,

- Competitiveness in the Information Age
- An important hub for global electronic commerce
- Communication gateway to China

4.3 The rapid pace of technology innovation, adoption and application will impact on Hong Kong's Digital 21 IT strategy. The strategy will develop and evolve in

response to a changing technical environment where technological advances considered innovative today may be obsolete tomorrow.

4.4 We in the Information Technology and Broadcasting Bureau will therefore welcome suggestions and comments on our Digital 21 IT strategy. We can be reached at the following addresses –

Address: 2/F, Murray Building
Garden Road
Hong Kong

Fax: 2511 1458

Email: itbbenq@itbb.gcn.gov.hk

