

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

*Kuala Lumpur, Malaysia
7 - 11 September 2026*

AGENDA ITEM 3: AVIATION SAFETY

**INDONESIA'S READINESS FOR
ADVANCED AIR MOBILITY (AAM)**

(Presented by The Republic of Indonesia)

SUMMARY

Advanced Air Mobility (AAM) represents an emerging air transport ecosystem offering faster, more efficient and sustainable mobility solutions for Indonesia as an archipelagic State. In alignment with applicable ICAO provisions and emerging international approaches, Indonesia has established policy and regulatory foundations, facilitated controlled demonstrations, and identified the infrastructure, human resources, financing and collaboration required for the phased integration of AAM into the national aviation system.

INDONESIA'S READINESS FOR ADVANCED AIR MOBILITY (AAM)

1. INTRODUCTION

1.1 Rapid advances in electric propulsion, automation and digital airspace services are enabling new forms of air mobility. For Indonesia, an archipelagic State comprising more than 17,000 islands, AAM may complement existing transport services and support interregional connectivity and public-service delivery, particularly in remote and underserved areas.

1.2 Indonesia does not view AAM solely as an urban mobility solution. Its potential application in Indonesia extends to inter-island connectivity, time-sensitive logistics, emergency response, medical services, disaster relief and other public-service operations. Indonesia is therefore pursuing a phased and risk-based approach to AAM development, aligned with applicable ICAO provisions and emerging international practices.

1.3 This paper highlights Indonesia's significant progress, including the establishment of a mature operational foundation for unmanned aircraft systems (UAS), an expanding portfolio of certification and Type Certificate (TC) validation activities, active participation in international standardization bodies and technical working groups, and the advancement of international regulatory harmonization.

2. DISCUSSION

2.1 Regulatory and Policy Foundation

2.1.1 Initial regulatory instruments relevant to unmanned aircraft and AAM include Ministerial Regulations on unmanned aircraft operations and on small UAS, and a Director General Civil Aviation decree providing dedicated airspace for AAM testing (sandbox). These instruments support controlled testing and provide an initial basis for addressing operational authorization, airspace use and safety oversight while a more comprehensive AAM framework is developed.

2.1.2 The regulatory framework is being aligned with ICAO Annex 8 and will further be aligned with ICAO Annex 6. Certified-category unmanned aircraft are certificated and validated under CASR Part 21, with airworthiness requirements established in CASR Part 22. Operations below 25 kg are regulated under CASR Part 107, while higher-risk operations, such as beyond visual line of sight (BVLOS), night, and cargo operations, are conducted through a risk-based approach using the Joint Authorities for Rulemaking on Unmanned Systems (JARUS) Specific Operations Risk Assessment (SORA) methodology and a Remote Operator Certificate under CASR Part 119. Additional regulations, including operational requirements for Certified Remotely Piloted Aircraft System (RPAS) and personnel licensing provisions, are currently under development.

2.1.3 AAM has been incorporated into Indonesia's National Mid-Term Development Plan 2025–2029 as a future area of air transport development. Its inclusion in the national planning framework reflects the Government's intention to explore AAM as part of a broader strategy to improve connectivity, accessibility and public-service delivery. Future regulatory development will need to remain proportionate to operational risk and responsive to the rapid evolution of AAM technologies.

2.1.4 At the national policy level, the DGCA is working closely with relevant government ministries and agencies to develop a national policy framework for Low Altitude Mobility (LAM) and the Low Altitude Economy (LAE). This collaborative effort aims to establish a coordinated policy framework that supports the safe, efficient, and sustainable use of low-altitude airspace, while facilitating the integration of AAM and UAS into Indonesia's broader economic and regional development strategies.

2.2 Initial Demonstrations and Future Planning Initiatives

2.2.1 Indonesia has facilitated early AAM-related activities, including passenger-carrying pilotless eVTOL demonstration flights using the EH216-S and an OPPAV proof-of-concept flight at Samarinda Airport. These controlled activities have provided opportunities to build initial experience in flight authorization, airspace management, safety coordination and cooperation among regulators, airport operators, air navigation service providers, technology developers and other stakeholders.

2.2.2 The value of these activities extends beyond the demonstration of aircraft technology. They provide a controlled environment for Indonesia to better understand future regulatory, operational, safety and airspace-integration requirements. The experience gained may support evidence-based policy development before AAM operations are introduced on a wider scale.

