

**For discussion on
10 June 2019**

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

E-Government Services

Purpose

This paper updates Members on the latest development of e-Government services, and elaborates on the initiatives to promote the further development of e-Government services.

Background

2. The Government has always been committed to developing e-Government services. The Office of the Government Chief Information Officer (“OGCIO”) established the one-stop government portal GovHK Portal (www.gov.hk) in 2007 and launched the personalised service delivery platform MyGovHK (www.gov.hk/mygovhk) in 2010 to provide services and information catered to the public’s needs. OGCIO also proactively promotes the development of more secure and facilitating e-Government services by government bureaux/departments (“B/Ds”) and continuous enhancement of the user experience in response to new advances in technology, thereby driving the digital transformation of public services. As at end-2018, more than 850 e-Government services are provided. In 2018, the overall utilisation was over 100 billion times.

3. With the development of digital government, the international trend has evolved from focusing on computerising existing services to improving public services through the application of technologies and a data-driven approach. In view of such trend, technological development and the rising expectation of the public, the Government must continue to strengthen e-Government services. We also promulgated the *Smart City Blueprint for Hong Kong* in December 2017, setting out more than 70 initiatives including those on “Smart Government”. We are now driving the development of the next generation e-Government services from three aspects, including providing the public with more convenient services, building digital infrastructure and facilities, and applying new technologies. Details are set out below.

Providing the Public with more Convenient Services

Using Mobile Communications Devices

4. Given the ubiquity of smartphones in Hong Kong, the design of the next generation e-Government services has to put the user experience of mobile device users as priority for convenient use by the public. At present, GovHK has adopted a responsive design, facilitating the public in browsing the portal and using the searching and transactional functions provided on the websites with various devices, including tablets and smartphones. To further enhance the user experience of e-Government services, OGCIO has requested B/Ds to adopt mobile-friendly design in developing new e-Government services and update all websites by end-2020.

Electronic Identity and Electronic Payment

5. OGCIO is actively promoting the adoption of Electronic Identity (“eID”) among B/Ds to enable the public to log in and use various e-Government services in a simple, convenient and secure manner. At the same time, government departments can make use of eID to streamline the workflow of various e-services. For example, users may use the data stored in their e-ME accounts for form filling, and access information held by relevant departments or organisations with their authorisation, thereby obviating the need to provide the information again. With the launch of eID in mid-2020, most e-Government services (over 110 services) will adopt eID within a year, and all e-Government services will adopt eID as their only or primary means of login by 2023. In addition, a total of some 3 000 forms of B/Ds have to be submitted electronically by mid-2021.

6. Online and electronic payment is another essential component of e-Government services. At present, the Government provides various online payment services to facilitate payment of government bills and fees by the public with credit card, PPS, e-cheque and e-wallet, including Apple Pay and Google Pay. The Government is in preparation for adopting the Faster Payment System (“FPS”) and common QR codes launched by the Hong Kong Monetary Authority (“HKMA”) to facilitate the public to settle payments of tax, rates and water charges. The service is expected to be launched in the fourth quarter of 2019. By then, the public can scan the QR codes on the bills via different mobile banking apps and e-wallets to make payment easily and conveniently. The Government is also exploring with HKMA to enable the public to settle payments (e.g. application fees for government venues or facilities) with FPS via the online services and mobile apps provided by the Government.

Open Data

7. Opening up data facilitates innovation and smart city development. The Government formulated a new policy on opening up government data in September 2018 where B/Ds should endeavour to release their data for free public use via the Public Sector Information (“PSI”) Portal in machine-readable formats (including JSON, XML and CSV, etc.), unless with justifiable reasons (e.g. involving personal privacy). As at end-April 2019, over 3 550 unique datasets provided by B/Ds as well as public and private organisations were available on the PSI Portal. We anticipate that the number of datasets will increase to 4 000 by the end of this year. Regarding public transport data, the New World First Bus Services Limited, the Citybus Limited and the New Lantao Bus Company Limited have reached agreement with the Transport Department (“TD”) to upload real-time bus arrival data in machine-readable formats to the PSI Portal in the third quarter of 2019 for free use by the public. Moreover, TD is in discussion with the Mass Transit Railway Corporation Limited (“MTR”) for MTR to open up its real-time arrival data.

8. In addition, OGCIO is developing a city dashboard function on the PSI Portal for the public to view city data more easily. The first two dashboard prototypes related to traffic and transport as well as environment and weather were showcased at the International ICT Expo held in April 2019 with positive initial responses. We will continue to enhance these two dashboards and develop more dashboards which are expected to be rolled out in the fourth quarter of 2019 for use by the community.

Building Digital Infrastructure

Next Generation Government Cloud Infrastructure

9. OGCIO is establishing the Next Generation Government Cloud Infrastructure (“Next Generation GovCloud”) to enable B/Ds to share resources, expedite system development and enhance operational efficiency so as to cope with the growing demand for digital public services. The Next Generation GovCloud is expected to come into operation in the third quarter of 2020. In view of the various benefits of cloud services, B/Ds have to adopt GovCloud services when developing new e-Government services or improving existing ones, unless with justifiable reasons.

