

**For discussion
on 1 December 2020**

**Legislative Council
Panel on Information Technology and Broadcasting**

**The Chief Executive's 2020 Policy Address
Policy Initiatives of Innovation and Technology Bureau**

Rationale

Innovation and technology (“I&T”) is the key policy area of this term of Government. The Government is committed to promoting the development of I&T with a view to diversifying our economic development, improving people’s quality of living and creating quality employment opportunities for our young people. Since the Chief Executive (“CE”)’s Policy Address released in 2017 to put forth eight major areas¹ to develop I&T, the Government has been proactively implementing various measures in these areas with good progress.

2. The COVID-19 outbreak that has lasted for months has highlighted the importance of technology development and applications, and the potential in turning the “crisis” into “opportunities”. Locally developed technology products and application solutions, such as electronic wristbands combining with geo-fencing technology for home quarantine, the Interactive Map Dashboard on the Latest Situation of Coronavirus Disease in Hong Kong, antibacterial coatings, information and logistics management system used in the “Universal Community Testing Programme”, etc., have all played an important role in the prevention and combat against this epidemic. As many large cities around the world are under lockdown, making good use of e-commerce and digitalising public services have become even more important. It also creates new opportunities for the I&T industries and expedite digitalisation.

3. Building on existing foundations, the Innovation and Technology Bureau (“ITB”) continues to inject impetus to the local I&T ecosystem, particularly in attracting talents. The Policy Address by the CE on 25 November together with the Policy Address Supplement (“Supplement”) set out various policies and measures to further promote I&T and smart city

¹ The eight major areas are: increasing resources for research and development; pooling together technology talent; providing investment funding; providing technological research infrastructure; reviewing existing legislations and regulations; opening up government data; Government to lead changes to procurement arrangements; and strengthening popular science education.0

development. Details are set out in paragraphs 4 to 35 below.

NEW INITIATIVES

Global STEM Professorship Scheme

4. Talent is the key to the success of I&T development. In addition to our continued effort in strengthening training for local talent, Hong Kong has to maintain its competitiveness in pooling global talents. Following the rapid I&T development in recent years and the consistently enhanced atmosphere in Hong Kong, the Government will launch a Global STEM Professorship Scheme, with an estimated funding of \$2 billion, to strengthen our support for the universities to attract world-renowned I&T scholars as well as their teams to work in Hong Kong, thereby enabling local universities to scale new heights in STEM teaching and research. ITB, together with the Education Bureau, will discuss the details with relevant universities.

Greater Bay Area (GBA) Youth Employment Scheme (I&T sector)

5. The proposed GBA Youth Employment Scheme will set aside 400 quotas for the I&T sector. Technology companies with businesses both in Hong Kong and GBA cities can employ university graduates in STEM programmes to undertake I&T-related work in Hong Kong and the GBA. The Government will provide subsidy. Young people from Hong Kong receiving support under the scheme will spend approximately half of their time working in Hong Kong and in GBA cities. The scheme will help local young people deepen their understanding of the I&T development in the GBA, encourage them to work in GBA cities and seize the opportunities therein on pursuing a career in I&T.

Hong Kong-Shenzhen Innovation and Technology Park in Lok Ma Chau Loop

6. We are taking forward the development of the Hong Kong-Shenzhen Innovation and Technology Park (“HSITP”) located in the Lok Ma Chau Loop in full swing, with a view to establishing a key base for co-operation in scientific research through connecting with top-tier enterprises, research and development (“R&D”) institutions and higher education institutions from all over the world. The HSITP will become the largest I&T platform in Hong Kong's history, eventually providing about 1.2 million m² of gross floor area (three times of that of the current Hong Kong Science

Park). Batch 1 Development of the HSITP involves eight buildings. We have consulted the Legislative Council Panel on Commerce and Industry last month, and will soon seek funding approval from the Finance Committee with a view to completing the Batch 1 Development by batches between the end of 2024 and 2027.

