



International Civil Aviation Organization

ICAO The Seventh Meeting of the Bay of Bengal Traffic Flow Review Group (BOBTFRG/7)

Virtual Teleconference, 9 – 11 December 2025

Agenda Item 2: Review of the Current and Planned CNS/ATM Capabilities and Identifying Associated Reduced Horizontal Separation

REVIEW OF THE RELEVANT MEETING OUTCOMES

(Presented by Secretariat)

SUMMARY

This paper presents a summary list of formal outcomes from SAIOSEACG/4, AAC/4, CNS SG/29, and FIT-Asia/15 that are relevant to the meeting.

1. INTRODUCTION

1.1 The SAIOSEACG/4 meeting was held in Bangkok, Thailand from 18 – 21 March 2025. The meeting was attended by 59 participants from Cambodia, China, Hong Kong China, India, Indonesia, Lao PDR, Malaysia, Maldives, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, United States of America, Viet Nam, IATA and ICAO. The relevant presentations and papers are available at: <https://www.icao.int/APAC/meetingdocs?fid=551>.

1.2 The Fourth Meeting of the APAC ANSP COMMITTEE (AAC/4) was hosted on 11-12 March 2025 by AEROTHAI in Bangkok, Thailand. The meeting was attended by 107 participants from Australia, Cambodia, China, Hong Kong China, Macao China, France, Indonesia, Japan, Malaysia, Mongolia, Papua New Guinea, Philippines, Singapore, Sri Lanka, Thailand, Vietnam, IATA, IFATCA, CANSO and ICAO. The relevant presentations and papers are available at: <https://www.icao.int/APAC/meetingdocs?fid=562>.

1.3 The Twenty Ninth Meeting of the Communications, Navigation and Surveillance Subgroup (CNS SG/29) of APANPIRG was held in Bangkok, Thailand, from 16 to 20 June 2025. The meeting was attended by 100 participants from 23 Member States/Administrations, 2 International Organizations and 3 industry partners, including Australia, Bhutan, Brunei Darussalam, China, Hong Kong China, Macao China, Fiji, France (New Caledonia), India, Indonesia, Japan, Lao PDR, Malaysia, Maldives, Mongolia, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Thailand, USA, Viet Nam, IFATSEA, Aerovision Technology Limited, AIREON, Harmony Tech Innovation Limited, and ICAO. The relevant presentations and papers are available at: <https://www.icao.int/APAC/meetingdocs?fid=561>.

1.4 The Fifteenth Meeting of the FANS Interoperability Team-Asia (FIT-Asia/15) was held in Bangkok, Thailand, from 24 to 27 June 2025. The meeting was attended by 50 participants from 13 States/Administrations, one international organization, and two industry partners, including China, India, Indonesia, Japan, Lao PDR, Malaysia, New Zealand, Philippines, Singapore, Sri Lanka, Thailand, United States, Viet Nam, Boeing, Inmarsat and ICAO. The relevant presentations and papers are available at: <https://www.icao.int/APAC/meetingdocs?fid=543>.

2. DISCUSSION

SAIOSEACG/4 meeting Outcomes

2.1 The SAIOSEACG/4 Meeting addressed the ongoing application of surveillance-based separation during periods of large-scale weather deviations (LSWD) along ATS routes L642 and M771. In the BOB area, there is a reduced separation portion where PBCS-base separation is applied on the ATS route N571. This is purportedly introduced to give some insights and benchmarks to the States in BOB region, undertaking the similar situation.

2.2 The discussions highlighted the importance of maintaining safety while ensuring efficient airspace management during such events. States and Administrations concerned were encouraged to apply the standard 20NM surveillance separation whenever feasible, and to minimize the use of additional longitudinal buffers, provided that appropriate safety assessments are conducted. This approach aims to maintain operational efficiency without compromising safety.

2.3 However, in the absence of a harmonized regional procedure, some States have reverted to using separation minima of 50NM or more during LSWD events. This practice has led to a decline in airspace capacity, operational delays, increased fuel consumption, and a higher workload for air traffic controllers. To address this issue, the meeting proposed a draft decision for adoption by the relevant subgroups. This decision aims to support the development and implementation of consistent procedures for managing LSWD scenarios across the region.

2.4 At the SAIOSEACG/4 meeting, South China Sea Large Scale Weather Deviation Procedures was unanimously agreed to implement.

- Concerned States/Administrations should continue to apply surveillance separation, during Large-Scale Weather Deviation (LSWD) and minimise additional buffers for longitudinal spacing as far as practicable, through safety assessment process, on ATS routes L642 and M771.
- In the case of activation of LSWD procedures, concerned States/Administrations may default from 20NM surveillance separation to 50NM or more due to a lack of regionally agreed procedure. This may result in unnecessary capacity reductions and delays, create potential issues for airlines in terms of fuel and flight management, and increase ATC workload.

