IFATCA
INTERNATIONAL FEDERATION OF AIR TRAFFIC CONTROLLERS' ASSOCIATIONS
65th ANNUAL CONFERENCE
20 April – 24 April 2026, Bucharest, Romania

Agenda item: B.1.3.9 **INFORMATION PAPER** **LWP No:84**
IFATCA'26

Report of the IFATCA Representative on the ICAO Advance Air Mobility Study Group (AAM-SG)

Presented by Eugenio Diotalevi

SUMMARY

Report on the activities of the IFATCA Representative on the ICAO Advance Air Mobility Study Group (AAM-SG).

1. INTRODUCTION

1.1. The Advanced Air Mobility Study Group (AAM SG) was established as a result of the Air Navigation Commission (ANC) decision underlining the need for ICAO to conduct AAM-related work with the aim of ensuring global interoperability and harmonization.

1.2. IFATCA was admitted as a member of the AAM-SG only in October 2024, at meeting n°4. In 2025, no in-person meetings were attended (June, December), due to the IFATCA financial availability to cover only 2 meetings per year between the RPASP and the AAM-SG. Priority went to the RPASP because of the more mature state and the direct IFATCA involvement in key working groups.

1.3. However, AAM-SG progresses have been continuously followed by using meeting reports and by participating in several working-group meetings (mainly those related to the Vision and Explore WG, see 2.1) in between the main meetings.

1.4. The main product of the AAM-SG is a document, still under review, called "AAM Vison". This includes the ICAO vision on the topic, detailing, at the same time, both the final vision as well as the enablers, services and steps to make the vision a reality (see 2.2).

2. DISCUSSION

2.1. AAM-SG

2.1.1. Member States have requested ICAO, through ICAO General Assemblies and high-level Conferences, to recognize the complexity and multi-dimensional nature of AAM that will inevitably require major adjustments to the existing aviation system.

2.1.2. The 42nd Session of the ICAO Assembly reaffirmed the mandate of ICAO to confirm the leadership role in relation to building the global, interoperable, coordinated, and

fit-for-purpose regulatory frameworks for AAM and recognized that the unique characteristics of AAM posed complex challenges, including with respect to implementation and capacity building

2.1.3. ICAO has subsequently taken initial steps through the establishment of the Advanced Air Mobility Study Group (AAM SG) to shape the future ecosystem that AAM will require. The ICAO AAM-SG/1, was held in Montreal from 1 to 5 May 2023, and, under the leadership of Ms. Kirsten Riensema (UK CAA), established three main Working Groups (WG):

- Vision WG;
- Small UAS and UTM WG; and
- Explore WG.

2.1.4. VISION WG

Objectives:

Assess, from the global perspective, an AAM ecosystem, its components (subsets and enablers), the interaction among said components, as well the interaction with the other airspace users, as well as the conventional aviation system, and deliver:

a) a description of the current and future states of AAM, with a sufficient level of detail, the AAM ecosystem, potentially using the maturity and risk-based approach;

b) any recommendations for work that would need to be undertaken rapidly; and

c) recommended elements for potential inclusion into an AAM Strategy.

Tasks:

- Task 1: Develop the structure for Global and Holistic Vision of the AAM ecosystem
- Task 2: Assessment of Current and Future State(s) of AAM
- Task 3: Identify potential early recommendations for an ICAO AAM Strategy and future work.

2.1.5. Small UAS and UTM WG

Objectives:

- Perform a gap analysis between existing practices, ICAO provisions and what might be required from ICAO.
- Develop initial guidance material and the outline of a global framework.

Tasks:

- Task 1-1: Perform a literature search, to include UAS-AG material, various international ConOps, international regulatory material, international standards and other relevant documents.
- Task 1-2: Conduct the gap analysis of the small UAS regulatory framework in relation to existing material (i.e.. ICAO Model Regulations).
- Task 1-3: Produce a document structure for the UTM Implementation Guidance Document and identify threads for development of that document.
- Task 1-4: In cooperation with, and on behalf of, other WGs, develop Lexicon for use by global small UAS and UTM stakeholders

2.1.6. Explore WG

The EXPLORE Working Group has been chartered to explore and provide the AAM SG with consolidated information and recommendations on the following subjects:

- automation and autonomy;
- new flight rules;
- digital information and data management;
- AAM considerations supporting United Nations Sustainable Development Goals;
- Identify new areas for exploratory work to be conducted;

To meet the chartered objectives, the EXPLORE Working Group was subdivided into three sub-group:

- Sub-Group 1 – Automation, Autonomy, and New Flight Rules;
- Sub-Group 2 – Digital Information and Data Management; and
- Sub-Group 3 – United Nations Sustainable Development Goals.

2.2. AAM Vison Document

2.2.1. ICAO's commitment and leadership role in supporting Member States to accommodate innovation and new entrants, such as AAM, is identified as a high priority in the ICAO Strategic Plan 2026–2050. In this perspective, ICAO must consider the implications and necessary changes required to adapt Standards and Recommended Practices (SARPs), and guidance material to support Member States in implementing AAM.

2.2.2. As a starting point, the AAM-SG decided to create a vision document to serve as a reference material for future work. The drafting process took more than 2 years and the final document, called "AAM Vision", is not publicly available yet, because it's still under review by other ICAO panels.

2.2.3. The AAM Vision is not a stand-alone document but is a piece of the ICAO's strategic and planning framework. It serves as a specific and thematic reference material that connects emerging air mobility concepts with established global aviation structures. This Vision is aimed to be consistent with the Global ATM Operational Concept (GATMOC), the Global Air Navigation Plan (GANP), the Global Aviation Safety Plan (GASP), the Global Aviation Security Plan (GASeP), and Global Concept for Integrated Communication, Navigation, Surveillance, and Spectrum (ICNSS).