7. Also, we are exploring jointly with the Shenzhen Municipal People's Government the feasibility of allowing the Hong Kong Science and Technology Parks Corporation to lease and manage certain areas of the Innovation and Technology Zone in Futian, Shenzhen, so that institutes and enterprises which are interested in starting their business in the GBA can establish a presence in the Shenzhen Innovation and Technology Zone before the completion of the first batch of buildings in HSITP. Such cooperation would better leverage the complementary strengths and to create synergy between Hong Kong and Shenzhen.

Smart City Blueprint for Hong Kong 2.0

8. We published in December 2017 the *Smart City Blueprint for Hong Kong* ("Blueprint") setting out 76 initiatives under six smart areas namely, Smart Mobility, Smart Living, Smart Environment, Smart People, Smart Government and Smart Economy. Some of the major initiatives have been gradually rolled out in the past two years, such as launching the Faster Payment System and the All-in-one Mobile Application "HKeMobility" in 2018, deploying various smart solutions at the airport, establishing the Smart Government Innovation Lab in 2019, enhancing public services through I&T, and increasing free public Wi-Fi hotspots across the territory.

9. We will release the *Smart City Blueprint for Hong Kong 2.0* ("Blueprint 2.0") in December this year with over 130 smart city initiatives, which aim to bring benefits and convenience to members of the public so that they can better perceive the benefits of smart city and innovative technologies in their daily life. Some specific initiatives include -

- (a) implement a smart public toilets trial scheme to improve the environment and services of public toilets, using Internet of Things technology; and
- (b) explore smart village pilot projects using technologies to address daily life issues faced by residents in villages or remote areas, such as medical consultation for the elderly and traffic arrangement.

10. Moreover, our anti-epidemic work in the past year or so has

brought about many insights in taking forward I&T development, including the following -

- (a) Hong Kong's investment in I&T in the past few years have nurtured a number of R&D centres with potential for development. They have provided some solutions in combating the epidemic this time, such as "StayHomeSafe" Mobile App, Rapid Body Temperature Checking System and Anti-bacterial Coating, etc. These solutions provide a good demonstration of the application of technology which will be conducive to local I&T development; and
- (b) An innovative mindset should be adopted in transforming conventional service modes, such as providing telemedicine for patients, providing patients with demonstration videos of rehabilitation exercises through mobile apps and promoting remote business and contactless payment, etc.

We will strive to incorporate the need for reducing contacts among people under the anti-epidemic "new normal" into the Government's recurrent work. Blueprint 2.0 will also provide a new chapter – "Use of I&T in combating COVID-19" to ensure public services for our daily life will adopt service mode or workflows for better public health and safety.

"iAM Smart" Platform

11. Digital infrastructure is an essential component of smart city development. In the past two years, we have invested over \$900 million in taking forward a number of initiatives, including the "iAM Smart", the Next Generation Government Cloud Infrastructure and Big Data Analytics Platform. Among them, "iAM Smart" is a key facility to further promote smart government as well as digital transformation in the entire community.

"iAM Smart" will be launched this December. Members of the public can access the government services needed via this one-stop personalised service platform and perform digital signing under the Electronic Transactions Ordinance (Cap.533) for handling statutory documents and procedures. Upon launching, the platform will initially provide more than 20 common public services (including online renewal of vehicle licence, eTax, renewal of full driving licence, registration of outbound travel information, and registration for employment services by job seekers etc.), and provide for login to online services of public utilities such as electricity and gas companies. We will gradually make available more online public services. It is expected

that by mid-2021, the number of public services accessible through the platform will increase to about 110. Moreover, we will encourage the business community to actively participate in the “iAM Smart” platform, and have set up a sandbox at Cyberport for financial services and related companies to conduct trials. After launching the “iAM Smart”, we will gradually extend the sandbox to other sectors.