2.5 In the implementation wise of ATC separation minimums, an update was presented regarding the implementation status of air traffic control (ATC) separation minima in the Asia/Pacific region, in alignment with ICAO's *Seamless Air Navigation Services (ANS) Plan*. The briefing emphasized ICAO's ongoing efforts to monitor compliance with prescribed separation standards to improve regional air traffic management performance.

2.6 It was noted that since 2017, ICAO has conducted annual surveys to assess States' adherence to horizontal separation minima across three designated airspace categories: remote en-route (R), surveilled en-route (S), and terminal (T). However, in 2025, only 12 States submitted responses, and among those, just 17 out of 44 States were reported to fully comply with separation requirements across all three categories.

2.7 Particularly concerning were the continued inefficiencies identified in Category S and T airspace, where the separation distances used by some States still exceed ICAO's standard of 5 nautical miles. These discrepancies contribute to reduced airspace efficiency and potential operational delays.

2.8 To address these challenges, States were encouraged to adopt ICAO’s “30/10 Project”, which promotes optimized longitudinal separation. Additionally, they were advised to revise ATC Letters of Agreement (LOAs), strengthen training for surveillance-based separation, and take into account the environmental benefits that can result from reduced aircraft spacing.

2.9 The BIMT meeting was reviewed at the SAIOSEACG/4 meeting. The eighth meeting of the Bangladesh, India, Myanmar, and Thailand ATM Coordination Group (BIMT/8) was reconvened in November 2024 in Bangkok. Delegates from Bangladesh, Myanmar, and Thailand discussed ongoing projects and developments in air traffic management (ATM) and air traffic service (ATS) route development within the Bay of Bengal area. Key outcomes included advancing the BIMT ATS route development project to enhance airspace capacity by creating parallel route structures from Bangkok FIR into Kolkata and Dhaka FIRs through Yangon FIR

2.10 As per ATS Route Development, a key ATS Route Developing outcome of the SAIOSEACG/4 meeting, notable progress was made in developing and updating the *Asia/Pacific ATS Route Catalogue*, with some achievements highlighted.

2.11 This included the streamlining of proposals, agreement on the design and future implementation of the BOB 03 route connecting Myanmar and Thailand to the *APAC ATS Route Catalogue*. These efforts reflect strong regional cooperation and a shared commitment to improving airspace efficiency and connectivity in the Bay of Bengal region. More details will be covered in WP07’s ‘*The Review of Selected ATS Route Proposals From The Asia Pacific Region ATS Route Catalogue*’ at this meeting.

APAC ANSP Committee (AAC/4) Meeting Outcomes

2.12 At this meeting, Singapore provided an update on the Asia-Pacific TBO Pathfinder Project. Three working groups (WGs) are actively developing an initial draft of the APAC TBO Roadmap, which will be proposed for inclusion in the next version of the APAC Seamless ANS Plan. Progress will be reported to ATM/SG and APANPIRG. Regional ATFM activities held in 2025 were also summarized.

2.13 Australia presented the outcomes of FRA trials that began in August 2024, which demonstrated significant fuel-saving benefits. Plans are underway to expand these trials to include additional airlines and city pairs across the region.

CNS SG/29 Meeting Outcomes

2.14 The CNS SG/29 meeting discussed regional efforts under the **APAC TBO Pathfinder Project**, which aims to support TBO development through key building blocks like **SWIM** (System Wide Information Management) and **FF-ICE** (Flight & Flow Information for a Collaborative Environment). Additionally, collaboration continues on implementing **Free Route Airspace (FRA)** and **User-Preferred Routes (UPR)**—both important to modernize airspace in the South China Sea region. Support is also being provided to enhance **Air Traffic Flow Management (ATFM)** capabilities, especially to enable broader participation in the **APAC Multi-Nodal ATFM Collaboration (AMNAC)**, in line with ICAO’s “No Country Left Behind” initiative.

2.15 The meeting also discussed an update on **AIDC (ATS Interfacility Data Communications)** implementation addressed at the Sixth Meeting of the ATM Automation Task Force (ATMAS TF/6). A revised **AIDC Implementation and Hotspot Chart** was prepared by Singapore, showing areas with operational challenges and LHD (Large Height Deviation) occurrences. This chart was based on the latest data from RASMAG and ACSICG reports and serves as a visual reference for coordination between FIRs. The meeting emphasized that hotspot issues are not caused solely by AIDC delays but can result from various factors. Regular updates to the chart were recommended.

2.16 Please be advised that in this **Figure 1** Chart, there are some caveats to read and understand the contents of the Chart.

