**For discussion
on 8 June 2020**

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

**Update on Smart City Development**

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**Purpose**

       This paper updates Members on the latest position of smart city development.

**Background**

2.      The Government released the *Smart City Blueprint for Hong Kong* (Blueprint) in December 2017, setting out 76 initiatives under six smart areas. To provide essential digital infrastructure for smart city development, we announced in the 2017 Policy Address the investment of over $900 million to implement three projects, including "iAM Smart", the Next Generation Government Cloud and Big Data Analytics Platform, and the Multi-functional Smart Lampposts Pilot Scheme. In addition, we launched the $500 million "Wi-Fi Connected City Programme" in 2016 to enhance city connectivity.

3.      During the past two years or so, relevant government bureaux, departments (B/Ds) and public organisations have been actively pursuing and taking forward initiatives under the Blueprint. We will report on the implementation progress of the Blueprint in ensuing paragraphs and the preparatory work for releasing the *Smart City Blueprint for Hong Kong 2.0* (Blueprint 2.0).

**Progress on the Blueprint**

4.      The progress on major initiatives under the six smart areas of the Blueprint is as follows:

(I)      <u>Smart Mobility</u>

- The Transport Department (TD) has been disseminating parking vacancy

information of all government multi-storey public car parks under its purview since June 2019.   All along, TD has been encouraging and assisting other government departments and operators of non-government public car parks by such means as introducing practical technical solutions to provide real-time parking vacancy information and data of their car parks to the public through "HKeMobility" mobile application and the Government's Public Sector Information (PSI) Portal (data.gov.hk).   In addition, the Lands Department has since June 2018 imposed conditions in the new tenancy agreements for short-term tenancy public fee-paying car parks, requiring the operators to provide parking vacancy information and data to the Government.   As at end May 2020, real-time parking vacancy information of about 360 public car parks was disseminated via "HKeMobility";

- TD launched HKeMobility mobile application in July 2018. HKeMobility allows the public to acquire real-time traffic and transport information anytime and anywhere for route planning.  As at end May 2020, HKeMobility recorded a cumulative download rate of over 2.2 million, with an average daily hit rate of about 40 000.   In addition, TD is now extending the walking path information (including barrier-free walking route search function) provided on HKeMobility, which currently covers Yau Tsim Mong, Sham Shui Po, Wan Chai and Central and Western District, to all districts in Hong Kong and the task will be completed by end 2020;

- TD is installing a total of about 1 200 traffic detectors on strategic roads for providing additional real-time traffic information.   All installation works are expected to be completed by end 2020;

- Smart Airport:   The Hong Kong International Airport has been actively applying technology to provide passengers with a unique experience and to enhance the airport's operational efficiency.   For example, increasing automation and use of robotics, expanding mobile smart check-in services to off-airport locations, and using Autonomous Electric Tractor for carrying baggage containers, etc.;

(II)    <u>Smart Living</u>

- Under the "Wi-Fi Connected City Programme", the number of free public Wi-Fi hotspots under the "Wi-Fi.HK" brand has increased to about 36 300 by end-2019, including 3 000 mobile Wi-Fi hotspots installed in buses, taxis and the Airport Express, exceeding our original target of 34 000 hotspots.   These hotspots cover tourist attractions, restaurants, shopping malls and stores, public libraries, youth services centres and study rooms, government markets and cooked food centres, sports, cultural and recreational venues, district parks and promenades, sitting-out areas in public rental housing estates and all public hospitals, etc.;

- The Faster Payment System (FPS) has been launched in September 2018, which connects banks and stored-value facility (SVF) operators on the same platform and enables the public to transfer funds instantly at any time. Up to April 2020, the FPS recorded over 4.86 million registrations and processed 73 million real-time transactions involving an aggregate amount of around HK$1.1 trillion.   To promote wider adoption of the FPS and provide greater convenience to the public, since November 2019, the public can settle the bills issued by the Inland Revenue Department, the Rating and Valuation Department and the Water Supplies Department through mobile banking apps and e-wallets that support FPS payment.   As of end-April 2020, 710000 government bill payment transactions involving HK$860 million had been made through the FPS;

- The Hong Kong Common QR Code Standard and a related mobile application tool have been launched in September 2018.   Over the past year, the SVF industry recorded constant growth, signally an increasing adoption of e-wallets and digital payments by the public.   As at the end of the fourth quarter of 2019, the Hong Kong Monetary Authority (HKMA) has issued SVF licences to 15 non-bank entities and there are also three licensed banks providing SVF services; the total number of SVF accounts in use was 63.12 million, an increase by 12.5% from the previous year. The SVF operators are actively expanding their services and customer reach to different sectors such as public transport, wet markets and small merchants, etc.   Some e-wallet operators have also extended the use of their Hong Kong e-wallets for retail payments in the Mainland in order to provide greater convenience for users who are frequent travelers between

