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Date: 10 December 2003

Dear Sir,

**Public Consultation Paper on 2004 Digital 21 Strategy**

We are pleased to submit our comments on the above consultation.

Yours sincerely,

John Bradfield  
General Manager,  
Regulatory Affairs

Encl.



**The Response  
of  
PCCW Limited  
to the Draft  
Digital 21 Strategy**

**10 December 2003**



## 1. Introduction and Summary

PCCW Limited ("PCCW") welcomes this opportunity to provide comments on the 2004 Digital 21 Strategy consultation paper ("Draft"). In these comments, PCCW addresses a number of issues directly relating to the vision and strategy outlined by the Government, and which must be implemented to ensure that Hong Kong remains a "leading digital city in a globally connected world."

The Draft focuses almost exclusively on the role of the public sector. As a result, it deprives itself of the opportunity to address the full scope of the challenge that Hong Kong faces. The challenge we face is not only to continually up-grade and improve our digital city. It is also (and perhaps most important) to maintain Hong Kong's relevance in a regional marketplace in which our competitive advantages are under threat.

The Draft is the third in a series of Digital 21 papers. The previous ones were released in 1998 and 2001, and this consultation paper must be read in conjunction with them, as well as with other salient official statements. In the rest of this presentation, the history of the Digital 21 Strategy papers is outlined, the challenges described and the way forward suggested. Specific issues raised by the Draft paper are also addressed.

The way forward requires a substantial partnership between the public and private sectors. In this partnership, the public sector has two roles. The first role is the provision of leadership and the further development of e-government as generally described in the Draft and earlier Digital 21 papers. The second and more critical role is to mobilize the considerable resources of the private sector. To this end, the Government has to adopt a package of economic, legal, regulatory and other policies that create an environment in which the telecommunications industry will flourish. These policies must be designed to encourage the private sector to deliver the investment, innovation, services, applications and creativity which will make Hong Kong a digital city that meets the needs not only of the Mainland and the Pearl River Delta ("PRD") but also of the Asian region. The success of the strategy is dependent upon attracting the best and brightest investors to the region, and Hong Kong specifically, to ensure Hong Kong is a digital city of excellence for e-government and of e-commerce.

## 2. Background

In 1998 the Government's Digital 21 paper described its purpose as to:

*"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 (IT), and nurturing a culture which stimulates creativity and welcomes advances in the use of IT.”*

The 1998 Digital 21 paper noted the growth of the internet and the convergence of telecommunications, computing/IT and broadcasting. The paper envisioned a broad adoption of technology as the means to enable Hong Kong to retain its status as a leading business center and as an effective intermediary between the Mainland and the rest of the world. Importantly, the 1998 Digital 21 paper recognized that its objective could not be achieved without enhancing the attractiveness of Hong Kong as a focus for telecommunications investment. It emphasized in particular investment and innovation in the local fixed telecommunications infrastructure. A proactive and interactive partnership between the public and private sectors was seen as essential to meet the challenges of the future.

Even before 1998, the Chief Executive in his 1997 Policy Address, had stated his vision to “make Hong Kong a leader, not a follower, in the information world of tomorrow.” In the Chief Executive’s policy address one year later, the use of information technology to help Hong Kong retain its competitive edge and to drive overall economic expansion was emphasized. The Chief Executive’s view on the role of technology and innovation to drive Hong Kong’s services economy has remained constant.

The 2001 Digital 21 paper reiterated the vision of Hong Kong “as a leader, not a follower, in the information world.” The main goal of the 2001 Digital 21 was to “position Hong Kong as a leading e-business community and digital city in the globally connected world.” The 2001 Digital 21 paper recognized that the further development of a world class e-business environment with state-of-the-art services and applications could only be established by a world class infrastructure and that this would require an attractive investment environment. To lead by example, the Government indicated that it would expand its e-government policy, strengthen the workforce’s abilities to perform in a knowledge-based economy, and promote both the awareness of IT and its use. Nevertheless, reliance on the private sector was a major priority for the Government in order to ensure the environment to facilitate private sector investment and innovation.