Centrally Managed Messaging Platform and Electronic Recordkeeping System

10. OGCIO is developing a new Centrally Managed Messaging Platform (“CMMP”), which will come into operation progressively from the third quarter

of 2019, to replace the current decentralised email systems in order to enhance the ability in tackling increasing cyber security risks, utilise computing resources optimally and enhance operational efficiency. CMMP will support instant messaging to increase efficiency to meet business needs. Moreover, individual B/Ds has implemented the Electronic Recordkeeping System (“ERKS”) to store and access records electronically, thereby strengthening the security control of records, reducing the risk of record loss and enhancing efficiency of record search. The Government is formulating a plan for the full implementation of ERKS across the Government with reference to such experience.

Applying New Technologies

Smart Government Innovation Lab

11. To tie in with the pro-innovation government procurement policy and facilitate the development of innovation and technology, OGCIO, in promoting “Smart Government”, has just established the Smart Government Innovation Lab (“Smart Lab”) to facilitate the industry, in particular local start-ups as well as small and medium enterprises, to provide B/Ds with information technology solutions that cater to their service needs. OGCIO will share on the thematic website of the Smart Lab the challenges faced by B/Ds in providing different public services, and invite the industry to submit technical solutions and product suggestions for addressing such challenges. On the other hand, OGCIO will organise technical forums quarterly in collaboration with Cyberport and Hong Kong Science Park for industry players to share with B/Ds their innovative technologies and solutions as well as success stories, and how such technologies can be applied to improve public services. The first technical forum will be held in end-June this year.

12. OGCIO will arrange proof-of-concept and technical testing in the Smart Lab for suitable solutions to help B/Ds better understand if the solutions can effectively address their business needs and be implemented so as to more effectively draw up procurement requirements for suitable products and solutions. The Smart Lab will also showcase technologies that have been successfully tested by government departments, such as artificial intelligence (“AI”), virtual reality, geospatial information system technology, etc., with a view to inspiring adoption by more departments.

13. Through the above arrangement, we hope the Smart Lab will assist and expedite B/Ds’ formulation of innovative measures to improve the quality of public services and create more business opportunities for the industry.

“Multi-functional Smart Lampposts” Pilot Scheme

14. OGCIO is implementing the “Multi-functional Smart Lampposts” pilot scheme in collaboration with relevant departments by installing about 400 new lampposts with smart devices in selected urban locations. In the first phase, some 50 smart lampposts will be put into operation progressively this month while the remaining 350 lampposts will be installed in phases. We expect all the works to be completed in 2021-22. We will conduct a review on the effectiveness and implementation experience at an appropriate time, with a view to devising the long-term arrangements for smart lamppost installation.

AI and Big Data Analytics

15. OGCIO is implementing the “Big Data Analytics Platform”, providing big data analytics and AI cognitive tools, parallel computing management system and a “Digital Highway” which will facilitate B/Ds’ transmission and sharing of real-time data (such as traffic, weather and environment data) and conduct big data analytics so as to adopt a data-driven approach in policymaking and service delivery for raising government operational efficiency and improving city management. The “Big Data Analytics Platform” will come into operation in the third quarter of 2020.

16. The Government is developing chatbot services using AI to enhance the user experience of e-Government services. For example, the chatbot functions of the GovHK Portal that would facilitate searching and access of e-Government services by the public are expected to be launched by the end of this year. The Efficiency Office will also pilot the use of chatbot to handle 1823 public enquiries.

Pilot Blockchain Project

17. Many institutions have started to apply blockchain technology in financial services, and there is a trend of extending the application of blockchain to other services as well. OGCIO launched a pilot project on application of blockchain technology at the end of last year to explore the applicability, benefits and limitations of adopting blockchain technology in government services. OGCIO has discussed with four departments to jointly implement pilot projects, among which Intellectual Property Department will apply blockchain technology in the transfer of registered trademarks, so as to facilitate the receipt and access of relevant information by concerned parties. Companies Registry, Environmental Protection Department and Department of Health will also progressively implement pilot blockchain projects that are conducive to their businesses.

Security of E-Government Services

18. Information security is essential to implementing e-Government services. In implementing these services, the Government will take into account security risks under different scenarios based on the project characteristics during the stages of system design, development and operation (e.g. smart lampposts are installed outdoors and involve Internet of Things devices; and eID system and cloud infrastructure involve the information of residents and government data, etc.) and seek professional advice from the B/Ds concerned (e.g. Security Bureau and Hong Kong Police Force) and Office of the Privacy Commissioner for Personal Data. The Government will also engage independent third parties at different project implementation stages to conduct privacy impact assessments, privacy compliance audits, and information security risk assessments and audits (including source code review and penetration tests) to ensure the security of the system and data and proper protection of the public's privacy.

Advice Sought

19. Members are invited to note the content of this paper.

**Office of the Government Chief Information Officer
Innovation and Technology Bureau
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