

LCQ18: Promoting the development of low-altitude economy

Following is a question by the Hon Elizabeth Quat and a written reply by the Secretary for Transport and Logistics, Mr Lam Sai-hung, in the Legislative Council today (November 6):

Question:

Low-altitude economy is one of the country's strategic emerging industries, and the 2024 Policy Address has proposed to establish the Working Group on Developing Low-altitude Economy to formulate strategies and interdepartmental action plans for the development of low-altitude economy. In this connection, will the Government inform this Council:

(1) whether the Government will set up research and development (R&D)-cum-test flight bases for low-altitude economic technologies in Hong Kong, so as to actively promote R&D and application certification of drones and electric vertical take-off and landing (eVTOL) aircrafts, including conducting studies on how to design vertical take-off and landing points, how to ensure aviation safety of drones and eVTOL aircrafts in airways of narrow urban area or structurally complex landscape, the related automated flight technologies, remote control flight design, etc.;

(2) as there are views pointing out that radio mobile communication network is indispensable for promoting low-altitude economic activities, whether the Government will, in respect of the planning of dedicated spectrum resources for low-altitude communications, advance discussions with telecommunications operators on the licensing arrangements for fifth generation (5G)/sixth generation (6G) mobile services radio base stations, and make planning for the allocation of dedicated spectrum resources for low-altitude communications towards building a low-altitude intelligent network;

(3) whether the Government will assist telecommunications operators in advancing the testing and construction of the relevant ancillary network facilities, and formulate supporting policies (e.g. tax concessions) to encourage the early construction of a low-altitude intelligent network by telecommunications operators, including (i) expediting the integration of various technologies such as 5G and 5G-Advanced (i.e. 5G-A with new enhanced capabilities such as integrated sensing and communication), BeiDou Navigation Satellite System, satellite interconnection network, automatic dependant surveillance-broadcast system, radar, etc., (ii) improving the construction of an ancillary facilities network in respect of low-altitude communications, navigation, surveillance, identification, meteorology, counter-drone, etc., and (iii) achieving interconnection with the relevant platforms in Guangdong Province and collating sensory data of various regions, so as to progressively build a comprehensive central low-altitude intelligent network serving the entire Guangdong-Hong Kong-Macao Greater Bay Area (GBA);

(4) as there are views that the development of low-altitude economy hinges on talents in different fields (including interdisciplinary talents in aviation, law, finance and engineering), whether the Government will estimate the number of talents required in different fields, conduct studies on the formulation of unified professional standards (including the certification standards of software and hardware, as well as the arrangements for mutual recognition of licences of the relevant professionals in GBA), and provide the relevant training;

(5) as there are views pointing out that low altitude-international civil aviation intermodal transport is a cost-effective and convenient mode of travelling, and Mainland residents can fly to urban areas in Hong Kong or directly to the airport from in-town take-off and landing points in other Mainland GBA cities by helicopters or eVTOL aircrafts before making use of the frequents flights departing from Hong Kong to travel to places all over the world, while travellers from all over the world can use Hong Kong as a hub to travel to and from other Mainland GBA cities by helicopters or eVTOL aircrafts, and Hong Kong residents can also travel to and from urban areas in the Mainland via take-off and landing points in the urban areas of Hong Kong, whether the Government will conduct studies to improve the policy on low altitude traffic rights in GBA and enhance the utilization grouping of air traffic rights, including establishing low-altitude transport agreements with the relevant Mainland authorities, negotiating the extension of the existing civil aviation traffic rights to low-altitude airspace, and drawing up co-location or joint boundary control arrangement for low-altitude intercity transport, with a view to establishing such intermodal transport; and

(6) as it is learnt that the Shenzhen Municipal Plan for Constructing High-quality Taking-off/Landing Facilities for Low-altitude Flying (2024-2025) published by the Shenzhen Development and Reform Commission has proposed the construction of more than 1 000 low-altitude aircraft take-off and landing platforms and 123 new take-off and landing points for logistic transportation by the end of 2025, and that the Implementation Plan for Low-altitude Economic Development in Guangzhou Province issued by the People's Government of Guangzhou Province has also proposed the construction of more than five new hub-type vertical take-off and landing ports and more than 100 new regular take-off and landing points by 2027, and it has been reported that at present, there are 30, 8 and 11 national general aviation airports in Shenzhen, Guangzhou and Shanghai respectively, whether the Government will draw reference from the experience of the aforesaid cities in planning the construction of general aviation airports as well as take-off and landing points for low-altitude aircrafts and logistic transportation in Hong Kong; if so, of the details; if not, the reasons for that?