### 3. The Challenge Ahead

The Draft correctly begins to describe the challenge in paragraph 17 as follows :

*“The importance of a world-class infrastructure and a business friendly environment cannot be over-emphasized. These are the very fundamental factors contributing to the development of a digitally connected city and a highly competitive economy in a globalized environment. Hong Kong’s achievement in these aspects is evident. We stand out in terms of external connectivity, penetration of broadband access, and use of mobile network services by international standard. On the other hand, the free and competitive market of Hong Kong, its strong entrepreneurship, excellent financial services and capital market functions, legal system and rigorous protection of intellectual property rights have provided Hong Kong with a very favourable business environment.”*

The 2003 draft paper poses two questions in its chapter titles, “where are we?” and “where do we go from here?” The 2003 Draft supplies in Chapter One a comprehensive view of where we are by providing an impressive list of accomplishments. These include positioning Hong Kong as a leading digital city, in fostering e-business, in accelerating the adoption of e-government, in establishing Cyberport and the Science Park, and in creating a more knowledgeable IT workforce and population. Statistics relating to broadband connectivity, penetration rates and prices noted in the Draft rightly reflect this progress.

In seeking to sustain the momentum and progress made, the Government therefore rightly asks “where do we go from here?” In the first paragraph of Chapter One, the Government sets out its starting point:

*“The importance and impact of information technology on our economy and our way of life is taken as axiomatic nowadays. The Government of the Hong Kong Special Administrative Region has taken the leadership in promoting the development and adoption of information technology by setting out its vision, initiatives and programmes of how Government, business, industry, academic and the public can work together to make Hong Kong a leading digital city in a globally connected world.”*

In Chapter Two the Government identifies eight main areas of action at Para 11:

- Government leadership



- Sustainable e-government programmes
- Infrastructure and business environment
- Institutional review
- Technological development
- A vibrant IT industry
- Human Resources in a knowledgeable economy
- Bridging the digital divide

In reality, the challenge faced by the Government is much greater than these two passages in the Draft envisage, and much more serious than is described elsewhere in the Draft. Furthermore, the challenge faced by Hong Kong is far greater now than in 1998 or 2001. It is no longer simply how to make the transition to a “digital city” of the highest quality in a globally connected world and how to retain that status. This is a difficult challenge in itself which requires constant private sector investment and innovation and public sector policies that will encourage such investment and innovation. The additional challenge today is how to ensure that Hong Kong can serve the needs of China’s national telecommunications sector, and specifically the PRD, and find new markets throughout the Asian region. This will only be possible through Hong Kong’s development into a “digital city” of such value and appeal as to attract economic and creative activities that might otherwise go elsewhere.

Hong Kong is no longer the only gateway into China. Nor is Hong Kong Asia’s only international business centre of any significance. Other cities in the region now offer competitive markets, excellent access to capital, improving legal systems and entrepreneurship. This loss of a critical competitive advantage must be compensated for in the absolute superior scale and scope of our digital city.

#### **4. Solving the Challenge: From Here to There**

The Draft indicates (paragraph 18) that Hong Kong has “one of the most advanced telecommunications infrastructure and networks in the world.” While our past accomplishments are impressive, they belong to the past. They do not guarantee or ensure a successful meeting of tomorrow’s challenges.

It is without doubt the case that a world-class infrastructure and a business friendly environment as described in the Draft are fundamental in driving the development of a digitally connected city and a highly competitive economy. In fact, every Government policy decision should include an analysis of how the decision will encourage investment, promote the digital city and enhance Hong Kong’s performance.

To this end, government policies which establish a business friendly environment are the critical first step. This step establishes incentives for



investment and facilitates sustainable investment through the rule of law, protection of intellectual property rights, access to capital, a limited but efficient bureaucracy and generally light handed regulation. Incentives, ease of market entry and an opportunity to compete on a level playing field are required to produce private sector investment. In turn, investment brings multiple networks, innovative technologies, enriching IT/multi-media services and applications, creativity and efficient solutions. All of these investment results will determine how digital, competitive and successful Hong Kong can be.