Hong Kong and the Mainland;

- In December 2018, the Government established the Innovation and Technology Fund for Application in Elderly and Rehabilitation Care, subsidising eligible elderly and rehabilitation service units to procure / rent or try out technology products.   Two rounds of applications were received under the Fund in 2019, and a total grant of about $140 million was approved, subsidising 770 elderly and rehabilitation service units to procure or rent over 2 900 technology products.   The third round of applications for the Fund was closed on 27 April 2020, and the Secretariat received applications from some 450 service units involving about 1 700 items.   Vetting of the applications is currently underway;

- The Hospital Authority (HA) launched its Big Data Analytics Platform (the Platform) on a pilot basis in December 2018.   The six research projects under the pilot had been completed earlier this year.   The Platform was formally launched in December 2019.   Ten projects selected by HA for collaboration out of 27 applications from University Grants Committee-funded universities have commenced since May 2020.   In addition, HA launched a self-service data platform in March 2020 to further facilitate the work of researchers;

(III)    Smart Environment

- The Government has been installing Light Emitting Diode (LED) lamps in public lighting systems progressively under the LED Public Lighting Replacement Programme starting from 2017-18.   As at 30 April 2020, the Highways Department has replaced about 30 000 conventional lighting points with LED luminaires;

- To promote retro-commissioning and the use of building-based smart/information technology, an online resource centre was established in the fourth quarter of 2018 to provide assistance for interested building owners and professionals.   Retro-commissioning has been rolled out in major government buildings by phases since April 2019;

(IV)    <u>Smart People</u>

- Organise intensive training programmes on science, technology, engineering and mathematics (STEM) education for curriculum leaders of secondary and primary schools from the 2017/18 to 2019/20 school years, involving about 6 300 and 5 400 participants (head count) from secondary and primary schools respectively;

- Launched in June 2018, the Technology Talent Admission Scheme (TechTAS) provides a fast-track arrangement for admitting overseas and Mainland technology talent to undertake research and development (R&D) work in Hong Kong.  Since January 2020, we have extended the applicable technology areas of TechTAS from seven to 13 and the coverage to all companies undertaking R&D activities in these 13 areas in Hong Kong.  As at 26 May 2020, the Innovation and Technology Commission has allotted 355 quotas and the Immigration Department has approved 130 relevant employment visa/entry permit applications;

(V)    <u>Smart Government</u>

- The Government announced the open data policy in October 2018 to promulgate the opening up of data by B/Ds, public and private organisations in machine-readable format via the PPSI Portal.  Up to 700 new open datasets were released by B/Ds in 2019.  As at end-April 2020, the PSI Portal contains about 4 000 different datasets, including the real-time data from franchised bus companies and the MTR Corporation Limited, and provides around 1 380 application programming interfaces (APIs);

- The Smart Government Innovation Lab was established in April 2019 to encourage and assist government departments in adopting various information technology (IT) solutions to improve public services;

- A chatbot ("Bonny") was launched on the GovHK portal in December 2019 to facilitate the public to search and access over 3 300 government forms and related e-Government services.  The Efficiency Office also piloted the use of chatbot in December 2019 to handle public enquiries in 1823;

- The Next Generation Government Cloud Platform and Big Data Analytics Platform will be launched in the third quarter of 2020;

- The "iAM Smart" one-stop digital service platform will be launched in the fourth quarter of 2020, enabling the public to conduct authentication and transactions online with a single digital identity;

(VI)    Smart Economy

- In September 2018, the HKMA has launched the multi-bank blockchain project, trade finance platform "eTradeConnect", with an aim to improve overall trade efficiency and reduce risks and fraud by digitising trade documents and automating trade finance processes.   HKMA has been proactively looking for opportunities to connect eTradeConnect with trade platforms in other regions and improve the functionalities of the platform based on the feedback collected from banks and other users.   A Memorandum of Understanding was signed in November 2019 between the operators of eTradeConnect and the People's Bank of China   Trade Finance Platform to conduct a Proof-of-Concept   trial, which aims to connect the two platforms;

