



ICAO

*International Civil Aviation Organization*

**The Fifth Meeting of the South Asia, Indian Ocean and  
Southeast Asia ATM Coordination Group  
(SAIOSEACG/5)**

Bangkok, Thailand, 13 - 16 January 2026

**Agenda Item 9: Any Other Business**

**UPGRADING AIR NAVIGATION SYSTEMS TO ENABLE FUTURE ATM OPERATIONS  
IN INDONESIA**

(Presented by Indonesia)

**SUMMARY**

This Paper provides a brief update on Indonesia's ongoing air navigation systems modernization in support of the ICAO Global Air Navigation Plan (GANP) and relevant Aviation System Block Upgrades (ASBU). Key initiatives include the implementation of a new ATM Automation System (ATMAS) at the Jakarta Air Traffic Service Center, the deployment of a centralized Air Traffic Flow Management (ATFM) System, the enhancement of the Aeronautical Message Handling System (AMHS), and the transition to Aeronautical Information Management (AIM). These initiatives aim to enhance safety, capacity, and operational efficiency, while supporting future interoperability and regional harmonization. System implementation is planned to commence in the second quarter of 2026, with a phased transition approach and full local transition targeted by the end of 2026.

**1. INTRODUCTION**

1.1 This paper sequentially summarizes the proceedings of the ATFM/15, CNS SG/29, ATM SG/13, and AAC/5 meetings held in 2025. It aligns with the objectives of the SAIOSEACG meeting and contains reference material relevant to Member States' ATM development, efficient airspace utilization, and CNS matters.

1.2 Indonesia is undertaking significant upgrades to its air navigation infrastructure in response to the continued growth in air traffic demand and to ensure alignment with the technological blocks of the ICAO Global Air Navigation Plan (GANP). These initiatives are aimed at enhancing the capacity, efficiency, and resilience of Indonesia's air navigation systems, while supporting digital transformation and regional interoperability to enable future Air Traffic Management (ATM) operations.

1.3 This paper provides a progress update on four key system implementations, namely the deployment of a new ATM Automation System (ATMAS) at the Jakarta Air Traffic Service Center (JATSC), the implementation of a centralized Air Traffic Flow Management (ATFM) system, and the upgrading of the Aeronautical Message Handling System (AMHS) and the Aeronautical Information Management (AIM) system.

## 2. DISCUSSION

### ATM Automation System (ATMAS) at JATSC

2.1 Indonesia is currently installing a new ATM Automation System (ATMAS) at the Jakarta Air Traffic Service Center (JATSC) to enhance surveillance, communication, and coordination capabilities in support of future ATM operations.

2.2 The system supports Automatic Dependent Surveillance–Contract (ADS-C) and Controller–Pilot Data Link Communication (CPDLC), enabling reliable services in oceanic and remote airspace. It also incorporates ATS Interfacility Data Communication (AIDC) in accordance with the latest ICAO Interface Control Document (ICD).

2.3 ATMAS supports a comprehensive set of AIDC messages, including ABI, EST, ACP, TOC, AOC, PAC, LAM, LRM, CDN, REJ, and MAC, thereby enabling automated coordination between ATS units.

2.4 The system includes integrated Arrival Management (AMAN) and Departure Management (DMAN) functions and is capable of processing ATS messages via the Aeronautical Message Handling System (AMHS), with readiness for future implementation of the Flight Information Exchange Model (FIXM).

### Air Traffic Flow Management (ATFM) System

2.5 In parallel with the ATMAS upgrade, Indonesia is implementing a dedicated ATFM system to manage traffic demand and capacity during the strategic and pre-tactical phases. The initial implementation focuses on major airports, including Soekarno-Hatta (Jakarta), Ngurah Rai (Denpasar), Juanda (Surabaya), and Sultan Hasanuddin (Makassar).

2.6 The ATFM system will serve as a core component of the Indonesia Network Management Center (INMC), supporting Flow Management Positions for both the Jakarta and Ujung Pandang FIRs. It will support the development of ATFM Daily Plans and the implementation of ATFM measures, including CTOT-based Ground Delay Programs, Miles or Minutes in Trail, re-routing, and ground stops.

2.7 The system will be integrated with the new ATMAS at JATSC and the existing ATMAS at the Makassar Air Traffic Service Center (MATSC). ATFM information will be disseminated to stakeholders through web-based platforms, email, and AMHS, with future readiness for Flight and Flow Information for a Collaborative Environment (FF-ICE) services.

### Aeronautical Message Handling System (AMHS)

2.8 To support reliable aeronautical data exchange, Indonesia is implementing an upgraded AMHS covering both the Jakarta and Ujung Pandang FIRs.

2.9 The system facilitates the exchange of ATS, AIDC, and other aeronautical messages and supports the ICAO Weather Information Exchange Model (IWXXM), contributing to Indonesia's preparedness for System Wide Information Management (SWIM).

### Transition to Aeronautical Information Management (AIM)

2.10 Indonesia is progressing the transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM), with a focus on the provision of quality-assured digital aeronautical data and information.

2.11 The AIM system supports the management and distribution of digital datasets, including digital AIP, terrain data, aerodrome mapping data, and digital instrument flight procedure datasets. Data dissemination is currently supported via AMHS, with future readiness for Aeronautical Information Exchange Model (AIXM)-based exchange.

### **Conclusion**

2.12 These modernization initiatives demonstrate Indonesia’s commitment to the ICAO Global Air Navigation Plan and aim to enhance safety, capacity, operational efficiency, and environmental sustainability through reduced delays and more optimized flight trajectories.

2.13 The programmes are currently in the installation phase. System implementation is planned to commence in the second quarter of 2026, followed by a phased transition to ensure operational continuity. Full national implementation is targeted by the end of the fourth quarter of 2026, with AIDC implementation with other States planned for 2027.

## **3. ACTION BY THE MEETING**

3.1 The Meeting is invited to:

- a) note the information contained in this paper regarding the modernization of air navigation systems in Indonesia; and
- b) encourage States to collaborate on the harmonization of AIDC and ATFM procedures to maximize the benefits of these technological upgrades.

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