The threats to this vision are daunting. First, in the 1990s, Hong Kong had one of the most advanced telecommunications infrastructure and networks. Today, this infrastructure is excellent but it is primarily outdated copper, not fiber. This directly effects bandwidth “speed”, and has an adverse effect on innovation, efficiency and available services/applications. Incentives to deploy fiber networks across the HKSAR should therefore be created. Any policy, which would discourage further fiber network build outs, should be rejected.<sup>1</sup>

Second, the important items listed at the end of paragraph 17 of the Draft are no longer so unique to Hong Kong<sup>2</sup>. As noted above in Section 3, not only is Hong Kong facing greater competition from such traditional rivals as Singapore and aspiring rivals such as Korea, but the Mainland is making significant progress in these areas as well. To remain relevant, Hong Kong must exceed its competitors in bandwidth, innovative services and applications, service quality and creativity.

Third, innovation cannot be taken for granted. 3G rollouts have been delayed. 2G features found in other markets have not yet been introduced in Hong Kong. Fiber is not pre-eminent in our local networks. The past obsession with price competition without regard to customer care, service quality, new service and applications or creativity has created disincentives for investment and innovation.

Since the private sector is the principal source of investment and innovation, the Government must adopt appropriate policies to achieve its goals stated in paragraph 19:

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<sup>1</sup> For example, Hong Kong’s telecommunications network is heavily dependent on what the Office of the Telecommunications Authority (‘OFTA’) has described, in a consultation paper on Type II interconnection, as obsolescent copper. Copper may have been fine for the recent past but higher bandwidth services and applications are not well suited to this technology. In that paper, OFTA suggested that the replacement of the copper network with modern fibre is highly desirable on technical grounds, but has raised questions about whether the SAR should allow this modernization exercise to proceed.

<sup>2</sup> Strong entrepreneurship, excellent financial services and capital market functions, legal system and rigorous protection of intellectual property rights



*“This achievement is, among other things, the result of public policy that promotes competition, investment and innovation in the telecommunications market.”*

But these must be put in the right order. Without public policies promoting investment neither innovation nor competition (or other benefits) will occur.

## **5. The Draft 2004 Digital 21 Strategy Misses the Mark**

The Draft paper builds on the previous strategy papers. However, the focus in the Draft has changed. The Government no longer displays much interest in ensuring that the private sector makes its full contribution through an investment friendly economic and policy environment. Rather, the focus is on benefits that the government can deliver and how the public sector will deliver these benefits. Private sector investment and innovation are, at best, secondary.

This bias in favour of the public sector is reflected in the sections dealing with Government leadership<sup>3</sup>, the e-government program<sup>4</sup>, an institutional review<sup>5</sup>, technology development<sup>6</sup>, IT<sup>7</sup>, human resources development<sup>8</sup>, and bridging the digital divide<sup>9</sup>. Chapter three of the Draft paper (“Summary and Conclusions”) is almost entirely focused on the actions the public sector will take to position Hong Kong as a digital city.

The Draft paper does not clearly identify the crucial challenge in bridging the divide between where Hong Kong is today and where Hong Kong wants to be tomorrow. Without a more advanced telecommunications infrastructure and a higher broadband penetration rate, the government will face considerable difficulties in meeting its targets for economic growth, generally, and e-business and IT applications specifically. A “world-class” telecommunications policy that serves to “promote competition, investment and innovation in the telecommunications market” requires continual and substantial investment, which in turn requires appropriate Government policies.

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<sup>3</sup> Government’s own actions can help meet the stated goals via e-government, e-option, IT outsourcing, Hong Kong’s international image, e-procurement, etc.

<sup>4</sup> E-government in conducting internal business and delivering public services to the community, ESD, increasing IT usage etc.

