



ICAO

International Civil Aviation Organization

The Third Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (APAC ATMAS TF/3)

Video Tele-Conference, 8 - 10 June 2022

Agenda Item 2: Review of Outcomes of Relevant Meetings

REVIEW OF RELEVANT MEETINGS

(Presented by the Secretariat)

SUMMARY

This paper presents the reviewed relevant outcomes of the Twenty Fifth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/25) of APANPIRG, the Thirty Second Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/32), and relevant discussions in other meetings.

1. INTRODUCTION

1.1 The Thirty-second Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/32) was held from *1 to 3 December 2021* via video teleconference. The Meeting was attended by 278 participants from 28 Member States, 2 Special Administrative Regions of China, and 8 International Organizations (AAPA, ACI, CANSO, IATA, ICAO, IFALPA, IFATCA and PASO). APANPIRG/32 meeting report, working papers, information papers, and other resources can be accessed by following link:

<https://www.icao.int/APAC/Meetings/Pages/2021-APANPIRG32.aspx>.

1.2 The Twenty Fifth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/25) of APANPIRG was held from *18 to 22 October 2021* via video teleconference. The meeting was attended by 215 participants from 23 States/Administrations, and 4 International Organizations namely CANSO, IATA, IFALPA and IFATSEA, plus 28 participants from industry partners. CNS SG/25 meeting report, working papers, information papers, and other resources can be accessed by following link:

<https://www.icao.int/APAC/Meetings/Pages/2021-CNS-SG-25.aspx>.

1.3 The Second Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (ATMAS TF/2) was held from *14 to 16 September 2021* via Video Tele-Conference (VTC) using Microsoft Teams. The meeting was attended by 143 participants from 17 States/Administrations, 3 International Organizations, and 1 System Provider from the industry. ATMAS TF/2 meeting report, working papers, information papers, and other resources can be accessed by following link:

<https://www.icao.int/APAC/Meetings/Pages/2021-ATMAS-TF-2.aspx>

1.4 The APANPIRG/32 meeting reviewed the outcomes of the CNS SG/25, noted with appreciation the work done and achievements by the SG and the contributory bodies reporting to

Agenda Item 2

8-10/06/22

APANPIRG through the SG, the meeting discussed CNS related matters and took following actions on the report of CNS SG/25 meeting and other papers presented under Agenda Item 3.4.

1.5 This paper summarizes relevant information and updates with the highlight on the reviewed outcomes of meetings of ATMAS TF/2, CNS SG/25 and APANPIRG/32.

2. DISCUSSION

2.1 The CNS SG/25 meeting adopted the following **8** Conclusions and **5** Decisions with outcomes relevant to ATMAS TF highlighted in blue:

Reference	Subject
Conclusion CNS SG/25/01 (ACSICG/08/01(CRV/08/01))	- CRV Implementation Plan amendment (<i>Version 2.1</i>)
Conclusion CNS SG/25/03 (SWIM TF/05/01)	- Asia/Pacific SWIM Implementation Plan and Status Survey
Decision CNS SG/25/04 (SWIM TF/05/02)	- Revised SWIM TF Terms of Reference
Conclusion CNS SG/25/05	- The Catalogue of Asia and Pacific Flight Inspection and Flight Validation Service Providers
Conclusion CNS/SG/25/06	- Update of Flight Inspection Guidance Material (FIGM) for APAC Region
Conclusion CNS SG/25/10 (SURICG/6/4)	- Mode S DAPs IGD 3.0
Conclusion CNS SG/25/11 (SURICG/6/5)	- Revision of the Regional Supplement to ASTERIX Interface Control Document (ICD)
Decision CNS SG/25/12 (SURICG/6/6)	- Revised ToR of Surveillance Study Group (SURSG)
Conclusion CNS SG/25/13 (SURICG/6/7)	- Integrity of ICAO Aircraft Address and Target Identification in ADS-B / MLAT / Mode S Data and Flight Plan
Decision CNS SG/25/14 (SURICG/6/8)	- Revised ToR of Surveillance Implementation Coordination Group (SURICG)
Conclusion CNS SG/25/15 (SURICG/6/9)	- Revised ADS-B Implementation and Operations Guidance Document (AIGD)
Decision CNS SG/25/16 (ATMAS TF/2/1 (APA TF/7/1))	- Dissolution of APA TF
Decision CNS SG/25/17 (ATMAS TF/2/2)	- Revised ATMAS TF Terms of Reference

2.2 The contents of the above Conclusions/Decisions adopted by the CNS SG are provided in **Attachment A** to this paper.

