

**Minutes of the 4<sup>th</sup> Meeting**  
**Multi-functional Smart Lampposts**  
**Technical Advisory Ad Hoc Committee**

Date: 12 November 2019 (Tuesday)

Time: 9:30 a.m. – 11:30 a.m.

Venue: Conference Room, 15/F Wanchai Tower, Wan Chai

**Present:**

Convenor

Mr Victor LAM                      Government Chief Information Officer

Members (*list by order of surname*)

Mr Vincent CHAN                  Partner, Ernst & Young Advisory Services Limited

Mr Francis FONG                  Honorary President, Hong Kong Information  
Technology Federation

Mr Stephen HO                      Honorary Chairman, Communications Association of  
Hong Kong

Mr Ronald PONG                    Chairman, IT Governance Committee, Smart City  
Consortium

Dr Lawrence POON                  General Manager, Hong Kong Productivity Council

Mr Stephen Kai-yi WONG          Privacy Commissioner for Personal Data

Mr Wilson WONG                    Chief Executive Officer, Hong Kong Internet  
Registration Corporation Limited

OGCIO Representatives

Mr Tony WONG                      Assistant Government Chief Information Officer  
(Industry Development) [AGCIO(ID)]

Mr Tony KM WONG                      Assistant Government Chief Information Officer (Cyber Security and Digital Identity) Ag. [AGCIO(CSD) Ag.]

Attendance from Mobile Network Operators

*China Mobile Hong Kong Co. Ltd.:*

Mr Alex CHENG                      Principal Engineer, Network Planning & Implementation

Mr David HO                          Assistant Project Manager, Planning & Project Management

*Hong Kong Telecom:*

Dr Henry WONG                      Head of Strategic Wireless Technology & Core Networks

*Hutchison Telecommunications (HK) Limited:*

Mr Tak Man LAU                      Head of Mobile Network Engineering & Governance

Mr Vincent FUNG                      Senior Manager, Site Property Management

*SmarTone Mobile Communications Limited:*

Mr Ken CHEUNG                      Senior Manager, Radio Network Engineering

Mr Johnny YEUNG                      Senior Manager, Core Network Engineering

In Attendance

Mr Nelson IP                          Chief Engineer / Lighting, HyD

Mr Rex TONG                          Chief Systems Manager (Smart City), OGCIO

Mr CS CHENG                          Senior Engineer / 1, HyD

Ms Peggy POON                          Systems Manager (Smart City)21, OGCIO

## Secretary

Mr Dantes TANG                      Senior Systems Manager (Smart City)2, OGCIO

## **Absent with apology:**

Dr K P CHOW                      Associate Professor, Department of Computer Science,  
The University of Hong Kong

Ir Prof Joseph NG                      Professor and Director of the Research Centre for  
Ubiquitous Computing, Department of Computer  
Science, Hong Kong Baptist University

Dr K F TSANG                      Associate Professor, Department of Electrical  
Engineering, City University of Hong Kong

## **Discussion:**

### **Opening Remarks**

Convenor welcomed Members to the fourth meeting of the Multi-functional Smart Lampposts Technical Advisory Ad Hoc Committee. He also thanked the representatives from mobile network operators (MNOs) including China Mobile Hong Kong Co. Ltd., Hong Kong Telecom, Hutchison Telecommunications (HK) Limited and SmarTone Mobile Communications Limited for joining the meeting. Convenor also thanked the Privacy Commissioner for Personal Data, and representatives from Hong Kong Telecom and Highways Department for their sharing in the meeting.

### **Confirmation of Minutes of Last Meeting**

2.            The draft minutes of the third meeting held on 8 October 2019 had been circulated to Members with their comments duly incorporated and were uploaded

to the smart lampposts thematic webpage on OGCIO website for public reference on 23 October 2019. The minutes were confirmed without amendments.

### **Personal Data Privacy Implications of 5G Technology**

3. Mr Stephen WONG, the Privacy Commissioner for Personal Data, shared with Members on personal data privacy implications of 5G technology including issues related to ubiquitous connection, location privacy, multi-vendor environment and security of mass-connectivity. Mr Stephen WONG advised that 5G service providers should ensure their policies and practices comply with the related laws and regulations for personal data privacy and they should adopt “Privacy by Design” and “Privacy by Default” in setting up and operating the service. He stressed that as in the entire case of smart city initiative, transparency and explainability were the keys to secure trust and confidence of the data subjects or consumers. He also illustrated the principles and steps for the Data Ethics implementation and the Accountability Framework to which the industry could make reference.

