



ICAO

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Fourteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/14) of APANPIRG

Bangkok, Thailand, 3 – 7 August 2026

Agenda Item 3: Performance Frameworks and Metrics

3.1: APAC ANP Plan and APAC Seamless ANS Plan

ASEAN ANS MASTER PLAN AS A REGIONAL REFERENCE FOR SEAMLESS ATM

(Presented by Singapore, on behalf of ASEAN)

SUMMARY

Seamless ATM requires States to coordinate the implementation of interoperable ANS capabilities, as differences in priorities and timelines could limit the full realisation of a seamless regional and global ATM network. Following the 42nd Session of the ICAO Assembly, the ICAO Global Air Navigation Plan Study Group has begun developing a Minimum Implementation Path to define a baseline set of interoperable capabilities and associated timelines for global implementation.

In ASEAN, the ASEAN ANS Master Plan provides a regional reference for harmonised ANS modernisation, including initiatives such as ATFM, AIDC, AIM, CRV, SWIM and FF-ICE that support cross-border information sharing, common situational awareness and regional network operations. The fourth edition of the Master Plan, targeted for adoption by end-2026, is expected to incorporate additional information-centric capabilities.

When ready, the revised ASEAN ANS Master Plan could be shared with the ICAO GANP Study Group, ICAO APAC Office and APANPIRG as a regional reference to support ongoing work on the MIP and the review of the APAC Seamless ANS Plan.

1. INTRODUCTION

1.1 Global air passenger volume is projected to nearly triple over the next 25 years, with corresponding increase in aircraft movements that will place significant pressure on the safety and efficiency of air navigation services (ANS) provision. To prepare for this, it is necessary for States to work together towards achieving seamless air traffic management (ATM) across the globe. Unless implementation of interoperable ANS capabilities is coordinated, differences in priorities and timelines will make it challenging for seamless ATM to be fully realised.

1.2 Recognising these challenges, the 42nd Session of the ICAO Assembly (Resolution A42-6) endorsed the development of a “roadmap of minimum capabilities necessary for the evolution of the air navigation system and timelines for global implementation”. This Minimum Implementation Path (MIP) is envisaged to be a baseline of interoperable capabilities with associated timelines to achieve global interoperability. The ICAO Global Air Navigation Plan (GANP) Study Group is developing the concept of the MIP, including its scope, candidate Aviation System Block Upgrade (ASBU) elements and possible implementation timelines.

2. DISCUSSION

Fourth Edition of the ASEAN ANS Master Plan

2.1 With Asia/Pacific (APAC) being a key region of aviation growth, ASEAN Member States¹ (AMS) have developed the ASEAN ANS Master Plan to guide their air navigation service providers in the modernisation of ANS systems. The plan covers key technological initiatives – including Air Traffic Flow Management (ATFM), ATS Inter-facility Data Communication (AIDC), aeronautical Information Management (AIM) and Common aeronautical Virtual Private Network (CRV), System-Wide Implementation Management (SWIM) and Flight and Flow Information Collaborative Environment (FF-ICE), for harmonised implementation in AMS, as well as their priorities and associated timelines.

2.2 The ASEAN ANS Master Plan is reviewed periodically, including to align it with the latest version of the ICAO GANP. The fourth edition of the ASEAN ANS Master Plan is targeted to be adopted by end-2026. It is envisaged that this edition will incorporate additional information-centric capabilities such as FF-ICE notification services (FICE-B2/5) and meteorological information exchange in a SWIM environment using IWXXM (AMET-B2/4).

2.3 The summary list of initiatives in the current ASEAN ANS Master Plan forming the minimum interoperable capabilities is at **Appendix A**. Together, they support cross-border information sharing and enable the development of common situational pictures, thus facilitating seamless ATM across ASEAN skies.

Relevance to ICAO MIP Development and APAC Seamless ANS Plan

2.4 AMS stand ready to share the fourth edition of the ASEAN ANS Master Plan, when ready, with the ICAO GANP Study Group to inform its deliberations on the MIP, as well as with the ICAO APAC Office and the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) as a reference for the ongoing review of the APAC Seamless ANS Plan.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the update of the ASEAN ANS Master Plan and its relevance to interoperability and regional network operations;
- b) consider AMS's offer to share the fourth edition of the ASEAN ANS Master Plan, when ready, with the ICAO GANP Study Group to inform its deliberations on the MIP, as well as with the ICAO APAC Office and the APANPIRG as a reference for the ongoing review of the APAC Seamless ANS Plan; and
- c) discuss any other relevant matters, as appropriate.

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¹ ASEAN Member States: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, and Viet Nam.

APPENDIX A

ASEAN-wide Harmonised Initiatives Supporting Interoperability and Regional Network Operations within the current edition of the ASEAN ANS Master Plan (3rd edition)

- **Air Traffic Flow Management (ATFM)**

ATFM enables the balancing of air traffic demand with available capacity across the network, particularly during periods of constrained capacity or disruption. By facilitating collaborative planning and implementation of flow measures among States, ATFM enhances predictability, reduces delays, and improves the overall efficiency of regional air traffic operations.

- **ATS Inter-facility Data Communication (AIDC)**

AIDC enables automated and standardised coordination of flight data between adjacent ATS units. This reduces controller workload, minimises coordination errors, and supports seamless cross-border transfer of air traffic, thereby enhancing safety and efficiency of operations across FIR boundaries.

- **Aeronautical Information Management (AIM)**

AIM ensures the provision of high-quality, timely, and digitally managed aeronautical information to support ATM operations. As a foundational enabler, it improves situational awareness, supports decision-making, and underpins other ATM initiatives such as PBN, ATFM, and cross-border coordination.

- **Common aeronautical Virtual Private Network (CRV)**

CRV provides a secure, region-wide communication infrastructure to support the exchange of aeronautical and operational data among States. By enabling reliable connectivity across ANSPs, CRV forms the backbone for interoperable information exchange and supports the implementation of advanced information-centric capabilities.

- **SWIM information service provision and consumption (SWIM-B2/1 and B2/2)**

SWIM-B2/1 and B2/2 enable the provision and consumption of standardised, service-based aeronautical, flight and meteorological information, establishing a common information environment that supports real-time data sharing, enhanced situational awareness and collaborative decision-making across the regional ATM network.

- **FF-ICE filing and flight data request services (FICE-B2/2 and FICE-B2/4)**

FICE-B2/2 enables the digital filing of flight information in a structured and standardised format (e.g. FIXM), allowing stakeholders to submit and update flight data beyond the constraints of traditional flight plan messaging. FICE-B2/4 complements this by enabling authorised stakeholders to query and retrieve up-to-date flight information, including filed data and associated supplementary information.

Together, these capabilities support a more dynamic and data-centric exchange of flight information, enabling improved coordination across systems, enhanced flight predictability, and progression towards trajectory-based operations across the regional ATM network.