2.3 Based on the outcome of discussions on various agenda items, the CNS SG/25 meeting developed 4 Draft Conclusions for consideration by APANPIRG/32 Meeting, which were further adopted by APANPIRG/32. The Conclusions adopted by APANPIRG/32 are as follows:

Reference	Subject
APAPPIRG C 32/7 (<i>Draft Conclusion CNS SG/25/02(ACSICG/08/02 (CRV/08/02))</i>)	- Implementation of CRV for small Pacific Island and small ANSP in the region using CRV Solution, PCCWG SLA Package D
APANPIRG C 32/8 (<i>Draft Conclusion CNS SG/25/07 (SURICG/6/1)</i>)	- Interrogator Code (IC) Planning and Coordination
APANPIRG C 32/9 (<i>Draft Conclusion CNS SG/25/08(SURICG/6/2)</i>)	- Transition from II code to II and SI mixed code
APANPIRG C 32/10 (<i>Draft Conclusion CNS SG/25/09(SURICG/6/3)</i>)	- The APAC Regional Roadmap for Mode S Implementation

2.4 All APANPIRG/32 Conclusions related to CNS are included in **Attachment B** to this paper.

2.5 The outcomes of discussions related to ATM automation system during the CNS SG/25 meeting have been summarized as follows:

Review of Outcomes of APA TF/7 Meeting (WP/06)

2.6 The paper presented the report of the Seventh Meeting of the Asia/Pacific ATS Inter-Facility Data-Link Communication Implementation Task Force (APA TF/7), held from 07 to 09 June 2021.

Update the AHMS/ATN Implementation Status Table and the AIDC Implementation Table

2.7 The CNS SG/25 noted that the APA TF/7 meeting updated the ATN/AMHS/AIDC implementation table and recommended to remove AIDC and ATM System Implementation columns from the table and format it into a separate Excel Sheet. The ICAO Secretariat will take necessary action to create the new Excel sheet and will share with Member States focal point for future updates. India and Singapore volunteered to support the ICAO Secretariat.

2.8 Singapore provided to APA TF/7 an updated Graphical Display on the AIDC implementation and planning status based on the inputs provided to the meeting via the updates by States to AIDC implementation. Singapore also shared some of the implementation and operational issues which could be taken into consideration by other States in their implementation of AIDC. The first use of the APAC CRV for AIDC was introduced and it was informed that this is a step forward to address any existing latency issues associated with AFTN routing setups noted in some other connections.

AIDC Implementation Issues Report

2.9 The CNS SG/25 noted that the APA TF/7 meeting reviewed and discussed the consolidated implementation issues collected and presented by Indonesia with supports from India and Singapore. Total 105 issues were consolidated. The meeting considered that the issue table would continue to serve as a reference for other States. A summary of the identified issues is shown in the table below.

Agenda Item 2

8-10/06/22

Fault Categories	APA TF/7 (2021)		
	Issues Reported	Closed	Open
a. Communication Link	9	3	6
b. ATM System	61	29	32
c. AIDC Message	17	15	2
d. Airspace Design/Procedures	13	4	9
e. Other	5	2	3
Total	105	53	52

Future of APA Task Force

2.10 The CNS SG/25 noted that APA TF/7 meeting appreciated that significant achievements have been made in enhancing safety since the establishment of this task force in 2015, including the preparation of AIDC Planning Table in the Regional Air Navigation Plan, development of AIDC Implementation and Operations Guidance Document, maintenance of AIDC Issues Report, summary of AIDC focal points, the Implementation Status Chart as well as the sharing of the experience gained by States/Administration in the challenging process of AIDC implementation.

2.11 Draft Decision (APA TF/7/1) - *Dissolution of APA TF* was proposed by the APA TF for ATMAS TF/2 consideration and was further discussed through WP/14 in CNS SG/25. The CNS SG/25 noted that the ATMAS TF would design future meeting structure to accommodate the AIDC related functions and maintain the effectiveness in promoting AIDC implementation.

Review Report of the Second Meeting of ATM Automation Systems Task Force (WP/14)

2.12 CNS SG/25 reviewed the report of the Second Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (ATMAS TF/2).

Conspicuity Code

2.13 The CNS SG/25 noted that the ATMAS TF/2 meeting reviewed the report of SURICG/6 and discussed and agreed that the implementation of conspicuity code (Mode A code 1000) in ATM Automation Systems is necessary to support Mode S operations in the Region. China informed that the ATM Automation System Implementation and Operations Guidance Document (ATMAS IGD) had already provided the recommendation for the ATM Automation Systems on implementation of conspicuity code.