<sup>5</sup> Institutional reviews driven by convergence and the development of competitive markets; the role of the IIAC and a possible Chief Information Officer; etc

<sup>6</sup> Government’s investment is research and development, wireless and media projects, Cyberport, vocational training, standards, OSS, etc.

<sup>7</sup> IT industry growth, TDC, and government efforts to open the PRD region to local firms via CEPA.

<sup>8</sup> IT education and training, EMB leadership etc.

<sup>9</sup> Promoting the wider adoption of IT via a variety of awareness programs, etc.





In fact, the substantial (almost 40%) decline in investment in the telecommunications sector since 1996 is ignored. This downward trend signals a risk that the required infrastructure and innovation for Digital 21's success will not occur and that Government's goals will be missed.

The Draft's sole reference to market-wide investment requirements is the statement that 'the Government is one of the leading investors in IT through its e-government program and other administrative and operational systems. In the past three years, the level of investment has averaged at \$4.6 billion per annum.' There is no explanation of how this figure squares with the earlier statistics on capital expenditure contained in the 2001 Digital 21 report on the "Digital Divide".

The Draft's approach is thus incomplete. It appears to assume that the ambitious vision presented by the Chief Executive consistently since 1997 and adopted in earlier Digital 21 papers now can be achieved almost solely by the public sector. The Draft almost appears to suggest that Hong Kong has already achieved the digital city vision and that what remains to be done is some fine-tuning which can be accomplished almost solely by the public sector. We cannot agree with such a complacent view.

## **6. The Necessary Public and Private Sectors Partnership**

A private/public partnership needs to be established. This partnership certainly requires the public sector initiatives and approaches outlined in the Draft. It also requires the establishment of an environment where the private sector can deliver the investment required for infrastructure networks, innovative services and applications, and technical excellence at reasonable prices for all users. The Digital 21 Strategy, the vision of the Chief Executive and the Government, and the goals relating to the digital city and the Mainland cannot be met without a strong private sector contribution. This critical contribution will be built on:

- (a) a positive investment environment;
- (b) a supportive statutory and regulatory regime; and
- (c) an effective monitoring process

The Draft paper accepts that the Government has a central role in facilitating investment and innovation by the private sector in information technology:

*Government leadership and commitment is vital in realising our goal as a leading digital city in the region...Our conviction is that the Government should be an effective facilitator to enhance the innovative capability of both industry and the communities, promote the*



*development of industry and enterprises, and in this process encourage investment and innovation in information technology.<sup>10</sup>*

This focus on the Government's own priorities and resources would only be acceptable if the success of its strategy depended solely on Government actions. However this is clearly not the case. The private sector has a vital contribution to make in at least four sectors:

- ❑ the provision of the modern networks on which e-government and the rest of Hong Kong's telecommunications, IT, media and creative activities depend;
- ❑ the creation of an expanded economic relationship with the Mainland (especially the Pearl River Delta), with maximum use of CEPA's opportunities;
- ❑ the development of a knowledge economy; and
- ❑ the direct and indirect contribution to the population's social welfare.

The Draft paper makes no effort to move beyond a description of the Government's current programs in these four areas, and it fails to discuss how it will mobilize the cooperation of the private sector for these endeavors. A valuable opportunity has been lost to lay the foundations for a partnership between the public and private sectors to attain the digital standards on which Hong Kong's prosperity depends.<sup>11</sup>

## **7. Promotion of Investment in Premium Technology and Telecommunications**

The importance of telecommunications to the overall well being of the Hong Kong economy was recognized by the Government at the time of first Digital 21 paper in 1998:

*The telecommunications sector is vital to Hong Kong's economic well-being and future prosperity. Telecommunications services underpin the entire services sector in Hong Kong that is now responsible for more than 83% of the economy's Gross Domestic Product. The competitiveness of Hong Kong's telecommunications feeds into the overall competitiveness of Hong Kong's economy.<sup>12</sup>*

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<sup>10</sup> *ibid.*, paras 12, 14.

