LCQ14: Promoting development of low-altitude economy

â€‹Following is a question by the Hon Elizabeth Quat and a written reply by the Secretary for Transport and Logistics, Ms Mable Chan, in the Legislative Council today (December 18):

Question:

The Working Group on Developing Low-altitude Economy led by the Deputy Financial Secretary convened the first meeting earlier on to discuss the overall strategies and work plan for developing the low-altitude economy (LAE), and announced that Regulatory Sandbox pilot projects (pilot projects) would be taken forward progressively starting from early next year. In this connection, will the Government inform this Council:

(1) whether the Government will make reference to the practice of Guangdong Province and study the proactive formulation of a demand list of application scenarios for LAE in Hong Kong in respect of Regulatory Sandbox, so as to showcase the opportunities for collaboration between the Government and enterprises in the application scenarios for various areas of demand, such as low-altitude infrastructure, industry operations as well as production and manufacturing, thereby facilitating the precise supply-demand matchup in the industry chain and promoting the realisation and application as well as generational upgrading of cutting-edge technologies and innovative products;

(2) as there are views pointing out that applicants for pilot projects have to bear the costs involved in preparing the applications and conducting trials on their own at the current stage and this may deter the participation of small and medium enterprises, whether the Government will study setting aside funding to offer project-based subsidies to such applicants, thereby prmoting the trial run of LAE locally;

(3) as it has been reported that while LAE comprises a complete industry chain and there is demand for insurance under each of the components, LAE insurance is still at the stage of research in Hong Kong, of the Government's plans to encourage insurance companies to develop insurance products targeting areas of commercial application for LAE (such as freight logistics, passenger transportation and urban management, etc.);

(4) whether the Government will study the use the Geographic Information System complemented with three-dimensional geospatial data to establish a flight path planning information platform similar to "One Map" on the Mainland, and further, with the support of real-time meteorological data and based on the demand for take-off and landing points as well as major flight paths, design a "highway" for low-altitude airspace; and

(5) as it is learnt that many government departments in Shunde District of

Foshan City have already applied a shared drone inspection system to collect data required by various departments supplemented by artificial intelligence (AI) models to effectively identify various urban management problems (including unauthorised building works and fly-tipping of refuse, etc.), thereby enhancing the efficiency of urban management, whether the Government will, by drawing reference from the relevant experience, study making use of low-□altitude technology coupled with AI technologies to further enhance the efficiency of urban management and governance efficacy?

Reply:

President,

â€‹The Working Group on Developing Low-altitude Economy (the Working Group) led by the Deputy Financial Secretary convened its first meeting on November 12 this year. Apart from discussing the overall strategy and work plan for the development of low-altitude economy (LAE), the Working Group also formulated the details of the Regulatory Sandbox (Sandbox) pilot projects. The Government will implement the Sandbox pilot projects progressively starting from early next year to foster innovation and facilitate the testing of potential application scenarios of low-altitude flying activities.

In consultation with the Development Bureau, the Environment and Ecology Bureau, the Financial Services and the Treasury Bureau, the Innovation, Technology and Industry Bureau, the Civil Aviation Department (CAD), the Environmental Protection Department and the Hong Kong Observatory (HKO), the reply to Hon Elizabeth Quat's question is as follows:

(1) and (2) The Government will carry out the Sandbox pilot projects by batches and the first batch of the pilot projects is now open for application. The pilot projects will be conducted under different scenarios to test various technical and ancillary facilities requirements, including the technical specifications of different types of unmanned aircraft, mobile radio communications networks, signal reception of global navigation satellite system, and requirements of the low-altitude surveillance system. We hope that the locations and routes of the trials can cover areas with different terrains, topography and development densities in Hong Kong, as well as different application scenarios. The objective is to progressively expand and enrich the scope of low-altitude flying applications.

The Sandbox pilot projects will provide a controlled and conducive environment to simulate diversified scenarios, multiple air routes and overarching low-altitude airspace management, allowing industry stakeholders to explore different application scenarios for LAE, while gathering data and experience at the same time to assist in the Government's informed decision making for the formulation of appropriate infrastructure, related supporting facilities as well as standard rules and practices for the long term development of low-altitude flying activities.

To leverage on the expertise of the industry, the Government has

appointed the Hong Kong Productivity Council as technical partner, and the Hong Kong Science and Technology Parks Corporation and the Hong Kong Cyberport Management Company Limited as venue partners to facilitate the implementation of the pilot projects, while fostering the development of LAE industrial chain at the same time. The Government will also continue to closely monitor and make reference to the application areas for LAE in Mainland cities, and make corresponding deployments in Hong Kong in accordance with local circumstances.

