

# ICE HKA Public Voice Breakfast forum

How to foster a sustainable low altitude economy in Hong Kong

7 June 2025

Author: Alice Li

## Background

The Low-Altitude Economy (LAE) is an emerging economic sector centred around the development and utilisation of low-altitude airspace, typically below 1,000 meters, for commercial, technological, and public service applications. It is increasingly recognised as a new growth engine for modern economies, especially in the context of smart cities and digital transformation. As Hong Kong is evolving into a smarter and more connected environments, the Low-Altitude Economy (LAE) is poised to become a cornerstone of the future urban life – driving innovation, enhancing mobility, and creating new economic value.

This breakfast forum aims at exploring challenges and technological innovations in the Low-altitude Economy and Hong Kong's opportunities to develop a sustainable LAE through these technologies. The innovative aircraft, electric Vertical Take-off and Landing (eVTOL) aircraft, stand to transform both intracity mobility and regional connectivity across the Greater Bay Area (GBA). It was our honour to invite Mr Steven Lui, the President of Intelligent Transportation Systems Hong Kong (ITS-HK) and Chairman of the Technical Committee Sub-group on LAE. He has more than 21 years of international experience working in both public and private sectors on projects in the UK, UAE, Singapore and Hong Kong. The highlights of Mr Lui's speech and the discussions are presented below:

## Speech from the distinguished guest

Mr Lui introduced the latest technology and application of Advanced Air Mobility (AAM) & eVTOL. eVTOL aircrafts are increasingly powered by advanced electric propulsion systems for a quieter, cleaner, and more efficient flight compared to traditional combustion engines. Meanwhile, many AAM platforms have integrated high level automation, including autonomous navigation and flight control systems, reducing the necessity of onboard pilots. The development of vertiports (i.e. dedicated take-off and landing hubs) is underway in urban and regional areas to support AAM operations.

China significantly elevated the LAE as a strategic emerging industry. In the third session of the National People's Congress, a large-scale demonstration initiative was proposed promoting a safe and healthy development of LAE and commercial spaceflight. This includes establishing designated flight zones, real-time monitoring, and dynamic management of low-altitude airspace, alongside accelerating legislation for Unmanned Aerial Vehicle (UAV) and low-altitude flight management.

He also pointed out a few key considerations for LAE development, such as spatial requirements for flights, power provision and charging facilities, legal and insurance, security and integration of connectivity and airspace.

As of 2025, Hong Kong has been actively developing its LAE through a regulatory sandbox approach, approving 38 pilot projects focusing on drones under 25 kg for cargo delivery, surveillance, maintenance, and emergency response. At the same time, preparations such as infrastructure planning (e.g. vertiports and charging stations), updating legislation, and coordinating with Mainland China to explore cross-boundary low-altitude air routes, are on-going.

## Outcome of group discussions

Three discussion groups were formed to discuss how to adopt a sustainable LAE in Hong Kong. To guide the discussion, each group focused on a specific LAE perspective: (1) Incentives of LAE; (2) Environmental and social impact of LAE, and (3) Challenges of the LAE development. Representatives from each group presented their discussion outcomes as follows:

### Table 1: Incentives of Low Altitude Economy

The discussion group agreed that public trust is a cornerstone of LAE adoption. Ensuring high safety standards and operational reliability will help overcome skepticism and resistance. It has suggested several incentives for LAE as follows:

- **Cost-Effective and Faster Cross-Border Travel:** eVTOLs offer a significant reduction in travel costs compared to traditional helicopters – approximately \$5 per km vs. \$30 per km. This makes them a more accessible and scalable solution for regional and cross-border mobility, especially in densely populated or geographically fragmented areas.
- **Enhancing Sustainable Infrastructure Development:** LAE reduces the need for costly and environmentally disruptive infrastructure projects that reduce land use and lowers maintenance costs. At the same time LAE could support greener urban planning, aligning with sustainability goals and smart city initiatives. Nonetheless, development of LAE requires Government ~~subsidies and~~ policy support. Public sectors involvement through subsidies, incentives, and policy frameworks can accelerate the adoption of LAE. Government can play a pivotal role by funding pilot programs, offering tax reductions, and streamlining aviation regulations to encourage private investment and innovation in the sector.