Repository of the ATM automation systems

2.14 To follow up ACTION ITEM 1-1 of ATMAS TF/1: *Develop a table to list the current ATMAS status for all States for this task force to establish a repository of the ATM automation systems implemented by States*, Indonesia proposed a draft Table of Current ATMAS Status for all States and invited States/Administrations to review and provide inputs to this regional repository. The CNS SG/25 noted that the ATMAS TF/2 meeting suggested that the table should make reference to the revised version of the ATMAS IGD and agreed to create an ad-hoc group led by Indonesia, including China, Hong Kong China, Republic of Korea, and Singapore with support of the ICAO Secretariat to consider the suggestions provided by the meeting and work out a revised version of the table before conduct a survey.

Air Traffic Management Automation System Problem Reporting Database

2.15 Hong Kong China informed that it has taken up the action item from ATMAS TF/1 on studying the feasibility of expanding the ADS-B Avionics Problem Reporting Database (APRD) to cover the report and sharing of ATMAS-related problems by States/Administrations in APAC region.

Hong Kong China provided a detailed proposal to expand the existing APRD with pages, and concluded that it is technically feasible and cost-effective to implement ATMAS PRD by leveraging the framework and hardware resources of APRD with no additional hardware resource requirement. The CNS SG/25 noted that the ATMAS TF/2 meeting agreed that China, Hong Kong China, and Indonesia create an ad-hoc group with support of the ICAO Secretariat to further progress the development of ATMAS PRD and consider including AIDC implementation issue as well.

ATM Automation System Implementation and Operations Guidance Document

2.16 Following the conclusion of ATMAS TF/1, the framework of Recommended Functions and Performances of ATM Automation System (RFAP ATM AS) Edition 0.0, which was led by China, Hong Kong China and Singapore in preparing, had been adopted. The completed draft guidance document was sent to Member States/Administrations on 6 August 2021 for review, China revised the draft guidance document according to the comments and additional materials received. In order to align with the naming convention of other IGDs for APAC, Hong Kong China suggested to adopt "Air Traffic Management Automation System Implementation and Operations Guidance Document (ATMAS IGD)" instead of the original document name Recommended Functions and Performances of ATM Automation System (RFAP ATM AS) as the official name. Some suggestions to further improve the ATMAS IGD were discussed. The meeting agreed that the advance draft of ATMAS IGD to be taken forward to seek further comments and inputs from States and the ICAO APAC Regional Office should issue a State Letter to circulate the advance draft of ATMAS IGD to States/Administrations, who should provide feedback within one month after receiving the State Letter.

Dissolution of APA TF

2.17 Based on the proposal by APA TF/7, which was reviewed by ACSICG/8, ATMAS TF/2 and CNS SG/25, the CNS SG/25 adopted the **Decision CNS SG/25/16 (ATMAS TF/2/1 (APA TF/7/1)) - Dissolution of APA TF**. The CNS SG/25 noted that ATMAS TF/2 meeting reviewed and updated the Action Item list for ATMAS TF, and also reviewed the Action Items arising from APA Task Force and agreed to consolidate APA TF work in ATMAS TF/3.

2.18 After dissolution of the APA TF, the CNS SG/25 noted that the ongoing APAC regional AIDC implementation work will be taken up by ATMAS TF while ACSICG would handle communications related issues. In order to integrate APA TF ToR into ATMAS TF ToR, the revised ATMAS TF ToR proposed by the ATMAS TF/2 was adopted by CNS SG/25 as **Decision CNS SG/25/17 - Revised ATMAS TF Terms of Reference** which is provided in **Appendix A** to this paper.

Future Plan for ATM Automation System Implementation in India (IP/25)

2.19 India presented their future plan for ATM Automation system implementation in India in CNS SG/25. India informed that currently there are 44 ATM Automation Systems at major airports in India with most of them are on the verge of completing their usable operational life. Methodical planning of various processes involved in AAI for implementing CNS/ATM projects were discussed and the list of airports where procurement planning is already initiated and the classification of types of Automation System being procured or implemented were also provided in detail.

Implementation of the Weather Data Converter for a Legacy Automation System as an Interfacing to TDWR (IP/26)

2.20 Republic of Korea (ROK) presented in CNS SG/25 the implementation of weather data converter for a legacy automation system as an interfacing to TDWR (Terminal Doppler Weather Radar) and benefit of it. A comparison of weather detection performance in PSR and TDWR was presented. It was informed that many ATC automation system does not understand weather radar file format directly. ATC system and weather radar (TDWR) are developed in the their own field and these two systems are advanced separately. Therefore, there were needs to make interactive connections between them. The legacy automation system with no ability to process SWIM API (Application programming interface) normally does not support TDWR interface. The alternative way to interface between TDWR and ATC

Agenda Item 2

8-10/06/22

automation system is to implement the weather data converter. The modules for implementation of weather data converter were described. It was concluded that the implementation of simple data conversion software could deliver cost-effective-benefit to a legacy automation system that does not have the SWIM capability and does not support RESTful API.