<sup>11</sup> PCCW has traditionally been the major investor and innovator in the Hong Kong telecommunications market. Hong Kong's first fully digital network was developed by PCCW almost 10 years ago. PCCW's broadband network reaches almost every home and business. PCCW has introduced new value added services, built international capacity and pioneered the provision of mobile services in the Hong Kong market. PCCW has continued this history of innovation with broadband television (Now TV), bi-lingual SMS phones and convergence products. Going forward, PCCW is well placed to continue its record of investment and innovation, and to partner with the Government to help meet its vision for Hong Kong's population and economy.

<sup>12</sup> *Liberalization of Hong Kong's External Telecommunications – A Policy Statement*, Economic Services Bureau, Government of the Special Administrative Region of Hong Kong, 20 January 1998, para 3.1)



And in the 1998 Review of the fixed telecommunications regime:

*The operation and competitiveness of our service sector depend critically on the quality of Hong Kong's telecommunications network and services. Enhancing our telecommunications' competitiveness will enhance our overall competitiveness. This is particularly important at this time of economic downturn.*<sup>13</sup>

Investment in a world class and state-of-the-art telecommunications infrastructure is a required pre-condition for a successful services economy. It is in recognition of this inter-dependence between investment and economic growth that the Government has consistently referred to the promotion of investment as a key telecommunications objective.<sup>14</sup>

The Draft assumes that Hong Kong will face no difficulty in pursuing this vision of excellence in e-commerce. The Government's confidence in the quality of the underlying infrastructure to support world-class standards of information technology is misplaced. It looks at past achievements but ignores the greater challenges that lie ahead and, crucially, an opportunity for meaningful change missed.

## **8. Pearl River Delta**

The Hong Kong economy is dependent on its service industries and must compete with other cities and regions both inside and outside of China. Even more than competing with these cities and regions, Hong Kong must be the supplier of choice. Through efficiency and new products (see below), Hong Kong must strive for a greater integration with the Mainland and the PRD. The demand for enhanced services, new services and applications, improved quality and greater bandwidth is increasing quickly. It is critical that Hong Kong meets this demand in all its aspects or it will lose its prime position in both the regional and global marketplace.

It is in recognition of this link between competitiveness, economic growth, e-commerce and social benefits that the Government has consistently referred to the promotion of investment as a key telecommunications objective. Yet the clear

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<sup>13</sup> 1998 Review of Fixed telecommunications, Legislative Council Brief, 3 September 1998 para 3

<sup>14</sup> For example, investment is listed first among the objectives of the Government's 1998 Digital 21 Strategy:

*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 center in Asia.* The Government has also made encouraging investment a key policy objective in the review of Type II local loop unbundling. OFTA has also referred to investment as a key objective of the Government's carrier-to-carrier Type I interconnection regime.

<sup>15</sup> pages 1-2.



relationship between these goals and investment is not described in detail in terms of investment levels, investment areas, benchmarks or policy approaches.

Last month, the Chief Executive, Mr. Tung Chee Hwa stated that it was Hong Kong's intention to leverage its unique knowledge of China to be:

*The most sophisticated and efficient platform for the world to do business with China, and for China to do business with the rest of the world.*<sup>16</sup>

Hong Kong sees its future in terms of supplying even more varied, high-speed efficient and sophisticated services (including creative services) to the Pearl River Delta, the Mainland and the region. This vision requires a realistic assessment of the challenges and a clear pro-investment policy setting to ensure its achievement. Declining investment levels and incentives threaten to delay or limit economic integration with the Mainland. Given that the telecommunications industry has been given a key role to play by both Hong Kong and Mainland authorities in the expansion of economic relations with the Pearl River Delta and the rest of the Mainland, Digital 21 policy must be set to promote investment and integration.<sup>17</sup>

## **9. Institutional Review - Merger of Regulatory Functions**

The Draft paper proposes as a key initiative the consideration of a merger of the telecommunications and broadcasting regulators to reflect converging market sectors. A broader approach to regulatory issues in an environment marked by converging technologies and services is certainly logical. The US, Canada, the UK and other markets have taken this converged approach.

