International Civil Aviation Organization

SEVENTH MEETING OF THE ASIA/PACIFIC AIR TRAFFIC MANAGEMENT AUTOMATION SYSTEM TASK FORCE (ATMAS TF/7)

Bangkok, Thailand 2-4 June 2026

Agenda Item 4: ATM Automation System Implementation Experience by States

4.1. Review ATMAS Implementation Status in APAC

MODERNIZATION OF INDONESIA'S AIR TRAFFIC MANAGEMENT AUTOMATION SYSTEM

(Presented by Indonesia)

SUMMARY

Indonesia is undertaking comprehensive modernization initiatives to enhance its air navigation infrastructure. This paper provides an update on the implementation of modernization programmes at the Jakarta Air Traffic Service Center (JATSC), including the installation of a new ATM Automation System (ATMAS), Air Traffic Flow Management (ATFM) system, Aeronautical Message Handling System (AMHS), and Aeronautical Information Management (AIM) systems.

Indonesia is also undertaking the modernization of ATM Automation System (ATMAS) at selected Approach Control units, including Medan, Pontianak and Balikpapan

These initiatives aim to improve operational efficiency, connectivity, and data exchange capabilities within the Jakarta and Ujung Pandang FIRs.

1. INTRODUCTION

1.1 Indonesia is currently undertaking significant enhancements to its air navigation infrastructure in order to accommodate the increasing demand for air traffic services and to support alignment with the technological framework of the ICAO Global Air Navigation Plan (GANP).

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

1.3 Indonesia is also undertaking the modernization of ATM Automation System (ATMAS) at Medan, Pontianak and Balikpapan to improve operational efficiency, connectivity, and data exchange capabilities within the Jakarta and Ujung Pandang FIRs.

2. DISCUSSION

New ATM Automation System (ATMAS) at JATSC

2.1 Indonesia is currently in the process of shadow operation a new ATM Automation System (ATMAS) at the Jakarta Air Traffic Service Center (JATSC). This state-of-the-art system is designed to enhance surveillance and communication capabilities significantly.

2.2 The new ATMAS includes capabilities to support data link services for oceanic and remote operations, as well as automated coordination between air traffic service units through ATS Interfacility Data Communication (AIDC). These capabilities are expected to improve operational efficiency, consistency and situational awareness.

2.3 The system supports a comprehensive suite of AIDC messages to automate the coordination process, including but not limited to: ABI, EST, ACP, TOC, AOC, PAC, LAM, LRM, CDN, REJ, and MAC.

2.4 To manage traffic flow in tactical situations effectively, the ATMAS features an integrated Arrival Management (AMAN) and Departure Management (DMAN) capability. Additionally, the system is future-proofed with the ability to process current ATS messages via AMHS and is prepared for the future Flight Information Exchange Model (FIXM).

Air Traffic Flow Management (ATFM) System

2.5 Parallel to the ATMAS upgrade, Indonesia is progressing the implementation of a dedicated Air Traffic Flow Management (ATFM) system to support demand and capacity balancing at the strategic, pre-tactical and tactical levels. The system is intended to provide national coverage across controlled airspace within the Jakarta and Ujung Pandang FIRs, with initial focus on major aerodromes including Soekarno-Hatta, Ngurah Rai, Juanda and Sultan Hasanuddin.

Aeronautical Message Handling System (AMHS)

2.6 To ensure seamless data exchange, a more robust and reliable AMHS is being implemented to cover both the Jakarta and Ujung Pandang FIRs. The primary purpose is to facilitate the exchange of aeronautical messages, including standard ATS messages, AIDC messages and other messages. Furthermore, this system supports the exchange of the ICAO Weather Information Exchange Model (IWXXM), marking a significant step in Indonesia’s preparation for the transition to System Wide Information Management (SWIM).

Aeronautical Information Management (AIM)

2.7 Finally, Indonesia is advancing the transition from Aeronautical Information Service (AIS) to Aeronautical Information Management (AIM). The new AIM system focuses on the provision of quality-assured aeronautical data and information. The system facilitates the management and distribution of digital datasets, including digital AIP, terrain data, aerodrome mapping data, and digital instrument flight procedure datasets.

2.8 The system supports current operational requirements by distributing data through AMHS and is ready for the future exchange of data using the Aeronautical Information Exchange Model (AIXM).

Conclusion

2.9 Through the implementation of these systems, Indonesia affirms its commitment to supporting the ICAO Global Air Navigation Plan (GANP). These modernization efforts are not only aimed at increasing capacity and safety but also at fostering a more sustainable aviation operation by reducing delays and optimizing flight trajectories.

2.10 The modernization programmes are currently in the shadow operation phase. System implementation is planned to begin in the second quarter of 2026. A phased transition will be carried out to ensure operational readiness and minimal disruption, with full local transition targeted for completion by the end of the fourth quarter of 2026. AIDC implementation with other state is planned for 2027, while limited technical trial may be conducted at Q4 2026.

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 traffic management automation 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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