

LCQ17: Developing electric vertical take-off and landing technology

Following is a question by the Hon Yim Kong and a written reply by the Secretary for Innovation, Technology and Industry, Professor Sun Dong, in the Legislative Council today (March 27):

Question:

In the Report on the Work of the Government released early this month, the Premier of the State Council has pointed out that the major government tasks for 2024 include actively fostering low-altitude economy as a new growth engine. There are views that electric vertical take-off and landing (eVTOL) technology can be widely applied in the field of low-altitude economy. Under the backdrop of the increasingly prominent problems of traffic congestion and environmental pollution, eVTOL technology is of important market value to the development of rapid transport in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) and in-depth tourism in Hong Kong, the promotion of the development of low-altitude tourism economy in Hong Kong, and the development of related innovation and technology (I&T) industries. In this connection, will the Government inform this Council:

(1) whether the authorities have formulated a vision plan for promoting the development of I&T industries with eVTOL technology as the core; if so, of the details; if not, the reasons for that;

(2) whether the authorities can actively consider making the development of eVTOL technology one of the major industries when developing I&T industries in the Northern Metropolis and encourage enterprises to develop eVTOL technology, so that the development of eVTOL technology will become an industry in which Hong Kong has a competitive edge; and

(3) as it is learnt that eVTOL technology has been upgraded in the direction from manned driving to unmanned driving, whether the authorities will encourage the trade to expeditiously apply eVTOL technology to high-end business and dedicated travel routes in GBA?

Reply:

President,

This question raised by the Hon Yim Kong straddles the policy areas of various bureaux and departments. The Innovation, Technology and Industry Bureau (ITIB) has co-ordinated information provided by the Transport and Logistics Bureau (TLB), the Security Bureau (SB) and the Culture, Sports and Tourism Bureau (CSTB). On behalf of the Government, our co-ordinated reply to various parts of the question is as follows:

The Government promulgated the Hong Kong Innovation and Technology Development Blueprint (the Blueprint) in December 2022 setting out key

facilitation measures under four broad development directions. As suggested in the Blueprint, the Government will focus on promoting the development of technology industries in Hong Kong with an edge and are of strategic importance from a strategic and forward-looking perspective. The blueprint also sets out four prerequisites, and suggests that the focus should be on developing life and health technology, artificial intelligence (AI) and data science, advanced manufacturing and new energy.

Electric vertical takeoff and landing (eVTOL) technology generally refers to the low-altitude aircraft designed for transporting passengers or cargoes, and it takes off and lands vertically. It forms a point-to-point air transport network and may alleviate road traffic congestion in cities. eVTOL uses electricity as all or part of its energy source of the propulsion system, and has the advantages of pollution-free, low-noise, cost-effective and low-carbon while comparing to traditional helicopters. Besides, the electric motor and electrified structure design of the passenger eVTOL simplifies the power transmission system, eliminating the complicated transmission structure and greatly improving safety comparing to the traditional power engine system.

Hong Kong has a solid technology foundation for developing eVTOL, such as robotics, AI and interconnect technology. Local universities have also been conducting research and development (R&D) in eVTOL-related technology. However, the relevant policies and legal restrictions of the existing airspace management have limited the transformation and realisation of the R&D outcomes in Hong Kong. Hong Kong therefore mainly focuses on the technology involving indoor flying robots and cannot adopt it outdoors. To commercialise eVTOL in Hong Kong involves a wide range of issues including policies and regulations, facilities and infrastructure, flight path planning, airspace management as well as land and space requirements, etc, which are under the auspices of various bureaux and departments, and go beyond the level of technology and R&D. The matter requires in-depth studies and consultation with different stakeholders and the public.

On the other hand, according to the TLB and the SB, the Government notices that the Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area (Greater Bay Area) specifies the deepening of the reform in the management of low-altitude airspace management, the expedition of the development of general aviation and the steady development of cross-boundary helicopter services. Subject to compliance with the relevant immigration and customs clearance and quarantine arrangements, the Government will continue to proactively explore with the Mainland on further facilitation of the development of cross-boundary commercial helicopter services, with a view to promoting air traffic connectivity within the Greater Bay Area.

The Government will continue to keep a close watch on the advancement of eVTOL technology and its development in the Mainland and other regions. Taking into account our practical condition, laws and regulations, market demand, commercial considerations of potential service operators etc, the Government will make plans that suit Hong Kong strategically in a timely manner, including supporting projects which can enrich visitors' experience.