2.2.4. Furthermore, being the AAM a complete ecosystem, the AAM Vision will not only relay on these foundational ICAO documents, but it will also provide structured inputs for their future evolution by identifying new operational concepts, regulatory needs, and technological enablers unique to advanced air mobility (new ICAO Panel????).

2.2.5. AAM is a complex and multidisciplinary matter implying that the development, testing and implementation of all the necessary support (from regulatory to infrastructure) will take time. AAM implementation is envisioned as a progressive, adaptive, and non-linear process passing through different levels of operational maturity, regulatory development, and technological integration, leading toward a fullecosystem by 2050.

2.2.6. In order to describe the potential impact on the current aviation system, the AAM Vision document introduces three layers as structural elements:

- *Operational Concepts* - defining a framework of AAM operations based on three key dimensions (aircraft operation, airspace, and operational risk), identified to capture the evolving roles of humans, ensure consistency across use cases, and support safety and regulatory analysis;
- *Readiness Clusters* - describing four progressive stages of the maturity and readiness for more gradually improving complexity of AAM operations, reflecting the evolution of operational capability, regulatory development, automation, and integration;
- *Enablers* - defining technological, regulatory, and societal elements required to enable progressive operational maturity across the Readiness Clusters.

2.2.7. Limiting the analysis of the AAM Vision to implications on ATC/ATM, it becomes evident that the role and tasks for Air Traffic Management in the AAM ecosystem are undergoing a fundamental shift from human-centric control to highly automated, data-driven, and collaborative systems. As the AAM ecosystem matures, ATM must evolve to manage significantly higher volumes of diverse aircraft—both manned and unmanned—operating in increasingly complex environments.

2.2.8. As a global concept, ATM is fundamental to ensuring the safe, efficient, and scalable integration of Advanced Air Mobility (AAM) into the existing and future airspace system: design, development, and implementation of a new traffic management capabilities that can accommodate the unique characteristics of AAM operations (high-frequency, low-altitude, and potentially autonomous flight), while maintaining safety and efficiency alongside traditional aviation. To support these advanced functions, new separation standards, as well as a new concept of collaborative traffic management tailored to the performance profiles of AAM aircraft are required, based on automated conflict management tools that do not rely on human intervention. Trajectory-Based Operations (TBO) and advanced trajectory negotiation tools will allow AAM aircraft to

maintain precise 4D trajectories and dynamically adjust flight paths based on evolving traffic, weather, and airspace constraints.

2.2.9. The primary role of ATM in AAM is to ensure the safe, efficient, and scalable integration of new entrants into both existing and future airspace. For this, ATM will rely on rapid, network-level information sharing between service providers, operators, and support services to maintain common awareness. It must support seamless coordination between AAM and conventional aviation, enable all density operations, and leverage real-time data exchange, automation, and artificial intelligence for services like conflict detection and resolution, trajectory management, and airspace reconfiguration.

2.2.10. The vision is that the current ATM functional blocks, like airspace management, demand and capacity balancing, information flow, strategic and tactical deconfliction, will shift from active human decision-making to "systems expertise," where humans provide strategic oversight while automated systems handle real-time separation and conformance. Based on this, **the role of the air traffic controller** is foreseen to undergo a fundamental shift from a human-centric, active control model to one focused on **automated supervision, strategic oversight, and digital system expertise**.

2.2.11. Another important evolution introduced by AAM is a transformative approach to flight rules, emphasizing that current regulatory frameworks, designed for human-centric, conventional aviation, are insufficient for the scalability and automation required by Advanced Air Mobility (AAM). Existing rules are built on the assumption of manual pilot oversight and central human roles in air traffic control, which do not align with AAM's reliance on high automation and high-frequency operations. For these reasons, new flight rules must accommodate varying levels of automation and autonomy, ensuring that these systems can safely interact with traditional aviation traffic. In addition, the document describes the benefit of moving from prescriptive, individualized frameworks toward an operation-centric and risk-based framework. This avoids the need for a fragmented and incomprehensible number of specific rules for every new use case.

2.2.12. As also described by IFATCA in IFATCA24/WP93 “UAS flight rules”, the existing airspace classifications reflect traditional aircraft equipment and two-way voice communication: according to the concept, these should evolve to address the digital environment that will prevail in AAM airspaces. As automation increases, rules will shift to support one or more personnel monitoring and supervising multiple aircraft simultaneously (fleet operations), rather than a one-to-one control ratio.

2.3. AAM SYMPOSIUM 2026

2.3.1. The ICAO Advanced Air Mobility Symposium (AAM 2026) is scheduled to take place in Bangkok, Thailand, from 1 December to 3 December 2026, under the theme “From Vision to Implementation: Enabling the AAM Ecosystem”. The symposium would address key pathways for progressing from initial advanced air mobility operations toward safe, scalable, and globally interoperable systems. Call to Action issued at the previous ICAO AAM Symposium (2024) will be presented as lessons learned from early UAS and eVTOL deployments simultaneously, in conjunction with ongoing research and development efforts, as well as commercial and non-commercial applications. Live demonstrations are planned by the host state as a side event to the symposium.

3. CONCLUSION

3.1. AAM is foreseen to be as the main cause/contributor to a paradigm shift in ATM, moving from the current direct interaction controller-pilot to a systemic and automated approach with the human as supervisor of the system.

3.2. Differently from the UAS, with the creation of UTM (to manage UAS as a complement to ATM to ensure integration, the AAM Vision foresees a completely new system able to manage different type of traffic (with different levels of automation) using new services and almost no human support.

3.3. The AAM Vision document, still under revision, constitutes the foundation document to guide the ICAO work in the next decades for the AAM implementation.

4. RECOMMENDATIONS

It is recommended that this report is accepted.