### **5G Implementation on Smart Lampposts**

4. Dr Henry WONG, representing Hong Kong Telecom, briefed Members about the requirements of 5G implementation on smart lampposts. He provided information on the increasing demand by the public in mobile data usage in terms of bandwidth and number of users. He advised that 5G equipment of High Band (i.e. 26/28 GHz) and Mid Band (i.e. 3.3/3.5/4.9 GHz) needed to be installed at street level for the best network performance for supporting a large number of concurrent user devices with high data usage and low latency, and smart lampposts were suitable street furniture for 5G small cell base station installation. He pointed out that if there were no street furniture like smart lampposts available for installation of 5G equipment, their ability to meet the growing user demand and expectation on high data usage would be limited. Furthermore, Internet of Things (IoT) applications involving huge number of devices, for example vehicle-to-everything communications (C-V2X), could not be effectively developed. Dr Henry WONG also briefed Members on the security considerations and measures

for 5G and related IoT networks, and remarked that “Privacy by Design” and due compliance with the Personal Data (Privacy) Ordinance and related regulations and guidelines were important. He also highlighted the need to adopt relevant international standards, such as ISO 27001.

*(MNO representatives left the meeting at this juncture.)*

### **Design of Multi-functional Smart Lampposts**

5. Mr CS CHENG of Highways Department briefed Members on the design and features of smart lampposts, which had addressed the limitations of adopting conventional lampposts for mounting of smart devices and applications. The objective of the smart lamppost conforms with the Smart City Blueprint for Hong Kong regarding the use of innovation and technology in enhancing city management. The smart lampposts were designed to be aesthetically pleasing, and the smart devices and lampposts were integrated. The smart lampposts were installed for replacing conventional lampposts with no substantial change in existing lamppost positions and foundation depths in order to reduce the complexity on road work, while the smart lampposts were structurally sound to support smart devices and 5G base stations. Provision of 24-hour power supply to the smart lampposts was also implemented. Mr CS CHENG supplemented that the height of smart lampposts had followed the conventional lampposts, mainly of 5m, 8m, 10m and 12m depending on public lighting needs, while the allowable loading of smart lampposts would be upgraded to 30kg (top) and 17kg (side).

### **Initial Summary of Recommendations and Proposed Follow-up Measures**

6. A draft paper on initial summary of recommendations discussed in earlier Committee meetings and proposed follow-up measures was prepared to facilitate discussion in the meeting. To enable Members to discuss the recommendations in greater details before finalising the Committee Report, it was agreed to arrange two additional meetings in January and February 2020 respectively. Secretary would follow up with Members on the meeting arrangement.

## **Views/Comments from Members**

7. Members' views and comments expressed at the meeting were summarised as follows:

- installation of 5G base stations on smart lampposts is essential to the 5G development of Hong Kong;
- installation of 5G base stations on smart lampposts should not be too close to residential buildings in view of public concern on radiation exposure and radiation level should be measured and monitored regularly;
- conduct of electromagnetic compatibility tests to ensure the proper operation of different equipment installed within a smart lamppost as well as among nearby smart lampposts;
- consider to reserve spaces in smart lampposts for devices / projects from students or academic researches for educational purposes, etc., in order to increase the transparency as well as public's appreciation on benefits of the smart lampposts;
- explore the use of technologies, such as Blockchain or one-way hash, to increase the authenticity of the data collected;
- adopt relevant international standards, such as ISO 27001 and 27701, to increase authenticity and public confidence on the security and privacy protection measures and work processes being adopted;
- display clear message and sample photo on the smart lampposts showing the actual views of the cameras being installed; and
- consider an on-going governance mechanism to review new applications on smart lampposts.

8. Convenor thanked Members for their valuable advice and suggestions. Members were also invited to provide any immediate comments on the draft paper after the meeting.

*(Post Meeting Note: Members' comments were incorporated and the revised paper was uploaded to the smart lampposts thematic webpage on OGCIO website on 15 November 2019.)*

**Any Other Business**

9. There being no other business, the meeting adjourned at 11:55 a.m.

**Office of the Government Chief Information Officer  
November 2019**