Regarding the Government's funding support to the pilot projects, the Government has all along been supporting research and development (R&D) in different technology areas through different funding schemes. For example, the Innovation and Technology Fund (ITF) has been supporting local universities, R&D centres and enterprises to conduct R&D in electronics, data transfer and processing, which are related to LAE, through its funding schemes. To promote the development of the innovation and technology 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.

(3) The existing Small Unmanned Aircraft (SUA) Order (Cap. 448G) adopts a risk-based approach in regulating SUA operations. SUA operations of different risks, irrespective of their intended use, are subject to corresponding regulatory requirements based on the weight of the SUA and the level of risks involved in its operations, including insurance requirements.

On the premise of safeguarding aviation and public safety, and having balanced the readiness of the market, the mandatory insurance requirements are implemented in a phased approach. The first phase, which has been implemented with immediate effect from the commencement of the SUA Order since June 2022, is mandatory insurance for advanced operations requiring Category B operations to take out insurance to cover liability for bodily injury and/or death of a third party, with a minimum sum insured of $10 million. The second phase will be mandatory insurance for Category A2 operations, with a minimum sum insured of $5 million against third party bodily injury and/or death. This requirement will come into operation on a later date to be specified by the Director-General of Civil Aviation by notice published in the Gazette. At present, there are insurance products available in the market that comply with the existing regulatory regime under the SUA Order. The CAD has also been maintaining close communication with the insurance industry to keep abreast of the latest market situation.

To tie in with the development of LAE, the Government has started to review the existing civil aviation legislation and regulatory regime (including the insurance requirements for the operation of different types of unmanned aircraft) and will carry out the legislative amendment work in phases. Under the first phase, the existing SUA Order will be amended to cover unmanned aircraft weighing more than 25kg but not exceeding 150kg. These unmanned aircraft will be subject to specified requirements, including

insurance requirements.

Depending on the progress of the pilot projects under various application scenarios for LAE, the risk data collected and the relevant legislative requirements in the future, the Government will continue to maintain close communication with the insurance industry and facilitate the industry in the cultivation and launch of corresponding insurance products for the development of LAE.

(4) and (5) The Government attaches great importance to the safe and efficient development of LAE and understands the importance of the Geographic Information System (GIS) and three-dimensional (3D) geospatial data in the planning of air route networks in low-altitude airspace. The Government will make reference to the experience of the Mainland and other regions and embark on technical studies and planning for low-altitude infrastructure, including take-off/landing sites, communication networks, air route networks, low-altitude surveillance and management systems. The studies will also include the feasibility of using GIS technology and 3D geospatial data, as well as the integration of real-time meteorological information. In particular, the HKO is considering how to integrate real-time meteorological data to meet the specific needs of LAE for meteorological information, in particular at the low-altitude take-off/landing points as well as along the major air corridors. Concurrently, the HKO will collaborate with relevant government departments and industries to explore the utilisation of new technologies, including new observation systems, to provide meteorological support for the management and information platforms of the low-altitude airspace.

Furthermore, the Common Spatial Data Infrastructure managed by the Spatial Data Office (SDO) under Development Bureau has collected more than 900 spatial datasets from over 60 departments and organisations. Such information covers areas including maps, roads, traffic condition, land use, buildings, engineering and weather. The TLB, the CAD and the SDO are in discussion to explore using spatial data to help draw up the flight paths of low-altitude aircraft, among other things.

The Government's target is to formulate a multi-layered development framework which can accommodate Advanced Air Mobility of different classifications and operating parameters, satisfy the needs of major applications such as logistics, community delivery, urban management and public services, and address the local circumstances in Hong Kong. Under the framework of the existing SUA Order, various government departments make use of SUA to enhance the efficiency of urban management and public services, such as building surveying work, land surveying and management work, detection of land irregularities, monitoring of illegal pollution and marine dumping activities, operations of large-scale polluting plants, progress of development works, assisting in evidence collection for prosecution actions, integrating artificial intelligence (AI) technology for investigation and maintenance of sewage facilities. Various government departments will actively explore ways to integrate unmanned aircraft applications with AI technologies to further enhance the efficiency of urban management and public services.

At the same time, the Working Group also encourages various government bureaux and departments to actively participate in the Sandbox pilot projects to broaden the scope of unmanned aircraft applications in enhancing urban management and public services. We believe that the wider use of unmanned aircraft by the Government can spearhead industry efforts to expand application scenarios for low-altitude flying activities.