Approach Spacing Tool – Concept and Feature Overview (Presentation/02)

2.21 Thales introduced that in order to increase runway throughput, better ATC tools to provide decision support like an integrated Approach Spacing Tool (AST) are required. The Approach Spacing Tool with a sophisticated algorithm using 4D trajectory prediction can take advantage of new standards to provide the minimum safe separation on final approach and will become a key part of a wider range of tools, procedures, and practices to improve runway efficiency. Thales further explained features of the AST, including supporting separation values, offering guidance cues, and providing different spacing modes. Lastly, a range of warnings and implementation cases were shared.

2.22 Member States may wish to contact Thales by email to Mr. Duncan Kennedy at duncan.kennedy@thalesgroup.com.au for any other information.

Review of Regional CNS Requirements in ICAO APAC e-ANP, Seamless ANS Plan and Updates on National Air Navigation Plan (NANP) (WP/15)

2.23 The ICAO Secretariat presented in CNS SG/25 the Regional CNS requirements specified in the three Volumes of ICAO APAC e-ANP, Seamless ANS Plan (Version 3.0, November 2019), and updates on the National Air Navigation Plan (NANP). The meeting participants were invited to review all CNS-related information affecting their administration in the e-ANP and provide feedback to ICAO APAC Regional Office to update as necessary.

2.24 Member States/Administrations were also invited to review all CNS facilities listed and CNS requirements specified in the e-ANP to verify that the information provided for their States/Administration was up-to-date and correct. Lastly, the Member States/Administrations should take into consideration to update e-ANP CNS relevant section when commissioning or decommissioning CNS systems in a timely manner and should inform ICAO to add/delete new/obsolete CNS facilities.

Review Outcomes of Small Working Group Study on Human Factor Issues of ATSEP (WP/18)

2.25 CNS SG/25 reviewed the summary on the outcomes of the various Ad-hoc group (comprised of Eight (8) States/Administrations namely China, Hong Kong China, India, Indonesia, Japan, Republic of Korea, Singapore, and Thailand) meetings held from its establishment in April 2021 in response to APANPIRG Conclusion C 31/15 for finding the left-out gaps and for preparing the regional ATSEP human factor guidance material. The planned tasks are to be completed by June 2022 as per the current timeline, and would present and submit the draft Regional ATSEP guidance material to CNS SG/26.

Outcomes of ICAO Asia Pacific Regional Cybersecurity Webinar (WP/19)

2.26 ICAO Asia Pacific Regional Cybersecurity Webinar was held on 14 June 2021 via VTC. Total ten (10) presentations were delivered by experts from different parts of the world under different domains related to cybersecurity. A total of 69 questions were asked and more than 100 feedbacks for the Webinar were provided by participants with 100% positive responses.

2.27 It was commented in CNS SG/25 that CANSO had been active on the cybersecurity topic for ANSPs. The meeting invited and CANSO expressed their continued commitment to share more experience and the latest development, such as their cybersecurity guidance publications, in future ICAO APAC meetings.

Implications of Cybersecurity and Associated Requirements for CRV Operations (WP/32)

2.28 In CNS SG/25, USA addressed the implications for existing services and the CRV resulting from the Cybersecurity Webinar and future support of SWIM and other proposed services for the Region. The meeting was requested to review the various challenges in addressing cybersecurity and SWIM. There were some issues, which were not be assigned to any groups in ICAO APAC, for example, who would be responsible for the DNS and cybersecurity. The formation of independent bodies should be recommended to APANPIRG to look into cybersecurity across various domains from-end-to-end.

2.29 The CNS SG/25 meeting noted that certain basic cybersecurity building blocks e.g. IPv6 dedicated address blocks and DNS service for APAC Region had yet been addressed. The ICAO Secretariat informed the meeting that initial coordination with other ICAO Regional Offices on regional network cybersecurity requirements had been initiated. The Chair of CNS SG invited ICAO APAC Regional Office to follow up with ICAO Headquarter on the issue.

