

**立法會**  
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**Panel on Information Technology and Broadcasting**

**Meeting on 10 April 2017**

**Updated background brief on development of Wi-Fi connected city**

**Purpose**

This paper provides background information on the development of Hong Kong as a Wi-Fi connected city and summarizes the key views and concerns previously expressed by Members on the subject.

**Background**

2. The advent of wireless and multi-platform technologies, cloud computing, Internet of Things and big data in recent years has provided new impetus for social and economic developments. The Administration published the Digital 21 Strategy in 1998, and has since updated it four times, as Hong Kong's blueprint for the development of information and communications technology ("ICT")<sup>1</sup>.

Government Wi-Fi programme

3. Among the various initiatives under the Digital 21 Strategy, the Government Wi-Fi ("GovWiFi") aims at building Hong Kong into a wireless city through the provision of free wireless Internet access services in Hong Kong's government premises. Under this initiative, Wi-Fi facilities were installed at designated government premises in all the 18 districts, including public libraries, public enquiry service centres, sports venues, cultural and recreational centres, cooked food markets and cooked food centres, job centres, community halls, major parks, government buildings and offices. As of March 2016, around 3 100 Wi-Fi

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<sup>1</sup> ICT refers to all technologies and applications that involve information processing and/or exchange over communication networks, including the Internet.

hotspots at 603 government premises have been installed to provide GovWiFi services. According to the Administration, the average number of daily users and Internet connections increased from 3 700 and 6 700 in June 2009 to over 34 000 and 49 000 in February 2016 respectively. The contract for provision of GovWiFi services will expire in January 2018.

#### "Wi-Fi.HK" brand

4. Meanwhile, in August 2014, the Office of the Government Chief Information Officer ("OGCIO") launched the "Wi-Fi.HK" in collaboration with public and private organizations to provide free or time limited Wi-Fi services to the general public or their customers across the 18 districts in Hong Kong. Participating organizations of "Wi-Fi.HK" offer at least 30 minutes of free Wi-Fi services to the public and inbound visitors without prior user registration. At the end of 2015, the number of hotspots under "Wi-Fi.HK" has significantly increased from some 5 000 since its service launch to over 17 000. Locations covered include the Hong Kong International Airport, major tourist attractions, theme parks, public phone booths, college campuses, Cyberport, Hong Kong Science Park, government venues as well as some shopping malls, restaurants, cafés and convenience stores.

5. The Administration commissioned a consultancy study in mid-2015 to explore the viable business model and operation of future public Wi-Fi services at government venues. The consultant recommended that the Government should adopt a public-private collaboration approach and work with the private sector to provide free public Wi-Fi services at government venues.

6. Pursuant to the 2016 Policy Address, the Administration sought approval from the Finance Committee ("FC") in May 2016 for a funding commitment of \$500 million for the implementation of the "Wi-Fi Connected City" programme ("the programme") to progressively expand the coverage of free "Wi-Fi.HK" service. Apart from continuing the provision of Wi-Fi service at government venues, the programme seeks to encourage public and private organizations to participate in "Wi-Fi.HK" to provide Wi-Fi service at suitable government venues through public-private collaboration, and at more non-government venues.

7. The funding commitment also included subsidies for youth service centres and study rooms run by non-profit-making organizations to provide Wi-Fi services, thereby facilitating the public, in particular students, in using Internet resources and in learning. Since the commencement of the programme in mid-2016, the number of free hotspots has increased from 17 000 to 18 400. The Administration expects that the number of hotspots will reach 34 000 by 2019.

## Free Wi-Fi services provided in hospitals

8. In early 2015, OGCIO facilitated the Hospital Authority ("HA") to collaborate with Wi-Fi service providers to provide one-hour free "Wi-Fi.HK" services at public areas such as the waiting halls of their Accident and Emergency Departments and specialist out-patient clinics of six public hospitals. The Administration has informed the Panel on Information Technology and Broadcasting ("the Panel") that OGCIO would work with HA to extend the current collaboration model to all public hospitals.

