International Civil Aviation Organization

The Thirteenth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/13)

Beijing China, 16 – 18 July 2025

Agenda Item 2: Review Outcomes of Related Meetings

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/Meetings/Pages/2025-SAIOSEACG-4.aspx.

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/Meetings/Pages/2025-AAC-4.aspx.

1.3 The Twenty Ninth Meeting of the Communications, Navigation and Surveillance Sub-group (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/Meetings/Pages/2025-CNS-SG-29.aspx.

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/Meetings/Pages/2025-FIT-Asia-15.aspx.

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. 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 20 NM 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.

2.2 However, in the absence of a harmonized regional procedure, some States have reverted to using separation minima of 50 NM 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.

2.3 **Decision SAIOSEACG/4-1 − SOUTH CHINA SEA LARGE SCALE WEATHER DEVIATION PROCEDURES**

- What: 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.

- Why: 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.

2.4 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.

2.5 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.

2.6 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.

2.7 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.

2.8 **In accordance with the parallel routes to ATS Route A1**, China presented a proposal to develop unidirectional parallel routes along ATS Route A1, a vital corridor connecting Southeast Asia and Northeast Asia. The proposal is intended to address increasing air traffic demand, with peak daily operations on Route A1 having reached approximately 600 flights in 2019. Since 2024, traffic has shown a steady rebound and is projected to exceed pre-pandemic levels in 2025.

2.9 The proposed parallel route segments within the Sanya FIR include southwest-bound (SYT13–BUNTA) and northeast-bound (ITBAM–IKELA) alignments, designed in accordance with RNAV2 standards. China recommended the development of a coordinated roadmap under ICAO guidance, targeting consensus on route alignment by 2025, safety assessments and trial operations in 2026, and full operational implementation by 2027. The proposal received support from Hong Kong China, Thailand, Lao PDR, and Viet Nam.

2.10 China further encouraged all relevant States and Administrations to actively monitor traffic trends along Route A1 and to cooperate in accelerating the optimization process. The Chair welcomed the initiative, highlighting its consistency with South China Sea Priority Task 1. Viet Nam was encouraged to report the proposal to CAAV and participate in SCSTFRG/13, while China was invited to present the proposed roadmap at upcoming ICAO and DGCA meetings.

2.11 **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 five important achievements highlighted.

2.12 These include the streamlining of proposals for SCS11 and SEA12, agreement on the design and future implementation of the Mekong 01 RNAV2 route connecting Cambodia, Lao PDR, Thailand, and Viet Nam, and the addition of two new cross-border routes—Mekong 02 and Mekong 03—to Version 24.3 of the *APAC ATS Route Catalogue*.

2.13 These efforts reflect strong regional cooperation and a shared commitment to improving airspace efficiency and connectivity in the South China Sea region. More details will be covered in WP13'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

2.14 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.

2.15 Additionally, Singapore (on behalf of China, Indonesia, Japan, Philippines, and CANSO) proposed forming a new working group to develop shared principles and a concept of operations for the next-generation Air Traffic Flow Management (ATFM). While this initiative was supported, several States (Australia, Japan, Hong Kong China, Thailand) emphasized avoiding overlap with existing regional efforts.

2.16 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

2.17 The CNS SG/29 Meeting reviewed the AAC meeting in 2024-2025. The 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.

2.18 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.

2.19 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.

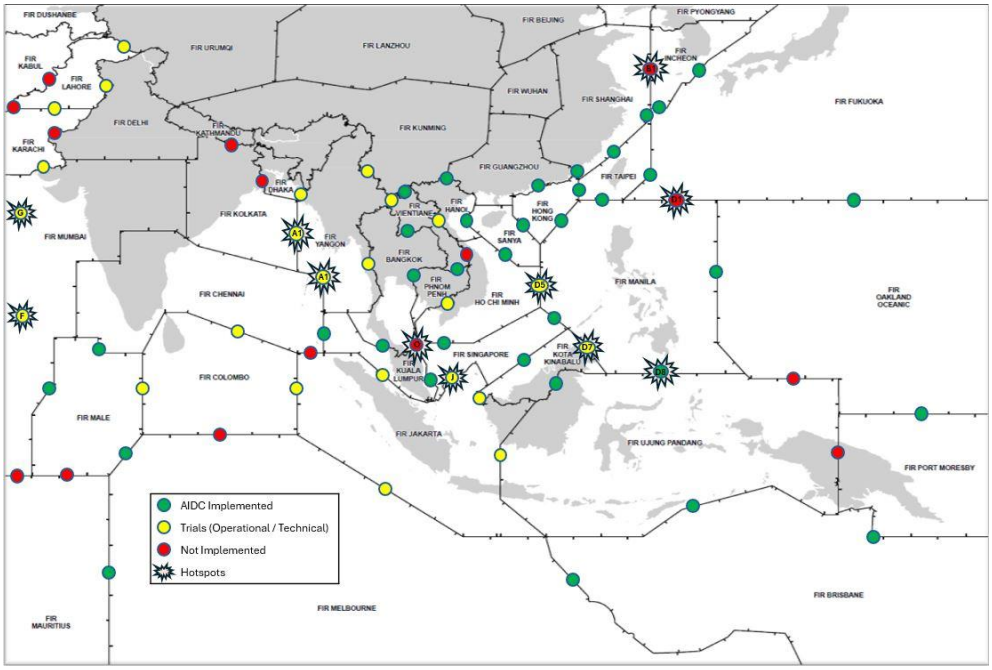

Figure 1- AIDC Implementation and RASMAG Hotspot Chart

FIT-Asia/15 meeting Outcomes

2.20 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 South China Sea operations.

2.21 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, the Philippines, 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 South China Sea region. Efforts are ongoing to improve data accuracy, monitor poor-performing aircraft, and remind operators to file correct PBCS indicators.

2.22 **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. **Philippines** noted degradation at ground stations and reported outages and connection issues with SITA links. They plan to improve router stability and outage reporting. **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.

2.23 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 South China Sea FIRs, continued to demonstrate poor performance, highlighting the need for better compliance tracking. China is developing a comprehensive ADS-C-based monitoring framework, and Singapore is enhancing real-time monitoring at controller stations.

2.24 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.

…….