- The Government implemented in 2018 the enhanced tax deduction for expenditures incurred on "qualifying R&D activities" by enterprises, with a view to encouraging more enterprises to conduct R&D locally.   For the profit tax returns received by Inland Revenue Department for 2018-19 assessment year, there were 110 claims for tax deduction related to R&D and the relevant expenditures for claiming tax deduction were about $1.82 billion;

- In order to facilitate the application of Fintech in the banking industry and promote financial inclusion, HKMA has granted banking licences to eight virtual banks in the first half of 2019.   Since then, HKMA has been maintaining close communication with these virtual banks to understand their progress towards commencement of business.   As at end of April 2020, one virtual bank has launched its services, while four other virtual banks have commenced pilot trials through HKMA's Fintech Supervisory Sandbox.   The remaining three virtual banks are completing the necessary preparatory work for providing services to the public.   The Insurance

Authority (IA) has also launched the Fast Track which provides a dedicated queue for new applications for authorisation from applicants which would own and operate solely digital distribution channels to provide insurance products with simple structure and high protection element.    As of May 2020, IA has granted authorisations under Fast Track to four virtual insurers, two of which offer life insurance while the other two offer non-life insurance; and

- The banking industry has been implementing the Open API framework in four phases since its promulgation in 2018, which enable banks' internal data and systems to be opened up and accessed by technology companies to create more Fintech-enabled solutions (e.g. product comparison, aggregated views of financial positions, etc.) for customers.   Retail banks have launched over 500 Phase I (Product Information) Open APIs and 300 Phase II (Customer Acquisition) Open APIs, covering deposits, loans, insurance, and investments to support applications for banking products and services.   As at the end of March 2020, about 800 registrations from third-party service providers to access banks' Phase I (product information) Open APIs had been recorded.   HKMA will continue to work closely with the banking industry on defining a detailed set of technical standards for Phase III (account information) and IV (transactions) Open APIs.

**Challenges Facing Smart City Development**

5.      The main objective of smart city development is to provide convenience and bring benefits to the public. However we have encountered challenges in the course of implementing individual initiatives.   The Multi-functional Smart Lampposts Pilot Scheme (Pilot Scheme) aims to facilitiate the collection of various real-time city data to provide convenient access by the public, and complement the rollout of the 5G mobile network to facilitate smart city development.   In the light of the concerns over the privacy protection measures of smart lampposts in the society in mid-2019, the Government has been taking numerous follow-up actions proactively to address said concerns in an open and transparent manner.   The Smart Lampposts Technical Advisory Ad Hoc Committee (Ad Hoc Committee) established by the Office of the Government Chief Information Officer (OGCIO) has reviewed the privacy protection technologies and measures of relevant lamppost applications and submitted a report to the Government in March 2020.   The Ad Hoc Committee unanimously agreed that the Government should continue to take forward the Pilot Scheme as smart lampposts are important infrastructure for promoting

smart city development and facilitating 5G mobile network development, and that the Government should adopt more privacy-friendly technology solutions, and enhance information security as well as privacy protection measures.

6.　　In March and May 2020, OGCIO together with the Highways Department (HyD) briefed the Kwun Tong District Council on the latest position of the Pilot Scheme and the views and recommendations of the Ad Hoc Committee.　To step up publicity of the scheme and public engagement, OGCIO is planning to organise a public exhibition in Kwun Tong district in the third quarter of 2020 to explain the purpose of the scheme, showcase the devices and applications of smart lampposts with demonstrations so as to facilitate better understanding of the smart devices and their applications. OGCIO will also make use of online platforms to enable the public to understand the structure and functions of smart lampposts through the internet.

**Blueprint 2.0**

7.　　The Government will release Blueprint 2.0 this year to report on the progress of existing initiatives and new proposals　More than 100 initiatives will be set out under six smart areas in Blueprint 2.0.　In the course of formulating Blueprint 2.0, we have been actively organising and participating in focus discussion groups and industry engagement meetings, to better gauge opinions and latest technological developments for enhancing smart city initiatives and strategies.

8.　　When Blueprint 2.0 is released, city dashboards featuring different areas of smart city development will also be provided via the dedicated Smart City Portal (www.smartcity.gov.hk).　The contents will be updated from time to time to facilitate a better understanding of the targets and latest progress of various initiatives.　Members of the public can submit their views and suggestions via the above dedicated Portal or the websites of relevant departments.　B/Ds will continue to report to the public or relevant panels in the Legislative Council on their smart city initiatives (including legislative amendment proposals, funding proposals and progress reports) and announce new ones.

**Advice Sought**

9.      Members are invited to note the content of this paper and give their views on smart city development.




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