Reply:

President,

Low-altitude economy (LAE), with its great potentials, can be applied widely in different areas and help promote the development of various industries, thereby injecting new impetus into Hong Kong's economy. In the 2024 Policy Address, the Chief Executive announced the work direction for

promoting the development of LAE, including the establishment of the Working Group on Developing LAE (the Working Group) led by the Deputy Financial Secretary to formulate development strategies and action plans. The Government will commence work on various fronts to press ahead with the promotion of LAE as one of the growth engines of new quality productive forces.

In consultation with the Commerce and Economic Development Bureau, the Development Bureau, the Innovation, Technology and Industry Bureau, the Civil Aviation Department (CAD) and the Office of the Communications Authority (OFCA), the reply to Hon Elizabeth Quat's question is as follows:

(1) and (6) Promoting the development of LAE requires coordination of different policies, among which the development of infrastructure is of paramount importance. In the long run, the vibrant development of low-altitude activities requires a highly efficient, intelligent and digitalised low-altitude infrastructure system to manage the networks of low-altitude activities in real time and address the complex management and safety issues arising from low-altitude flying activities. Therefore, the Working Group will embark on technical studies and planning for low-altitude infrastructure. The scope of studies include the design of take-off/ landing points and related hardware facilities (including charging facilities, spatial requirements), air route network, communications network, signal reception of the global navigation satellite system, requirements of the low-altitude surveillance system, etc.

We note that some Mainland cities are planning to develop take-off/ landing point networks for low-altitude aircraft, with a view to facilitating different low-altitude flying activities. The Working Group will continue to closely monitor and make reference to the latest development in Mainland cities in respect of infrastructural development for LAE, and deploy relevant planning in Hong Kong according to local conditions. We are of the view that large-scale land creation projects such as the Northern Metropolis are well-positioned to provide sufficient land and design flexibility to cope with the land and spatial requirements of the infrastructural needs arising from LAE. In terms of specific town planning, facilities related to LAE such as vertiports and charging facilities can generally be accommodated under the permitted uses of the relevant zoning or their ancillary uses. In addition, even for developed areas, having regard to the economic development potentials and demand for LAE in the area, the Government will make feasible and pragmatic arrangements accordingly. The overall development of low-altitude infrastructure is a huge systematic project. The Working Group will co-ordinate the work of different bureaux and departments to ensure that the relevant work complements one another.

As regards the promotion of technological research and development (R&D) in LAE, the Government has all along been supporting R&D in different technology areas through the Innovation and Technology Fund (ITF), including supporting local universities, R&D centres and enterprises to conduct R&D in electronics, data transfer and processing, which are related to LAE, through funding schemes under ITF. To promote the development of the innovation and technology (I&T) industry, the Government encourages enterprises (including

those involved in industries related to LAE) to set up R&D centres and new smart production lines in Hong Kong, including enabling production activities by capitalising on resources of Hong Kong's existing manufacturing industry, to promote the development of the real economy.

(2) and (3) Among the various infrastructure facilities, mobile radio communications network is inevitably an indispensable part for promoting low-altitude flying activities. To promote the effective use of spectrum and prevent interference among different services, the Communications Authority (CA) takes into account multiple factors in planning spectrum, including recommendations of the International Telecommunication Union, development trends in the Mainland and worldwide, relevant users' demand for various radio equipment, technological development etc., for designating the uses of relevant spectrum bands, such as public mobile services, fixed services, broadcasting services and fixed satellite services. At present, unmanned aircrafts for aerial photography or performances can generally use the shared 2.4 GHz and 5 GHz bands assigned for wireless local area networks, or the fourth generation (4G) or fifth generation (5G) mobile networks for remote control, data transmission, and positioning purposes.

The Government will conduct two spectrum auctions in November 2024 and another one in 2025. The spectrum concerned can effectively support the operation of unmanned aircrafts. The OFCA will continue to closely monitor telecommunications market developments in the Mainland and worldwide, including the feasibility of planning dedicated spectrum bands for the exclusive use of unmanned aircrafts, so as to ensure that the spectrum planning in Hong Kong will align with the Mainland and other advanced economies, thereby promoting the development of LAE activities in Hong Kong.