Removing regulatory burdens and outdated regulatory practices must also occur. The fundamental questions of what to regulate, how to regulate, and the need for regulation should be asked. By asking these fundamental questions it may be concluded that substantial segments of existing legislation and policies may be modified or deleted to reflect the competitive marketplace that now exists. In addition to considering the merger of the BA and TA, now is the time to also review the telecommunications and broadcasting ordinances in a comprehensive fashion.

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<sup>16</sup> Speech to Hong Kong Trade Development Council Annual Dinner by Mr Tung Chee Hwa 11 November 2003.

<sup>17</sup> The importance of telecommunications and economic integration was reviewed in detail by the Secretary for Commerce, Industry and Technology in the Legislative Council on 18 December 2002.

<sup>18</sup> Arbitrage is the exploitation of differences between the prices of goods or services between markets (e.g., a wholesale interconnect market and a retail market) by buying where prices are low and selling where they are higher. Arbitrage and resale can produce some short term user benefits but this type of market entry reflects little real commitment to a market, rarely produces innovative services and primarily survives on short term pricing advantages and anomalies.



The power of the Telecommunications Authority (TA) is currently vested in one person. In contrast, the Broadcasting Authority is represented by a Board of multiple members. The formation of a single Authority or Commission with multiple members with joint telecommunications and broadcasting jurisdiction is a necessary step forward to broaden the expertise of the regulator and help create consensus on issues. The Australian Competition and Consumer Commission (the Australian telecommunications regulator) that has a Chairman and 4-6 expert Commissioners that determine competition issues. In the US the FCC has 5 members.

A merged and expanded entity is necessary to fully (and consistently) consider the complex issues raised by convergence and meet the goals set out in the Draft paper. The best way that the government can be confident that goals will be met is to ensure power and decision-making responsibility is vested in a board of capable members with varying expertise in law, economics, telecommunications, technology, engineering, broadcasting, IT, media and other fields.

#### **10. Role and Function of Chief Information Officer; IIAC Terms of Reference**

The Draft paper raises the question whether a more integrated approach to e-commerce issues could be achieved through the creation of a Chief Information Officer ("CIO") to better manage government information issues. The Draft paper also asks whether the terms of reference of the IIAC need to be reviewed.

A lean goal-orientated CIO or IT head could be a positive step forward to meet the IT challenges.

This initiative needs to go further by setting concrete benchmarks and roles for what such an institution is expected to achieve. For example paragraphs 14-21 of the Draft paper set out in very broad terms the aims of government in developing key platforms and goals. Nowhere in the Draft paper however is there any reference to measurable, meaningful yardsticks for gauging success.

The same approach could be employed by the IIAC in updating its terms of reference: broader and timely involvement in addressing complex policy issues; and broader expertise from both the public and private sectors to successfully address these complex issues. Again, an emphasis would be placed on specific responsibilities, benchmarks and results. A high level statutory board to advise on relevant matters could also be considered.

In line with international best practice, there must be a benchmarking of goals and initiatives so that the government, the industry, customers, and the Hong Kong people will be able to measure whether targets have been met and policies have been successful. With benchmarking comes accountability. All institutions (e.g.



TA, BA, CIO and IIAC) with policy formation or oversight responsibilities must recognize the importance of stimulating investment and be accountable in that role.

## **11. Benchmarking and Climate for Investment**

If the private sector's confidence in the Government's commitment to a flourishing telecommunications sector is to be maintained, the Government needs to publish:

- a comprehensive review of recent investment trends in both the public and private sectors;
- an analysis of how these trends have attained the goals set in past policy statements by the Government, have met user requirements and compare with overseas benchmarks; and
- a forecast of the investment which will be needed in the immediate future to meet Hong Kong's requirements as a major telecommunications center for both the Mainland and the Asian region.