“LeaveHomeSafe” Exposure Notification Mobile App

12. The Government launched the “LeaveHomeSafe” exposure notification mobile app on 16 November this year, providing a convenient digital tool for members of the public to record the time of their visits to different venues and taxi rides. The mobile app will notify a user if it is identified that the user have visited the same venue with a confirmed patient at about the same time or taken the same taxi with a confirmed patient (either the driver or the passenger) on the same day, thereby increasing the vigilance and self-protection of the public as well as their confidence in visiting different venues.

13. The Government appreciates the public’s concern over personal privacy. The “LeaveHomeSafe” mobile app is therefore characterised by voluntary participation and self-initiated use. Members of the public can use the app immediately without prior registration after downloading the mobile app. On entering a venue, they can use the app to scan the venue QR code to record the visit. Such visit records will only be stored in the users’ mobile phones and will not be kept in any government or other systems. Such data will be deleted automatically after 31 days.

14. The initiative is well-received by various sectors in the community. Since its launch, close to 18 000 venues in the public and private sectors have joined and displayed venue QR code for the public to scan and record their visits using the “LeaveHomeSafe” mobile app. Among them, over 9 000 are public venues, including government office buildings, sports centres, swimming pools, libraries, markets, cooked food markets, community halls/centres, lobbies and shopping centres in public housing estates, hospitals, clinics, post offices and piers, etc. Over 8 000 private venues include banks, restaurants, cafes, karaokes, bars, club houses, hotels, fitness centres, cinemas, shopping centres, commercial and residential buildings etc. Moreover, the “LeaveHomeSafe” app can be used for some 18 000 taxis in the territory. We will continue to appeal to different business sectors to display the QR code and posters. We will also encourage members of the public to join hands in combating the epidemic and use the “LeaveHomeSafe” app to record visits.

Adoption of blockchain technology

15. The development of blockchain promotes various trades like finance, supply chain, registration, etc. to explore and conduct trials of new applications. The Office of the Government Chief Information Officer (“OGCIO”) launched a pilot scheme in end-2018 to explore the applicability and benefits of adopting blockchain technology in various digital government services, as well as encourages and supports public and private organisations to adopt blockchain technology for providing members of the public with new and convenient services. The Joint Universities Computer Centre (“JUCC”) is developing a common online platform using blockchain technology for verification of tertiary education qualifications, enabling local tertiary students to submit academic qualification documents efficiently to different institutions and employers in other places. The platform is expected to be launched in mid-2021 for a few institutions on a pilot basis. It will be open up to other JUCC members in the 2021/22 academic year, including the eight Universities Grants Committee-funded local universities.

Improving public services with 5G

16. We will seek to promote early deployment of 5G by the government departments and public bodies. We will support all government departments to implement technology projects, including 5G technology to enhance operational efficiency and improve public services with the support of our TechConnect (block vote) established in 2017. Moreover, OGCIO will work with various departments through the Smart Government Innovation Lab to arrange proof-of-concept and technical testing for some suitable 5G application solutions, thereby facilitating government departments to enhance public services with 5G technology more effectively.

Public Sector Reform

17. To meet the rising expectations and changing needs of enterprises and the public under the “new normal”, the Government is committed to better serving the public through a wider adoption of I&T and streamlining business processes. Under the “Streamlining of Government Services” (“SGS”) Programme², about 900 government services of various B/Ds will be reformed

² The SGS Programme was launched in 2019 with an aim to remove red tape and unnecessary applications/approvals through streamlining the business processes and widening the adoption of technology. It covers some 900 government services involving applications and approvals which fall outside the scope of the “Be the Smart Regulator” Programme.

to reduce documentation requirements, share application information among different bureaux/departments (“B/Ds”) and schemes, and adopt people-centric design and end-to-end process re-engineering. Moreover, we will promote more electronic licensing services for application for licences under the “Be the Smart Regulator” Programme³. Our aim is that by mid-2022, all licence application forms can be submitted by electronic means.