On the development of mobile network, the Government has been implementing different initiatives to encourage mobile network operators (MNOs) to expand their communications infrastructure, including enabling MNOs to access the reserved space in specified buildings with building plans approved on or after April 1, 2025 to install and maintain mobile communications facilities through the amendment to the Telecommunications Ordinance (Cap. 106) (TO), proactively facilitating MNOs in installing radio base stations (RBSs) at government premises through pilot scheme, reserving space and loading capacity on multi-functional smart lampposts in various districts for installation of RBSs by MNOs, improving mobile coverage in remote and rural areas through subsidy scheme and actively coordinating 5G network capacity expansion at major public event venues, etc. In addition, under the amended Inland Revenue Ordinance (Cap. 112) which came into effect in January this year, MNOs can enjoy tax deductions for spectrum utilisation fees payable on radio spectrum acquired in future, providing greater incentives for MNOs to participate in spectrum auctions and invest in mobile network infrastructure to further improve network quality.

On conducting tests, CA will issue permits pursuant to section 7E of the TO for short-term assignment of spectrum in different frequency bands to MNOs and other interested parties free of charge, so that they can use their radio equipment for various radio transmission tests and applications, including unmanned aircrafts.

In the meantime, the Government will take forward the regulatory sandbox pilot projects progressively starting from early next year to explore more application scenarios for low-altitude flying activities. The pilot projects will be conducted under different scenarios to test various technical and ancillary facilities requirements, including the mobile radio communications network, signal reception of the global navigation satellite system and requirements of the low-altitude surveillance system, etc. The experience and data gathered from the implementation of pilot projects will help the Government formulate appropriate infrastructure system and related network supporting facilities in the long run. The Government will also continue to closely monitor and make reference to the latest developments in the Mainland, worldwide and other developed regions, drawing reference from the experience of other places to ensure that the infrastructure and ancillary facilities to be built will be compatible with those in the Mainland and worldwide.

(4) The development of LAE requires talents in various fields, including those engaging in industries such as I&T. In respect of I&T talents, the Government has been adopting a multi-pronged approach to enlarging the local I&T talent pool. For example, regarding the nurturing of I&T talents, the Government launched the STEM Internship Scheme and sponsored the Innovation and Technology Scholarship, which encourage university students to experience I&T-related work and take part in I&T-related exchange activities respectively. The Government also launches different schemes to assist the youth in pursuing a career in I&T after graduation. For example, through the Research Talent Hub, the Government funds qualified institutions and enterprises to recruit university graduates of STEM subjects (Science, Technology, Engineering and Mathematics) to conduct R&D work. The Hong Kong Science and Technology Parks Corporation and Cyberport also provide the youth with internship and start-up opportunities through various schemes. In order to facilitate talent admission to Hong Kong, the Technology Talent Admission Scheme handles applications that involve the admission of non-local talent to undertake R&D work in Hong Kong expeditiously, covering 14 technology areas. While taking forward the development of LAE, the Government will review the talents required by the relevant industries and make timely planning accordingly.

(5) The Government and the Civil Aviation Administration of China (CAAC) expanded the Memorandum of Understanding under the Air Services Arrangement between the Mainland and the Hong Kong Special Administrative Region in 2019, under which designated helicopter operators of both sides may operate flights between take-off/ landing points in Hong Kong and within the whole Guangdong Province that fulfill relevant customs, immigration and quarantine (CIQ) arrangements. This greatly enhances the choice of potential take-off/ landing points and the flexibility of services, providing a solid basis for expanding cross-boundary helicopter services between Hong Kong and other cities in the Guangdong–Hong Kong–Macao Greater Bay Area. Hong Kong and Guangdong will continue to explore measures to promote cross-boundary commercial helicopter services within the framework of the above-mentioned air services arrangement. The Transport and Logistics Bureau will also maintain close communication with CAAC on the relevant air services arrangement.

At present, there are two cross-boundary heliports in Hong Kong with permanent CIQ facilities, namely the cross-boundary heliports at the rooftop of the Sheung Wan Hong Kong-Macau Ferry Terminal and the Hong Kong International Airport (HKIA). Since 2019, several Mainland helicopter operators conducted trial flights between Hong Kong and Shenzhen/ Guangzhou. Relevant services are technically and operationally feasible. The Government will continue to facilitate the trial flight activities carried out by the helicopter operators, with a view to implementing cross-boundary helicopter services between Hong Kong and Guangdong as soon as possible. In addition, HKIA launched the Business Jet & Commercial Flight Wing-to-Wing Transfer Service in March this year, which allows passengers arriving at HKIA using cross-boundary helicopters and business jets to directly proceed to transfer to commercial flights under the escort of staff within the airside area, and vice versa. As the service can save about one-third of the transit time for travellers, it will help promote their use of cross-boundary helicopter services and transit through HKIA. The Government will continue to closely monitor the development and market demand of cross-boundary helicopter services and the services of other Advanced Air Mobility, and review the development of relevant facilities in a timely manner.