- The FIR boundary representation may not be entirely accurate.
- The AIDC implementation and hotspots is based on ACSICG/12 WP/08 (25-28 March 2025) and Appendix G to RASMAG/29 (19-22 Aug 2024). The chart is a visual representation of the information contained in the two papers. The papers should be taken as the correct reference in the event of any discrepancy.
- Note: Discrepancies in the reported implementation were noted in some boundaries between the two States in ACSICG WP. In such situations, the more advanced status is reflected.

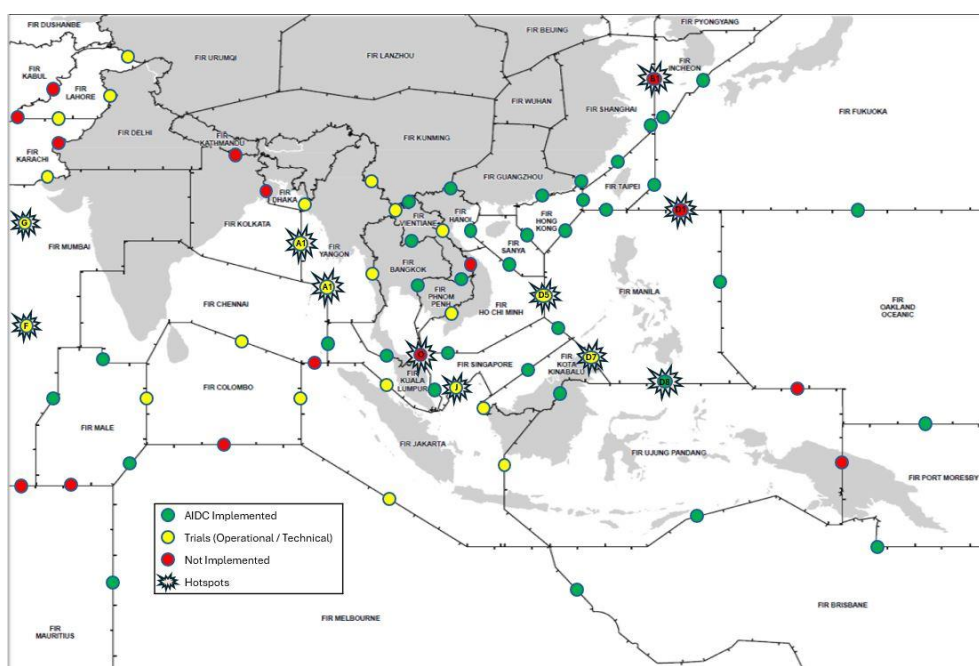


Figure 1- AIDC Implementation and RASMAG Hotspot Chart

FIT-Asia/15 meeting Outcomes

2.17 The FIT-Asia/15 meeting provided important updates on Performance-Based Communication and Surveillance (PBCS) implementation and data link performance across several Flight Information Regions (FIRs), including those affecting Bay of Bengal (BOB) operations.

2.18 ICAO and participating States shared updates on current PBCS implementation status, revealing that while most FIRs met the minimum 95% performance criteria for data link services like ADS-C and CPDLC, many still fell short of the more stringent 99.9% requirement. Indonesia, Malaysia, and Singapore reported specific performance issues such as delayed messages, low pilot response times (PORT), and VHF/SATCOM transitions that impacted service quality. These were particularly visible in key RGS/GES stations affecting the BOB region. Efforts are ongoing to improve data accuracy, monitor poor-performing aircraft, and remind operators to file correct PBCS indicators.

2.19 **Indonesia** reported performance shortfalls and identified delays tied to specific ground stations and pilot response times. Airlines were requested to review procedures. **Malaysia** is preparing for future PBCS-based separation by monitoring performance and planning to formalize a CRA service agreement for implementation in 2026. **Singapore** experienced data link outages and marginal

underperformance in CPDLC and ADS-C. Live PBCS monitoring tools were introduced to support real-time issue detection. **India** shared the data link performance data for 2024 for the Chennai, Kolkata and Mumbai FIRs, and information on actions taken to identify and rectify the causes of performance issues. And they had initiated trials on PBCS and performance-based separations and conducted a side-meeting with CRA Boeing on CRA formal service agreement in support of PBCS implementation. However, final decisions would be taken by competent authority of the ANSP, considering terms and conditions provided by Boeing.

2.20 A joint regional monitoring report showed gradual improvement in PBCS performance across the Asia-Pacific, with message counts recovering to pre-pandemic levels. Some aircraft types and operators, including those in the BOB region FIRs, continued to demonstrate poor performance, highlighting the need for better compliance tracking. Singapore is enhancing real-time monitoring at controller stations.

2.21 ICAO emphasized the importance of formal CRA agreements and consistent data submission to ensure safe and effective application of reduced separation standards. CRA Boeing presented updates on compliance, operational challenges, and case studies illustrating root cause analysis and resolution through collaboration with operators and service providers..

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper; and
 - b) discuss any relevant matters as appropriate.

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