18. Various departments will continue to streamline or reduce administrative procedures as far as possible with the aim to remove red tape, strengthen coordination among departments and make better use of technology to inject new impetus into the public sector in order to provide customer-focused services and contribute to economic revival.

Gerontechnology Platform

19. Since 2016, the Social Innovation and Entrepreneurship Development Fund (“SIE Fund”) under the Commission on Poverty has started to explore ways to address challenges arising from the rapid aging population by innovative means and through cross-sectoral collaboration since 2016. Gerontechnology, combining gerontology with technology, is widely recognised as a key to tackle this challenge. In 2017, the SIE Fund commissioned the Hong Kong Council of Social Service (“HKCSS”) to conduct a landscape study on gerontechnology in Hong Kong. The report of the study pointed out the difficulties faced by the gerontechnology industry, such as lack of collaboration among stakeholders, difficulties in localisation of overseas successful products, and lack of testing ground for products. In view of the content of the study report, different stakeholders were of the view that the SIE Fund should consider establishing a gerontechnology platform to foster the gerontechnology ecosystem development in Hong Kong.

20. After further consultation with various parties in 2018, the SIE Fund engaged an intermediary to design, establish and operate an inclusive gerontechnology platform. Through promoting participation, establishing cross-sectoral partnership and fostering collaboration, the platform could link up different stakeholders on the supply side and connect them with the demand side to enhance the synergistic effect in order to promote the development and application of gerontechnology in Hong Kong, which include enhancing the welfare, living quality, independent living skills and self-care capabilities of the elderly under the new normal and providing support to their families, carers,

³ The “Be the Smart Regulator” Programme was launched in 2007 with an aim to reduce the compliance costs to business and enhance the licensing process through regulatory review and improving the efficiency, transparency and business-friendliness of Hong Kong’s business licensing services. The Programme covers more than 400 business licences involving 29 B/Ds.

care workers and care providers. The platform will comprise four basic functions, namely (i) knowledge hub, (ii) network and capacity building, (iii) consultancy, gerontechnology product localisation and testing support; and (iv) impact assessment. The Fund openly invited organisations interested in acting as intermediary to submit proposals in 2019. Vetting of proposals is under way and it is expected that the vetting results will be released by the end of this year.

ON-GOING INITIATIVES

Supporting Home Quarantine

21. Since the introduction of mandatory home quarantine measures in early February this year, OGCIO, in collaboration with local R&D centres, universities and start-ups, has been using multi-tech solutions to monitor persons under home quarantine. These include use of reusable and disposable electronic wristbands paired with the “StayHomeSafe” mobile app and geofencing technology application to monitor those persons staying at designated premises during the quarantine period in order to reduce the risk of COVID-19 infection. As at end-October this year, the Government has distributed over 340 000 electronic wristbands to persons under quarantine.

COVID-19 Local Situation Interactive Map Dashboard

22. In early February this year, the Development Bureau, Lands Department, Department of Health, OGCIO, Hospital Authority and the local information technology (“IT”) industry jointly developed a COVID-19 Local Situation Interactive Map Dashboard (“Interactive Map Dashboard”) to facilitate the public to learn about the latest developments and related information about the epidemic. Since its introduction, the Interactive Map Dashboard has continuously been expanding with more information of interest to the public, such as details of confirmed cases, lists of buildings and transportation related to confirmed cases and statistics of confirmed cases, etc. As at end-November this year, the Interactive Map Dashboard has attracted views of nearly 40 million.

Opening Up Government Data

23. We announced the open data policy in October 2018 to drive B/Ds and encourage public and private organisations to open up more data in machine-readable formats via the Public Sector Information (“PSI”) portal for

free use by the public. Over 700 new datasets were released in 2019, which included the real-time arrival data of three bus companies and the Mass Transit Railway. It is expected that about 220 new datasets will be released in 2020, of which 191 have been opened up as planned in the first eleven months. As at end-November this year, the total number of open datasets is over 4 220, and about 1 400 Application Programming Interfaces are available on the PSI portal. Besides, a city dashboard function has also been added to the PSI portal since end-2019 to facilitate the public to understand city-related open data.

