

LCQ14: Development of mobile communications services

Following is a question by the Hon Stanley Li and a written reply by the Secretary for Commerce and Economic Development, Mr Algernon Yau, in the Legislative Council today (March 20):

Question:

Regarding the development of mobile communications services, will the Government inform this Council:

(1) given that at present, the terms and conditions of telecommunications licences do not require licensees to provide mobile network coverage for specific locations, and mobile network operators (MNOs) may decide on their own whether or not to install the relevant equipment (e.g. antennae and mobile network base stations) having regard to factors such as commercial costs, how the Government ensures that the quality of fifth generation (5G) mobile networks in Hong Kong meets public expectations;

(2) given that the Government indicated last month that it would expedite the expansion of mobile network infrastructure in rural and remote areas through subsidies, and that it planned to conduct an industry consultation on the implementation and technical details within this year, of the specific timetable for the consultation and the progress of the preparatory work;

(3) of the total number of complaints received by the Government about poor 5G mobile network signals in each of the past three years; how the Office of the Communications Authority will follow up complaints about signal coverage blind spots (including those in urban areas, rural areas and MTR stations, etc.);

(4) given that in order to assist MNOs in setting up radio base stations, the Government has opened up 1 500 government premises to MNOs and allowed them to install base stations on such premises at a nominal rent of \$1 per year, of the rental situation of such premises, and whether it will, in the future, consider adjusting the nominal rent for government premises in urban areas;

(5) given that some residents of Tseung Kwan O have relayed to me that 5G mobile network signals cannot be fully received in the LOHAS Park area, of the Government's solution; and

(6) how it will facilitate the research and development of the sixth generation (6G) mobile network technology in the future, so as to introduce 6G mobile network base stations in collaboration with MNOs in a timely manner, thereby achieving "full coverage" of 6G mobile networks in Hong Kong?

Reply:

President,

Since the commercial launch of the fifth generation (5G) mobile services in April 2020, 5G coverage has now reached over 90 per cent of the Hong Kong population, covering major locations in urban areas and all MTR lines of 98 stations and achieving coverage of 99 per cent in core business districts. There are over 6 million 5G users, representing almost 90 per cent of the population. According to a report published by an international survey organisation in July 2023, Hong Kong ranked the first in Asia Pacific and European regions in terms of 5G availability.

In consultation with the Office of Communications Authority (OFCA), our reply to the Hon Stanley Li's questions is as follows:

(1), (2), (4) and (6) To further enhance the coverage of 5G mobile network and prepare for future development of more advanced mobile communications technology, the Government has been implementing the following measures, including:

(i) Increasing mobile communications infrastructure: The Legislative Council passed the amendments to the Telecommunications Ordinance (Cap. 106) on the third reading on February 21 this year, enabling the implementation of the initiative proposed in the 2022 Policy Address to enhance 5G infrastructure by allowing access for mobile network operators (MNOs) to install mobile communications facilities in reserved space in new or redeveloped specified buildings in future. Specified buildings under the Ordinance cover commercial, industrial, residential, and hotel buildings. In addition, new government buildings and public housing estates will also follow the relevant arrangements for the provision of mobile communications facilities. The aforementioned amendments will come into effect on a date to be specified by the Secretary for Commerce and Economic Development by notice published in the Gazette later. The relevant arrangements will help further expand the coverage and capacity of mobile network in Hong Kong;

(ii) Ensuring the supply of 5G spectrum: As one of the measures announced in the 2023 Policy Address, the Government will conduct auctions for the spectrum in the 850/900 MHz, 2.3 GHz and the newly launched 6/7 GHz bands in the fourth quarter of this year, providing a total of 510 MHz of spectrum for public mobile services. The Government will continue to keep in view the technology and market developments and make available more suitable spectrum for MNOs to develop their services and other innovative technologies. MNOs who acquire the spectrum in these bands will benefit from the Inland Revenue (Amendment) (Tax Deductions for Spectrum Utilization Fees) Ordinance 2024 which took effect in January this year, allowing full tax deductions for the relevant spectrum utilisation fees.

At present, when the Government assigns spectrum to MNOs through auctions, MNOs are required to provide mobile network coverage to a specified percentage of the population within five years of the issue of the licence to ensure the effective use of the spectrum. Relevant MNOs are also required to

submit a performance bond to ensure the fulfilment of their network coverage obligations. To date, all MNOs have complied with these commitments;

(iii) Improving Network Coverage in Remote and Rural Areas: The 2023 Policy Address announced that the Government will expedite the expansion of mobile network infrastructure in rural and remote areas through subsidies, with a view to improving network coverage in these areas. We are now working on the preliminary preparatory work for the implementation of the scheme, including drawing up the eligibility criteria for participating MNOs, proposed areas and scope of coverage, number of mobile network facilities to be constructed, implementation timetable, funding mechanism and amount, etc. We will consult the industry this year to finalise the specific arrangements of the scheme.

