LCQ20: Multi-functional smart lampposts

Following is a question by the Hon Chan Yuet-ming and a written reply by the Secretary for Innovation, Technology and Industry, Professor Sun Dong, in the Legislative Council today (May 8):

Question:

In the 2017 Policy Address, the Government proposed to implement the Multi-functional Smart Lampposts Pilot Scheme (the Scheme) in selected urban locations. The Scheme was completed in December last year with over 400 multi-functional smart lampposts equipped with smart devices (smart lamppost) installed in selected locations. In this connection, will the Government inform this Council:

(1) of the respective installation cost of various smart devices in a smart lamppost; as there are views pointing out that most smart lampposts are only equipped with radio frequency identification tags and Geo-□QR code tags, rendering their deployment of smart devices incomplete, whether the Government will consider equipping these smart lampposts with more smart devices;

(2) as there are views that smart lampposts have been densely installed in many districts, so much so that dozens of smart lampposts can be found on the same street, of the justifications for the relevant arrangement;

(3) whether it has evaluated the effectiveness of the Scheme, and whether it will make a report on the Scheme to this Council;

(4) as the 2023 Policy Address proposed to expedite the expansion of mobile network infrastructure in rural and remote areas, whether the Government will pilot the use of smart lampposts as fifth generation (5G) radio base stations in rural areas with poorer mobile network signals, with a view to improving mobile communications services in these areas; and

(5) given that in reply to a question raised by a Member of this Council on the Estimates of Expenditure 2024-2025, the Government indicated that smart lamppost would be a standard infrastructure to be installed in new development areas, whether the Government will replace conventional lampposts already installed with smart lampposts in large numbers; if so, of the relevant expenditure?

Reply:

President,

Under the Multi-functional Smart Lampposts Pilot Scheme (Pilot Scheme) launched in 2019, over 400 multi-functional smart lampposts have been installed in locations with higher pedestrian and vehicular flow in the

territory (including Central and Admiralty, Wan Chai, Yau Tsim Mong, Kwun Tong / Kai Tak Development Area, Kowloon City district and Sai Kung district) to provide intelligent public lighting services and facilitate concerned bureaux/departments (B/Ds) to collect different kinds of city data through smart devices as well as to support the development of 5G mobile communications services. The Pilot Scheme was completed in December 2023.

Having consulted the Commerce and Economic Development Bureau and the Highways Department, a consolidated reply in response to the questions raised by the Hon Chan Yuet-ming is as follows:

(1) and (2) Smart lampposts are the infrastructure for building smart city, allowing B/Ds to install relevant smart devices and applications at suitable locations in accordance with their operational needs to assist in their work on city management. The distance between lampposts is mainly determined by relevant technical standards, including pedestrian flow. The smart devices to be installed on smart lampposts depend on the real-time city data required to be collected or published by respective B/Ds. Due to the differences in functionality and coverage of different smart devices, the relevant departments would, based on the actual circumstances, install different smart devices at different locations on the same street where the smart lampposts are installed, in order to achieve the best effect and collect the required data for analysis and reference by the relevant B/Ds. On average, the cost of each smart lamppost with smart devices is about $140,000.

(3) and (5) The Pilot Scheme was completed in December 2023. We have reported the initial achievements and the way forward in the meeting of the Legislative Council Subcommittee on Matters Relating to the Development of Smart City on April 25, 2023, and in the paper for the Panel on Information Technology and Broadcasting on April 8, 2024 respectively. The experience gained from the Pilot Scheme shows that smart lampposts are suitable for installing with smart devices and can help collect real-time city data of the area. Mobile network operators have also expressed their wish for installing more radio base stations (RBSs) on smart lampposts to promote the development of 5G network services. In addition, various sectors across the community and the general public hold positive views on going ahead with installation of smart lampposts and smart devices, and suggest that the Government install more smart devices on smart lampposts so as to meet the needs of smart city.

To further promote smart city development in Hong Kong, smart lampposts will be a standard infrastructure to be installed in new development areas under planning or construction in future, so as to facilitate B/Ds to install suitable smart devices and applications in accordance with their operational needs for enhancing city management and developing innovative services. As for developed areas, in the light of the experience gained from the Pilot Scheme, we consider that large-scale replacement of existing conventional lampposts is not cost-effective and may not be feasible from the technical and engineering perspectives. It is more preferable to replace the existing lampposts with smart lampposts in suitable urban locations where feasible, and duly taking into account the operational and services requirements of individual departments.

(4) To enhance mobile network coverage in rural and remote areas, the Chief Executive announced in the 2023 Policy Address that the Government will proactively co-ordinate with the mobile network operators (MNOs) and explore the feasibility of providing subsidies to expedite the expansion of mobile network infrastructure in rural and remote areas, with a view to enhancing the mobile network coverage and capacity in these areas so as to improve the quality of life of the residents and safeguard the safety of visitors. The Office of the Communications Authority (OFCA) is now conducting the preparatory work for the implementation of the programme, including drawing up MNO's eligibility, proposed coverage scope and areas, number of mobile network facilities to be constructed, implementation timetable, funding mechanism and amount, etc. OFCA will conduct an industry consultation in the second half of 2024 to finalise the detailed implementation arrangement.

As for the use of smart lampposts as 5G wireless RBSs, the Government has established mechanism to reserve space and carrying capacity in multi-functional smart lampposts set up in various areas for MNOs to install RBSs in order to further expand 5G network coverage.