- **Public Engagement and Trust Building:** To foster public acceptance, initiatives like experience sharing, trial flights, and phased implementation can help build familiarity and confidence. Gradual exposure, combined with visible safety measures and reliability of technology, will ease societal transition to this new mode of transport.
- **Expanding Supply of Docking Points, Takeoff and Landing Points:** Expanding the network of vertiports (e.g. docking, take-off, and landing points) is essential for the scalability and convenience of eVTOL operations.

## Table 2: Infrastructure and urban planning for low-altitude economy implementation

Table 2 focused on Infrastructure and urban planning for LAE implementation and environmental and social impact of LAE. They have discussed this topic with different angles as follows:

- **Applications in the Construction Industry:** LAE technologies can revolutionise construction through real-time remote site supervision using aerial drones and eVTOLs; asset tracking and management across large or complex sites; and progress monitoring and safety inspections from the air. To build the foundational infrastructure for LAE, a mix of public funding, private capital, and public-private partnerships (PPPs) are essential to finance the development of LAE infrastructure, enabling shared risk and faster deployment through collaborative models.
- **Integration with Advanced Technologies:** To maximise the performance of LAE operations, LAE systems should be integrated with other technologies, such as LiDAR, thermal infrared camera, and other high resolution camera.
- **Regulatory and Operational Constraints:** Current restrictions, such as limited airspace access, lack of standardised regulations and zoning limitations, can hinder the expansion of LAE. Urban planners and policymakers must work together to publish regulations, define air corridors, and ensure compatibility with existing infrastructure.
- **Public Perception on Safety Concerns:** The safety of LAE focuses on the precision of departure and landing in dense urban areas, which requires advanced navigation and collision avoidance systems. Addressing these concerns builds public trust and regulatory confidence, incentivising broader adoption and investment in LAE infrastructure.
- **Privacy Issues During UAV Operation:** As drones and eVTOLs become more common in urban airspace, they often carry cameras and sensors which may unintentionally capture private properties or individuals, raising ethical and legal questions. A clear regulatory framework and privacy respecting flight protocol are essential to balance innovation with civil liberties.
- **Impact on Traditional Transportation Markets:** The rise of LAE could disrupt existing transportation sectors, such as taxis, delivery services, and logistics. Whilst this situation may lead to greater cost effectiveness, at the same time, it may risk displacing workers and businesses.

- **Integration with Existing Transportation Systems:** LAE can enhance connectivity, especially in hard-to-reach or underserved areas. eVTOLs can also serve as first-mile or last-mile solutions, linking remote communities to urban transportation. The discussion group agreed that existing public transport interchanges (PTIs) and new transit infrastructure hub (TIH) rooftops can be repurposed as vertiport locations, maximizing space efficiency and enhancing multimodal integration.
- **Cybersecurity Risks:** Since LAE systems heavily rely on real-time data exchange and automation, they are vulnerable to cyber threats. Unauthorised access could compromise navigation, safety, or user data. Investing in robust cybersecurity infrastructure is crucial to protect operations and maintain public trust in aerial mobility services.

### Table 3: Challenges of low-altitude economy implementation

Table 3 discussed the challenges and concerns on LAE development that the Government and practitioners should consider. Representatives from the discussion group presented their discussion outcomes as follows:

- **Framework controlling the LAE development:** There is a strong need to develop a comprehensive roadmap, licensing standards, flight path management and insurance framework. A dedicated statutory body should be established to oversee LAE development. This body would be responsible for long-term planning, regulatory oversight, and interdepartmental coordination, ensuring consistent and accountable progress.
- **Local Expertise and Talent Development:** Hong Kong needs to cultivate local expertise in areas such as aerospace engineering, AI, cybersecurity, air traffic control, and regulatory compliance relating to LAE. This can be achieved by establishing partnerships with universities and training institutions to build a skilled workforce that support LAE development in the future. This can ensure Hong Kong remains at the forefront of innovation and technological advancement in the LAE sector.

### Conclusion

This discussion forum is considered fruitful. Mr Steven Lui's speech provided insightful views on the latest development and implementation of LAE in Hong Kong. With subsequent discussions on the incentives of planning and the impact of the LAE, along with the potential development and constraints, it is hoped that these views will be useful for practitioners in the civil engineering industry to maximise benefits while mitigating potential challenges in the evolving LAE sector.