Promoting Use of I&T by Government Departments

24. The ITB rolled out the TechConnect (block vote) in mid-2017 to provide funding support for government departments to implement technology projects, so as to enhance operational efficiency and improve public services. Since its launch, TechConnect (block vote) has supported 74 technology projects proposed by 28 departments. All projects have commenced, of which 34 have been completed or rolled-out. The funded projects involve different I&T applications, such as smart monitoring system adopting advanced engineering technologies to identify sewage with problems and the study of noise signature using optical fiber Bragg grating sensing technology to strengthen the monitoring of operation of lifts and escalators, etc.

Smart Government Innovation Lab (“Smart Lab”)

25. OGCI established the “Smart Lab” in April 2019. So far, six technology fora have been organised, covering various themes including smart city, robotics technologies, 5G communications, technology solutions for remote work, etc. with over 2 000 participants from government departments and the I&T industries. Meanwhile, the “Smart Lab” has matched over 30 business needs of departments with solutions, and among them, more than 40 thematic workshops have been arranged for relevant departments. Over 80 business needs of government departments have been uploaded to the Smart Lab website, which have also received more than 280 IT solutions provided by the industry. OGCI will continue to strengthen the exchange and collaboration between government departments and the industry to identify more suitable solutions for testing, so as to create more business opportunities for local start-ups and small and medium enterprises.

26. A key task of the “Smart Lab” in 2020 is to explore the application of robotics technologies in various government departments to enhance public services. The “Smart Lab” arranged a series of seminars, thematic workshops

and technology fora from June to September this year to raise the awareness and understanding of government departments on robotics technologies. To further promote robotics technologies, OGCIO issued an open invitation to public officers of government departments in mid-2020 to participate in a competition, by submitting conceptual proposals to effectively apply robotics technologies for enhancing public services. The “Smart Lab” has short-listed some proposals and will provide assistance to complete proof-of-concept within a six-month period, before selecting the final winning teams. These winning proposals can encourage relevant departments to arrange further pilot implementation. In addition, OGCIO also introduced a chatbot to the GovHK portal in end-2019 to facilitate search and use of over 3 300 government forms and relevant e-Government services by the public.

Government Cloud and Big Data Analytics Platform

27. The new government cloud facilities and the Big Data Analytics Platform implemented by OGCIO commenced operation in September this year. The new platform will facilitate B/Ds in making better use of cloud services and new IT for enhancing operational efficiency and cyber security, as well as expediting the development of e-Government services. OGCIO will also assist B/Ds in implementing big data analytics projects so as to adopt a data-driven approach in policy making and service delivery for enhancing government operational efficiency and improving city management.

Use of Technology to enhance Traffic Management

28. OGCIO and the Transport Department (“TD”) are jointly developing a “Traffic Data Analytics System” to enhance traffic management and improve efficiency. The system will make use of big data analytics to analyse various real-time traffic and transport data so as to more accurately assess traffic conditions and provide real-time advice, enabling TD to enhance traffic management more effectively. The system development is expected to be completed by end-2021. The relevant real-time traffic condition forecast will gradually be opened up via TD’s mobile app “HKeMobility” and in machine-readable format on the PSI portal starting from the second half of 2022.

Information Security

29. Apart from promoting I&T development in Hong Kong, OGCIO will continue to collaborate with Hong Kong Police Force, Hong Kong Computer Emergency Response Team Coordination Centre and Hong Kong Internet Registration Corporation Limited in promoting the awareness of information security and cyber threats among government departments, the industry and the public through various channels and means. Enterprises are also able to enhance their cyber security through the various measures we provided, such as the Technology Voucher Programme, the Cyber Security Information Sharing and Collaborative Platform and free website scanning services etc. At the same time, OGCIO is also reviewing the “Government IT Security Policy and Guidelines” and an updated version is expected to be promulgated in early 2021 to ensure that the Government’s protection for information systems and data assets can keep pace with the advancement of technology, international standards and industry practices.

