

**61ST CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGION**

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AGENDA ITEM 3: AVIATION SAFETY

**ADVANCING AVIATION AI SAFETY ASSURANCE THROUGH
APAC COLLABORATION**

(Presented by the Republic of Korea)

SUMMARY

Artificial intelligence (AI) is increasingly being applied across aviation, offering significant opportunities to enhance safety, efficiency and innovation. At the same time, AI introduces new safety assurance challenges that require harmonized approaches.

While many Asia and Pacific States are actively exploring AI applications, aviation AI governance and safety assurance capabilities across the Region remain at an early stage. Greater regional cooperation is therefore needed to promote common understanding, share practical experience and support the safe implementation of AI. This paper proposes establishing an APAC Technical Working Group on Aviation AI Safety Assurance as a voluntary, non-binding platform to exchange policies, operational experience and lessons learned, strengthen regional capacity building, and contribute to ICAO's evolving work on aviation AI.

ADVANCING AVIATION AI SAFETY ASSURANCE THROUGH APAC COLLABORATION

1. INTRODUCTION

1.1 Artificial intelligence (AI) is rapidly transforming aviation through applications in air traffic management (ATM), airport operations, aircraft maintenance, safety management, security screening, regulatory oversight and operational decision support. AI offers significant opportunities to enhance aviation safety, operational efficiency, capacity and innovation.

1.2 As AI applications evolve toward increasingly operational and safety-related functions, they also introduce new assurance challenges that are not fully addressed by existing aviation frameworks. These include data governance, model validation, explainability, human oversight, cybersecurity, accountability and continuous performance monitoring.

1.3 Recognizing these challenges, ICAO and several States are developing policies and guidance to support the safe introduction of AI into aviation. While progress is being made globally, approaches remain fragmented and the maturity of national AI governance varies considerably across the Asia and Pacific Region.

1.4 The ICAO AI Governance Survey 2026 indicates that many APAC States are already exploring AI applications in areas such as ATM, airport operations, safety data analysis and regulatory processes. However, aviation-specific governance frameworks, institutional arrangements and safety assurance capabilities remain at an early stage.

1.5 The Republic of Korea therefore proposes establishing an APAC Technical Working Group on Aviation AI Safety Assurance to facilitate regional cooperation, promote common understanding and contribute regional perspectives to ICAO's future work.

2. DISCUSSION

Need for Regional Cooperation

2.1 As AI becomes increasingly integrated into aviation systems, States will need practical approaches to assure the safety and trustworthiness of AI-enabled functions. Key considerations include appropriate risk classification, data quality and governance, model verification and validation, human oversight, cybersecurity and continuous operational monitoring.

2.2 Without regional collaboration, different national approaches may lead to regulatory inconsistency, duplication of effort and reduced interoperability of AI-enabled aviation systems. Harmonization does not require identical regulations but rather a common understanding of safety assurance principles and risk-based oversight.

Proposed APAC Technical Working Group

2.3 To address these challenges, this paper proposes establishing an APAC Technical Working Group on Aviation AI Safety Assurance under the DGCA process with the support of the ICAO Asia and Pacific Regional Office.

2.4 The Working Group would serve as a voluntary, non-binding technical cooperation platform through which interested States could exchange policies, regulatory approaches, operational experiences, pilot projects and lessons learned, while providing regional input to ICAO's future work on aviation AI.

2.5 Participation could include technical experts nominated by States/Administrations and on an invitation by the Group, relevant international organizations, standards bodies, academia and

industry, where appropriate, could be included.

Initial Working Programme

2.6 As an initial work programme, the Working Group could focus on practical, lower-risk AI applications already being explored across the aviation sector, including safety occurrence analysis, predictive maintenance, ATM decision support, airport operations, and regulatory oversight. This phased approach would allow States to build practical experience before addressing higher-risk or safety-critical AI applications.

2.7 Priority areas for collaboration may include:

- AI governance and regulatory frameworks;
- Safety assurance methodologies for AI-enabled systems;
- Human oversight and operational responsibility;
- Cybersecurity and data governance; and
- Exchange of implementation experience, lessons learned and emerging issues.

3. CONCLUSION

3.1 AI is expected to become an important enabler of safer, smarter and more efficient aviation. To realize these benefits while maintaining aviation safety, APAC States will benefit from closer cooperation in developing practical and harmonized approaches to AI safety assurance.

3.2 The proposed Working Group would strengthen regional collaboration, support capacity building and provide practical contributions to ICAO's evolving work on aviation AI, while enabling States to introduce AI technologies in a safe, consistent and coordinated manner.

4. ACTION BY THE CONFERENCE

4.1 The Conference is invited to:

- a) note the increasing application of AI across aviation and the importance of harmonized approaches to AI safety assurance;
- b) recognize the value of regional cooperation in sharing policies, practical experience and safety assurance practices for aviation AI;
- c) agree, in principle, to establish an APAC Technical Working Group on Aviation AI Safety Assurance with the support of the ICAO Asia and Pacific Regional Office;
- d) invite interested States/Administrations to nominate technical focal points to participate in the Working Group; and
- e) encourage the Working Group to initially focus on practical AI applications and contribute regional input to ICAO's future work on aviation AI.

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