## **Previous discussions**

### Panel on Information Technology and Broadcasting

9. At the meeting of the Panel held on 11 April 2016, the Administration briefed members on its initiatives to build Hong Kong as a Wi-Fi connected city by extending free public Wi-Fi services provided at government and other public venues.

#### *The "Wi-Fi Connected City" programme*

10. Members noted that the Administration intended to subsidize non-governmental organizations ("NGOs") to provide public Wi-Fi services in study rooms, youth service centres and other government/public-related venues. Members queried the rationale for setting five years as the subsidy period. The Administration explained that a five-year project period would allow the Administration sufficient time to gather experience, including that of adopting the public-private collaboration model, so that the Administration would be able to consolidate and formulate the details of the next implementation stage.

11. Members considered that the Administration should ensure that the public Wi-Fi services were able to meet the demands of users in terms of service coverage, duration of use, connection speed as well as stability of services. One member asked whether public transport operators such as the Mass Transit Railway and franchised public buses would be invited to provide free public Wi-Fi services under the programme.

12. On coverage of service, the Administration informed the Panel that at least 100 venues would be selected across the 18 districts in Hong Kong, having regard to the needs of both Hong Kong residents and visitors. The Administration also explained that the provision of free public Wi-Fi connection in public transport was expensive as it involved the use of fourth generation mobile telecommunications technology. Service providers under the public-private collaboration model were unlikely to employ such technology to provide free public Internet connection

services in public transport unless there were strong commercial incentives to do so.

13. According to the Administration, the duration of use of free Wi-Fi service under the programme would vary from a minimum of 30 minutes, to unlimited use per day for popular venues such as public libraries and study rooms. As regards connection speed, the Administration would adopt the latest Wi-Fi standard (i.e. IEEE 802.11ac) which would improve data transfer speed, minimize the chances of interference between the service provided by "Wi-Fi.HK" and other Wi-Fi service providers, and ensure better service stability. The minimum download speed per user at government venues would be set at 4 Mbps which would be sufficient for most social media applications and for sending/receiving e-mails.

14. "Wi-Fi.HK" would serve as a platform and would be monitored by a third party entity in collaboration with the Steering Committee. The Administration would also seek the advice of the Office of the Privacy Commissioner for Personal Data to ensure that the provision of the service under the programme would comply with the Personal Data (Privacy) Ordinance (Cap. 486). As regards Internet security, apart from organizing public education activities, the Administration would also encourage participating organizations of "Wi-Fi.HK" to enhance the security of their services through the use of server digital certificates so that the public and visitors could easily discern the legitimacy of the Wi-Fi services.

#### *Public-private collaboration model*

15. Some members preferred the public-private collaboration model in the provision of public Wi-Fi services over the single contractor-based operation mode of the existing GovWiFi services. One member queried, under a public-private collaboration model, which party would bear the maintenance cost of the free public Wi-Fi services infrastructure, and how the programme would be coordinated amongst the various bureaux/department ("B/D").

16. The Administration informed the Panel that the public-private collaboration model was expected to resolve the problems of connection speed and coverage associated with the existing single contractor-based operation mode of free public Wi-Fi services. OGCIO would be taking a leading role in service coordination in the programme. A Steering Committee and working groups with members from five to six major participating B/Ds, major NGOs and service providers would be set up to define the service scope and detailed requirements, to oversee the implementation and monitor the on-going service provision under the public-private collaboration model and the NGO subsidizing scheme. The Administration would be responsible for the capital expenditure of the infrastructure, such as the underground ducts/conduits for the Wi-Fi network for some of the venues, whilst the Wi-Fi service providers would bear the recurrent expenditure of maintaining and upgrading the Wi-Fi equipment in future.