Wi-Fi Connected City

30. As at end-October this year, the number of “Wi-Fi.HK” hotspots has exceeded 38 000, covering locations such as the airport, tourist attractions, restaurants, shopping malls and stores, banks, social welfare organisations, public libraries, sports, cultural and recreational centres, museums, promenades, public markets and cooked food centres, parks, sitting-out areas of public rental housing estates, public hospitals and land boundary control points as well as some 3 000 buses and taxis and the Airport Express that are on the move. High-speed Wi-Fi access points have also been set up at 10 popular tourist spots. We will continue to expand the coverage of “Wi-Fi.HK” and enlist the participation of the industry and more public and private organisations.

IT Innovation Lab in Secondary Schools

31. With the approval of the funding commitment of \$500 million by the Finance Committee of the Legislative Council in July this year, OGCIO launched the “IT Innovation Lab in Secondary Schools” programme in the 2020/21 school year to provide each publicly funded secondary school up to \$1 million of funding in the three school years from 2020/21 to 2022/23 to upgrade IT equipment and facilities at schools and organise IT-related extra-curricular activities to arouse students’ interest in IT, enhance their digital skills and foster an I&T culture, thereby expanding the supply of local I&T talents. We have arranged two briefing sessions for school principals and teachers in

November and will start accepting funding applications from schools in December.

Digital Inclusion

32. OGCIO has been actively promoting digital inclusion to enable the elderly to benefit from advancement in digital technology, including regularisation of the ICT Outreach Programme for the Elderly, introduction of an advanced training programme and the launch of a web-based learning portal to help the elderly learn to use IT in their daily living. Amid the epidemic, through the programme partners, OGCIO has helped the elderly acquire anti-epidemic information online, and assisted them in participating in outreach activities and online classrooms via remote means to continue learning digital technology. In addition, OGCIO will continue to promote the adoption of accessibility design in websites and mobile apps by all sectors in the community.

Social Innovation

33. It was announced in last year's Policy Address Supplement that \$500 million would be injected into the SIE Fund. In this regard, we are preparing to create a new commitment of \$500 million for making an injection into the SIE Fund in 2021-22. Since its establishment in 2013, the SIE Fund has disbursed over \$400 million in funding 235 initiatives under priority areas of work, namely Capacity Building, Innovative Programmes and Research, with the number of beneficiaries exceeding 250 000.

Support for Start-ups

34. Under the Government's Space Sharing Scheme for Youth, Cyberport started operating the Smart-Space 8 in July 2018, a co-working space of 20 000 square feet, in a revitalised industrial building in Tsuen Wan to meet the needs of start-ups and youth in renting co-working space. As at end-October 2020, there were a total of 121 youth start-ups, representing an occupancy rate of 98%.

35. In view of the challenges posed by economic uncertainties and COVID-19, Cyberport has provided three rounds of rental concessions since October 2019, benefiting about 760 companies. The third round of concessions was launched in October 2020 with a 75% rental waiver capped at

5 000 square feet for six months.

WAY FORWARD

36. The COVID-19 epidemic together with political and economic uncertainties in the international arena have posed challenges to the local business environment and the development of I&T. On the other hand, however, this has also created opportunities for us to step up our efforts to promote technology applications and review our market positioning.

37. There is still room for development and enhancement in Hong Kong's I&T. The Government will continue to liaise closely and collaborate with stakeholders, with a view to creating favourable conditions for local I&T development, promoting commercialisation of R&D outcomes, assisting the launch of more I&T products and technologies in the market, with a view to boosting the economy, creating more job opportunities and improving people's livelihood.

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