2.2.3 Planning initiatives include a proposed regulatory sandbox at Kertajati Airport and drone-development facilities at Budiarto Airport under the Aerospace Park concept. These initiatives are intended to support future testing, research, training and industry collaboration. Regulatory sandboxes may also allow new operational concepts to be assessed within defined conditions without prematurely introducing them into routine commercial operations.

2.2.4 DGCA has conducted numerous engagement with foreign AAM developers and manufacturers exploring the Indonesian market. Indonesia welcomes such partnerships and is open to hosting demonstration and proof-of-concept flights under appropriate safety oversight, viewing these activities as a valuable means of building shared operational experience and informing evidence-based regulatory development.

2.3 International Cooperation on Type Certificate Validation

2.3.1 A key element of Indonesia's readiness is the advancement of international regulatory harmonization for unmanned aircraft airworthiness. In 2025, DGCA Indonesia and CAAC China signed a bilateral Working Arrangement on Type Validation and Continued Airworthiness for UAS, strengthening cooperation on certification and airworthiness validation. The Working Arrangement establishes a framework for the DGCA's validation of UAS Type Certificates issued by China. It defines the respective roles and responsibilities of both authorities, including procedures for the identification, communication, and resolution of certification issues through mechanisms such as the DGCA List of Differences, Certification Action Items, and Certification Review Items/Issue Papers. As one of the first bilateral State-to-State airworthiness arrangements specifically dedicated to UAS, it provides a scalable framework for future cooperation with other States of Design as Indonesia's AAM ecosystem continues to develop.

2.3.2 These activities demonstrate that Indonesia has progressed from policy development to the establishment of structured and repeatable certification and validation processes for unmanned aircraft, which serve as a key enabler for the safe and orderly introduction of AAM.

2.4 Participation in International Standardization and Working Groups

2.4.1 Indonesia actively contributes to the international development of AAM and UAS standards, guidance material, and acceptance frameworks. Indonesia's current participation includes: Membership in the JARUS, including active participation in the Safety Risk Management (SRM) Working Group responsible for the development and maintenance of the SORA methodology, Serving as Co-lead of the Certification–Acceptance–Validation Panel under the Asia and Pacific (APAC) AAM Workstream, and Membership in the Unmanned Certification Working Group (UCWG) and the Advanced Air Mobility Working Group (AAMWG).

2.4.2 Through this involvement, Indonesia is positioned to both contribute to and benefit from the development of international standards and acceptance mechanisms, supporting interoperability, mutual recognition, and the safe and accelerated adoption of emerging technologies across the region.

2.5 Priority Areas for Ecosystem Development

2.5.1 Further development is required in three connected areas. The first is regulation and safety oversight, including airworthiness, operational approvals, personnel competency, cybersecurity and low-altitude airspace management. A coordinated regulatory approach will be necessary to address both piloted and increasingly automated operations while maintaining an acceptable level of safety.

2.5.2 The second area concerns infrastructure and digital systems. Future AAM operations may require vertiports or adaptable landing facilities, charging and maintenance capabilities, reliable communication and command-and-control systems, and integration with airports, seaports and other transport nodes. Digital systems will also be required to support authorization, monitoring and the progressive integration of UAS Traffic Management with conventional Air Traffic Management.

2.5.3 The third area is ecosystem capability. Indonesia will need to strengthen the competencies of regulators, inspectors, air traffic personnel, engineers, technicians, remote pilots and operators. Sustainable financing, public-private cooperation, research and development, public acceptance and collaboration among central and local governments, industry and academia will also be important in supporting long-term implementation.

2.6 Phased Implementation and Regional Cooperation

2.6.1 Indonesia considers that AAM should be introduced through clearly defined stages. Initial activities should focus on controlled testing, regulatory sandboxes and operational learning, followed by the development of certification and approval mechanisms, infrastructure and workforce readiness, and gradual integration into the national aviation system. Commercial deployment should proceed only after the necessary safety, security, technical and institutional requirements have been adequately addressed.

2.6.2 Priority should be given to use cases that provide clear public value, including connectivity for remote and underserved areas, logistics, emergency response, medical services and disaster relief. Regional and international cooperation will remain important to promote regulatory harmonization, interoperability, capacity-building and the exchange of experience across the Asia-Pacific region.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to note the information contained in this Paper.

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