17. Members supported the Administration's initiative to build a connected Wi-Fi city. The Administration also undertook to provide annual progress report on the implementation of the Wi-Fi Connected City initiative to the Panel.

#### Finance Committee meeting

18. At its meeting held on 13 May 2016, FC considered and approved the Administration's funding proposals of \$474.7 million for implementing the "Wi-Fi Connected City" programme, and \$25.3 million for subsidising the provision of public Wi-Fi services in study rooms and youth service centres of non-profit making organizations.

#### *Free Wi-Fi services provided in hospitals*

19. During FC's deliberation, members expressed concerns about the effectiveness of the pilot project of providing free public Wi-Fi services at public areas of six public hospitals. The Administration informed FC that feedback on the free Wi-Fi services collected from healthcare personnel and service users of the concerned public hospitals had been positive, they would, in collaboration with HA, extend the free Wi-Fi services to the remaining 36 public hospitals.

#### *Coverage of free public Wi-Fi services*

20. Some members enquired whether the Administration had any plan to provide free public Wi-Fi services across the territory. The Administration informed FC that it intended to open up government venues as far as possible for the private sector to install equipment and provide time-limited free public Wi-Fi services at their own cost through the public-private collaboration model. The Administration expected that the mass roll-out of the public-private collaboration arrangement would begin from mid-2017, with a view to adding 7 000 new "Wi-Fi.HK" hotspots at government venues through public-private collaboration within three years. The Administration also informed the Committee that it was discussing with the Hong Kong Housing Authority on the provision of free public Wi-Fi services within public rental housing estates. Further supplementary information provided by the Administration to the Committee on the coverage of free public Wi-Fi services is at **Appendix**.

#### *Quality of service*

21. Some members commented that operators under that public-private collaboration model might tend to provide lower quality services in their joint projects with the Government. The Administration responded that the service quality of the free public Wi-Fi services provided under the public-private collaboration model would be tested by a third party. The Administration had

discussed with about seven major local network service operators on the provision of free public Wi-Fi services under the public-private collaboration model and expected that the quality of free public Wi-Fi services could be improved with competition among the network service operators.

### **Latest position**

22. The Administration will brief the Panel on 10 April 2017 on Wi-Fi connected city.

### **Relevant papers**

23. A list of the relevant papers with their hyperlinks is at:

<http://www.legco.gov.hk/yr15-16/english/panels/itb/papers/itb20160411cb4-816-3-e.pdf>  
<http://www.legco.gov.hk/yr15-16/english/panels/itb/papers/itb20160411cb4-816-4-e.pdf>  
<http://www.legco.gov.hk/yr15-16/english/panels/itb/minutes/itb20160411.pdf>  
<http://www.legco.gov.hk/yr15-16/english/fc/fc/papers/f16-21e.pdf>  
<http://www.legco.gov.hk/yr15-16/english/fc/fc/minutes/fc20160513a.pdf>

Council Business Division 4  
Legislative Council Secretariat  
3 April 2017

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24 May 2016

Mr Raymond SZETO  
Legislative Council Secretariat,  
Legislative Council Complex,  
1 Legislative Council Road,  
Central, Hong Kong

Dear Mr SZETO,

**Information Requested by the Finance Committee  
on 13 May 2016**

At the meeting of the Finance Committee on 13 May 2016, the Administration undertook to follow up Members' request for the following supplementary information:

- (a) the Administration's position on the installation of Wi-Fi services for the seven parks still without Wi-Fi connectivity under the purview of the Leisure and Cultural Services Department; and
- (b) The coverage of Wi-Fi.HK across the territory to be presented in the form of a map.

The required information is provided below for Members' reference.

