



WORKING PAPER

FOURTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 26 August to 6 September 2024

- Agenda Item 2: Timely and safe use of new technologies**
2.2: Addressing safety risks related to evolving aviation technologies

**TOWARD A BALANCED APPROACH BETWEEN PROMOTING
ADVANCED AIR MOBILITY TECHNOLOGY DEVELOPMENT AND
IDENTIFYING NECESSARY SAFETY REGULATORY FRAMEWORK**

(Presented by the Republic of Korea)

EXECUTIVE SUMMARY

The Republic of Korea endorses the selection of Priority Focused Areas (PFA) in implementing the 2023-2025 ICAO Business Plan to ensure effective activity prioritization and efficient resource management. With the rapid maturation of new Advanced Air Mobility (AAM) technology, the inclusion of AAM and new entrants into the PFA is particularly welcomed. The Republic of Korea expects that this inclusion will contribute to facilitating the effective and timely development of a globally recognized AAM framework, promoting the new industry while ensuring its gradual and seamless integration into the conventional operational environment.

Some Member States are rapidly approaching toward the initial deployment of the AAM technologies, referred to as short-term AAM operations, by actively putting efforts into establishing the necessary ground infrastructure and regulatory framework to support these advancements. The ROK believes that ICAO's role is pivotal in supporting Member States to achieve the safe initial deployment of AAM technologies and in establishing a regulatory framework that considers global harmonization.

Action: The Conference is invited to:

- a) encourage Member States to share challenges and best practices in deploying short-term AAM operations with ICAO and the global aviation community;
- b) recommend that ICAO prioritize work programmes and tasks to support Member States in tackling priority safety challenges related to short-term AAM operations, particularly in developing guidance for establishing safety regulatory framework with globally harmonized approaches; and
- c) recommend that ICAO provide Member States with guidance materials on conducting safety risk assessments for newly emerging hazards and risks to safely integrate the initial AAM operations within conventional operational environments.

1. INTRODUCTION

1.1 The Republic of Korea endorses the selection of Priority Focused Areas (PFA) in implementing the 2023-2025 ICAO Business Plan to ensure effective activity prioritization and efficient resource management. With the rapid maturation of new Advanced Air Mobility (AAM) technology, the inclusion of AAM and new entrants into the PFA is particularly welcomed. The Republic of Korea expects

that this incorporation will facilitate the effective and timely development of a globally recognized AAM framework, promoting the growth of the new industry while ensuring its safe integration into the conventional aviation system. This working paper aims to highlight the important role of ICAO in setting up the safety regulatory framework and associated safety activities regarding AAM operations in the short term, aligning with the swift technological advancements and the expansion of AAM industry.

2. DISCUSSION

2.1 In response to the evolution of AAM technology, the 40th Session of the ICAO Assembly adopted Resolution A40-7 *New Entrants*, subsequently replaced by A41-9. This resolution recognizes ICAO's role as an international forum and directs ICAO to review all relevant Standards and Recommended Practices (SARPs) to facilitate the operation of new entrants. Additionally, the resolution calls on Member States to arrange their regulations and procedures to facilitate the integration of these new operations.

2.2 Based on the aforementioned Assembly resolutions, ICAO has organized panels, study groups, and symposiums to support Member States in understanding the ever-evolving concept of AAM and to review existing SARPs to facilitate the operation of AAMs and/or new entrants.

2.3 As the universally acknowledged definition of AAM continues to evolve alongside the maturation of new technologies, the scope of the AAM ecosystem and the diversity of aircraft types could become extensive. This broad spectrum and the yet-to-be-determined definition pose challenges for Member States in formulating a comprehensive regulatory framework encompassing the entire spectrum of AAM.

2.4 To address these difficulties, there is a growing consensus to approach the types of operation in terms of the short-term, mid-term, and long-term based on the available new technology and/or the level of integration with the existing air transport system. The evolution of AAM operations is anticipated to begin with establishing foundational infrastructure and regulatory frameworks in the short term, encompassing pilot projects and initial limited commercial services. Mid-term operations will expand to include more advanced technologies and increased operational density involving various stakeholders. The long-term vision involves achieving a fully integrated and mature AAM ecosystem.

2.5 The Urban Air Mobility (UAM) industry, an expected type of operation in the short-term, is rapidly expanding in numerous States including the Republic of Korea. Test operations and/or demonstration flights are being conducted to assess the reliability of UAM, including its ecosystem, and to verify and validate the safe integration. Pre-safety risk assessments and the establishment of the necessary basic safety rules/guidance are prepared in tandem to manage the associated safety risks that may arise during these operations. Once they are successfully conducted, initial commercial services in a limited scope and less complex environment are expected to be deployed.

2.6 The Republic of Korea believes that these safety activities, carried out in preparation for short-term operations, are laying the foundation for Member States to identify and establish the safety regulatory framework and associated safety activities. The Republic of Korea affirms that the global community is at a pivotal moment where the role of ICAO is essential, especially given the need for a globally harmonized approach from the outset amidst the rapid growth and expansion of the UAM industry.

2.7 Considering this perspective, the Republic of Korea supports ICAO's timely decision to incorporate the AAM/New Entrants area in the PFAs. To further enhance the effectiveness of this decision, the Republic of Korea recommends that ICAO prioritize AAM tasks focused on addressing the immediate safety challenges anticipated by Member States in deploying their short-term operations. Practical safety

guidance developed by ICAO is necessary to support Member States in commencing the initial journey of AAM operations, ensuring the safe and successful global deployment of AAM technologies.

3. **CONCLUSION**

3.1 A strategic approach by ICAO and active collaboration by Member States are necessary for safe and successfully deployment of the newly introduced system. A balanced approach by the global aviation community between promoting AAM technology development and identifying necessary safety regulatory frameworks is essential for the gradual and seamless integration of the AAM industry.

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