Since the Digital 21 Strategy industries are often regulated, the impact of official policies must be assessed. In some cases, this may be measured in terms of investment flows. In other cases, the tool may be quality, bandwidth or service/application introduction. There is also an obvious need to parallel the international performance indicators which the Audit Commission recommended in March 2002 for OFTA's regulatory policies with international benchmarks to monitor its success in achieving the Strategy's goals of "a world-class infrastructure" and "a digitally connected city."

The Draft paper identifies a number of measures of the progress of Hong Kong's telecommunications ("Box 1: Where Do We Stand"). But these are past achievements that are not matched against Hong Kong's current needs, the standards of other economies or the potential of emerging technology. Overall, there is little indication of what the Government believes lies ahead for the industry.

## **12. Concrete Goals**

Future policies will only be evaluated effectively if policy proposals are linked to concrete goals (with appropriate deadlines).

For example:

- ❑ Create a territory-wide, seamless roaming network of fixed-wireless access (FWA) and mobile WiFi hotspots. With wireless broadband services



available everywhere, mobile corporate-VPN, in-vehicle GPS, personal video conferencing and interactive gaming could all grow.

- Emerge as the “best Asia telecom operator” (now a claim held by Singapore’s SingTel)<sup>19</sup>, competing with global peers on the basis of a high quality, advanced infrastructure.
- Expand educational enrolments, with 10,000 students in “cyber universities” earning advanced degrees from home, thanks to video-conferencing, web-forums and other e-learning technologies enabled by broadband.<sup>20</sup>
- Modernize medical facilities with 40 per cent to 50 per cent of hospitals fully “wired,” providing wireless technology for doctors and nurses at any location to view medical images, for example, and a central database to track symptoms or infectious diseases.<sup>21</sup>
- Upgrade existing lines to all homes to handle larger throughputs, allowing applications like streaming of pay and free-to-air HDTV.
- Achieve 20 per cent to 30 percent of homes subscribing to high-definition, digital terrestrial TV and 30 per cent to 40 per cent of homes linked by WLAN technology to personal broadband devices (e.g., next generation mobile phones, PDAs) to the fixed network.<sup>22</sup>
- Provide a “ubiquitous” broadband platform (wired and wireless) to support innovative applications for the new multipurpose smart-ID-cards (e.g., POS payments, real-time updating of medical history, digital certificates for on-line transactions, etc.)

The value of such benchmarking can be illustrated by the mobile sector.

Where Hong Kong was once a global leader (e.g., the world’s first CDMA mobile network in 1995), it now lags behind other major economies in the introduction of new services.

- **Universal SMS:** first launched in the United Kingdom in 1993. Hong Kong’s launch was delayed because of difficulties in coordinating six mobile networks.

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<sup>19</sup> Telecom Asia’s Readers’ Choice survey, 2002.

<sup>20</sup> Based on the number of students enrolled in 15 cyber universities in Korea today. Source: Literature search, Korean Education Statistics Yearly, Center for Information Technology in Education, University of Hong Kong – Remarks to the Telecom IT Forum, July 2003.

<sup>21</sup> Based on the percentage of the most advanced US hospitals wired with on-line services today. Source: The American Hospital Association – “Hospitals and Health Networks 2003 Most Wired Survey and Benchmarking Study.”

<sup>22</sup> Based on projections for US broadband household WiFi usage for 2005-2006. Source: Morgan Stanley, 2002.



- **EDGE:** first launched in the United States in June 2003. Hong Kong's launch is expected in early 2004.
- **UMTS/3G:** first launched in Japan in 2001 by DoCoMo. Hong Kong's launch was originally expected in August of 2003.
- **CDMA 1x (2.5G):** first launched in Japan in 2001 by KDDI. There is no planned CDMA 1x network for Hong Kong.

Significantly, the Government appears willing to make international comparisons in measuring the progress of its e-government program. It must be equally willing to measure the impact of its policies on investment and achieving the Digital 21 Strategy. It is essential that this commitment to international excellence be empirically measured to ensure the goals outlined in the draft Strategy are met.

PCCW Limited