- (a) When implementing the Wi-Fi Connected City programme, we will open up government venues (including parks, sitting-out areas and promenades, etc.) under a public-private collaboration model to provide sustainable free public Wi-Fi services. Regarding those parks not yet provided with Wi-Fi services mentioned in the meeting, we will include them in the Wi-Fi Connected City programme to provide public Wi-Fi services under the public-private collaboration model. For those venues that are not attractive to the private sector for public-private collaboration but with keen public demand for free Wi-Fi services, we will consider providing the services through government funding.
- (b) The coverage of Wi-Fi.HK across the territory is provided at the **Annex**. For details of the latest location and distribution of hotspots, please visit the Wi-Fi.HK website at <http://www.wi-fi.hk/> or download the Wi-Fi.HK mobile app.

Yours sincerely,



(Alex YEUNG)

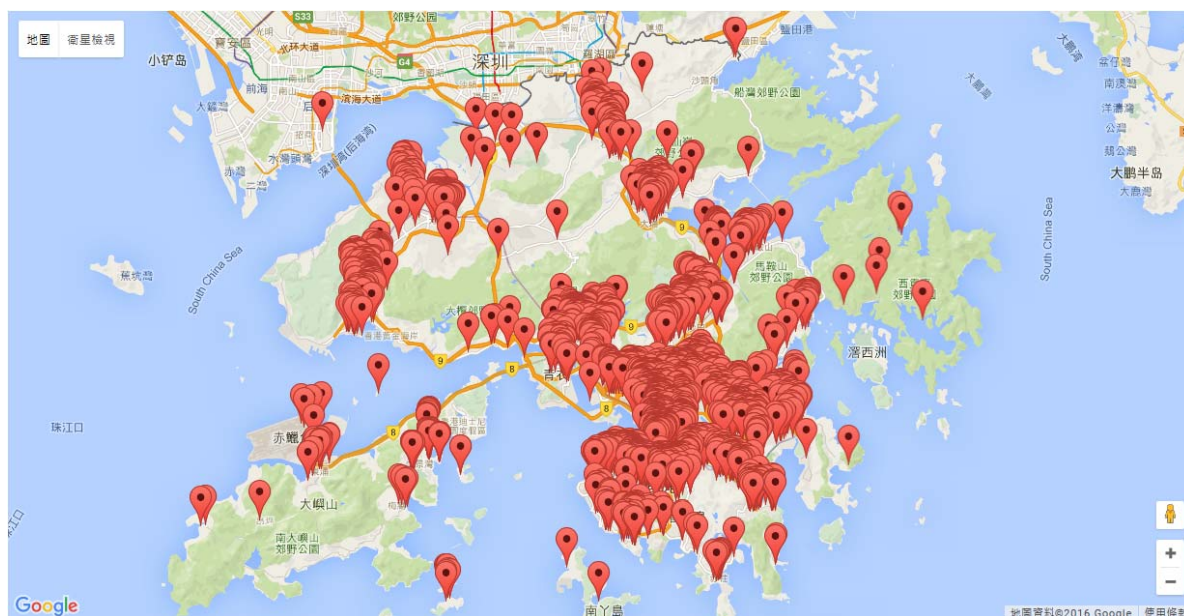
for Government Chief Information Officer

Encl.



### Coverage of Wi-Fi.HK across the territory

As at April 2016, there were 17 478 hotspots installed under Wi-Fi.HK in Hong Kong. The distribution of hotspots is shown in the map below:



The distribution of hotspots by 18 districts is listed in the table below:

District	Number of hotspots
<b>Hong Kong</b>	
Central and Western	3 284
Eastern	504
Southern	379
Wan Chai	537
<b>Kowloon</b>	
Kowloon City	3 364
Yau Tsim Mong	834
Sham Shui Po	414
Wong Tai Sin	186
Kwun Tong	453
<b>New Territories</b>	
Tai Po	216
Yuen Long	340
Tuen Mun	1 289
North	208
Sai Kung	909
Sha Tin	3 388

<b>District</b>	<b>Number of hotspots</b>
Kwai Tsing	330
Tsuen Wan	321
Islands	522
<b>Total :</b>	<b>17 478</b>