In addition, the Government will continue to implement the Subsidy Scheme to Extend Fibre-based Networks to Villages in Remote Areas, under which the new fibre-based networks covered by the Subsidy Scheme will be extended to a total of 235 villages in phases by 2026. At present, fibre-based networks have been rolled out to more than 150 villages under the Subsidy Scheme, which will facilitate the current and future installation of mobile network facilities;

(iv) Strengthening the 5G network capacity at major public event venues: The Government will implement measure announced in the 2023 Policy Address to proactively co-ordinate with relevant organisations and MNOs to enhance the 5G network capacity at major public event venues, including the Central Harbourfront Event Space, Hong Kong Coliseum, Hong Kong Convention and Exhibition Centre, AsiaWorld-Expo, etc. OFCA is reviewing the needs for mobile communications facilities at these venues with the respective venue owners, government departments and MNOs. OFCA has also been actively co-ordinating with relevant departments in respect of the approval process, with a view to enhancing the relevant facilities to increase the 5G network capacity at these venues as soon as possible; and

(v) Facilitating MNOs to install radio base stations (RBSs): The Government will continue to implement the pilot scheme proactively and facilitate MNOs to install RBSs at government premises. Having considered MNOs' suggestions and taking into account the technical feasibility and location of different venues, the Government has opened up about 1 500 venues managed by different government departments across different regions of Hong Kong to allow MNOs to install RBSs in these sites with a streamlined application procedure and a nominal rent (\$1 per year). By end February this year, more than 120 applications have been approved. We will review the list of venues in a timely manner to ensure that the pilot scheme effectively increases 5G coverage. In addition, the Government has also established a mechanism to facilitate the installation of RBSs at sheltered bus stops and public payphone kiosks by MNOs, and will reserve space and loading capacity at multi-functional smart lampposts in various districts for the installation of RBSs, with an aim to facilitating a broader expansion of 5G network coverage.

We anticipate that the 5G network coverage in Hong Kong will be even higher and more extensive after implementing the aforementioned measures.

These measures are also applicable to the future development of more advanced mobile network services (including 6G). OFCA will continue to actively co-ordinate and implement these measures to ensure better and more comprehensive coverage of 5G network in Hong Kong.

To prepare for the development of more advanced mobile network services (such as 5.5G and 6G), major MNOs in Hong Kong have already actively commenced testing and validating 5G-Advanced (commonly known as 5.5G) network technologies. Depending on the supply of equipment and devices that support 5.5G technology, 5.5G could be more widely deployed in the market. The Government will also closely monitor the development of 6G technology, and the related services are expected to be launched by 2030. The Government will continue to monitor market developments and implement measures to support the further advancement of mobile services, ensuring that mobile network infrastructure of Hong Kong remains at the forefront of the world.

(3) The number of complaints received by OFCA about the quality of 5G mobile network services over the past three years is as follows:

Year	Complaint cases
2021	37
2022	45
2023	64

The aforementioned complaints mainly concern issues related to the speed and coverage of 5G network. Upon receipt of the relevant complaints or opinions, OFCA will carefully review the relevant cases according to the established mechanism, including contacting the complainant to further understand the nature of the issue and conducting on-site tests if necessary. Depending on the circumstances of each case, OFCA will refer the case to MNOs for follow up and improvements to ensure that the relevant issues are properly addressed.

(5) OFCA is aware that major MNOs have made multiple applications in the past to set up RBSs at LOHAS Park, but such requests have not been accepted by the relevant property owners and property management companies. Nevertheless, OFCA has been actively assisting MNOs in liaising with the relevant property owners and property management companies. As a stop-gap measure, after inspecting nearby public facilities and undergoing technical feasibility study, OFCA suggests that MNOs could set up RBSs in a government property near LOHAS Park (i.e. Tseung Kwan O Salt Water Pumping Station managed by the Water Supplies Department). On OFCA's suggestion, MNOs have submitted applications to the relevant government departments and OFCA is actively co-ordinating the approval process, with a view to activating the use of RBSs as soon as possible so that the mobile network coverage in LOHAS Park can be improved.