Information Security Requirements for Exchange of Information over IP (Presentation/04)

2.30 The ICAO Secretariat presented to CNS SG/25 on the information security requirements for the exchange of information over IP from PANS-IM and information security framework aspects. The requirements of the information security framework included scalable, minimum requirements to ensure trust, common practices based mainly on NIST and ISO provision. The scope and layered approach of the information security framework were elaborated with emphasising on the IPv6 dedicated block of addresses and the impact of the loss of information security on safety.

CNS Points of Contact (WP/21)

2.31 The ICAO Secretariat informed the need for points of contact from States/Administrations who would respond in a timely, effective, and efficient manner was important in addressing CNS-related operational deficiencies notified to the Regional Office. Member States/Administrations were invited to review and update their existing nominated CNS Points of Contact to the APAC Regional Office, and each State/Administration was requested to provide points of contact of CNS contingency planning and administrative support for effective and efficient coordination in CNS aspect.

2.32 The APANPIRG/32 meeting also reviewed the outcomes of the CNS SG/25 on ATM automation system related matters and discussed other CNS matters as follows:

ADS-B Implementation in Mongolia (IP/03)

2.33 Mongolia informed the APANPIRG/32 meeting of their plan on Automatic Dependent Surveillance-Broadcast (ADS-B) implementation, including the plan to use ADS-B to provide ATS surveillance separation in the airspace of Mongolia. With the ADS-B covering 95 percent of the whole territory of Mongolia, the use of GNSS in aviation was greater than ever and the reliability of GNSS was utmost important. GNSS outage was reported to be the main concern for their ATS surveillance, which a safety recommendation was issued with safety and risk assessments conducted to address. Despite the mandatory ADS-B flight equipage in the airspace of Mongolia, flexibility was allowed on the equipage to alleviate pressure on airlines due to the pandemic. Furthermore, Civil Aviation Authority of Mongolia provided essential training to develop their staff and personnel and brought forward the needs of innovation in a joint virtual workshop on applications of GNSS co-organized with the UN.

Agenda Item 2

8-10/06/22

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the outcomes of the CNS SG/25 and APANPIRG/32 and take any necessary follow-up actions; and
- b) discuss any matters as appropriate.

ATMAS TF/3
Attachment A to WP/02

List of Conclusions/Decisions adopted by CNS SG/25 on behalf of APANPIRG on Technical Matters

Conclusion CNS SG/25/01 (ACSICG/08/01(CRV/08/01)) – CRV Implementation Plan amendment (Version 2.1)	
<p>What: That, the CRV Implementation Plan be amended to include the following new text in paragraph 2.4.2 – IP Addressing</p> <p>iii. In the development of the IPv4 plan, a flexible margin has been designated to allow future growth or change. Through draft Conclusion CRV OG/8/01, using 10.46.0.1 to 10.46.255.254, each third party Service Provider (e.g. AIREON LLC providing Automatic Dependent Surveillance - Broadcast data over CRV) is assigned 254, 510, 764 or 1022 usable Network addresses (depending on Service Providers’ technical requirements); and</p>	<p>Expected impact:</p> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<p>Why: To allocate IP addresses to third party service providers for the delivery of services over CRV</p>	<p>Follow-up: <input type="checkbox"/> Required from States</p>
<p>When: 22-Oct-21</p>	<p>Status: Adopted by Subgroup</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: ACSICG</p>	

Conclusion CNS SG/25/03 (SWIM TF/5/01) – Asia/Pacific SWIM Implementation Plan and Status Survey	
<p>What: To conduct a survey on SWIM implementation plan and status of Asia/Pacific Member States.</p>	<p>Expected impact:</p> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<p>Why: To establish a baseline understanding of SWIM implementation plan and status within the Asia/Pacific region so as to aid the development of the regional SWIM implementation roadmap.</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 22-Oct-21</p>	<p>Status: Adopted by Subgroup</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SWIM TF</p>	

ATMAS TF/3
Attachment A to WP/02

List of Conclusions/Decisions adopted by CNS SG/25 on behalf of APANPIRG on Technical Matters

Decision CNS SG/25/04 (SWIMTF/05/02) – Revised SWIM TF Terms of Reference	
What: That, the revised SWIM TF Terms of Reference (ToR) as shown in Appendix F to the report be adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To align with the progress made since the establishment of SWIM TF, the update of ICAO global and regional air navigation plans, and the revised task groups under SWIM TF adopted at SWIM TF/4.	Follow-up: <input type="checkbox"/> Required from States
When: 22-Oct-21	Status: Adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SWIM TF	

Conclusion CNS SG/25/05 – The Catalogue of Asia and Pacific Flight Inspection and Flight Validation Service Providers	
What: That, <i>The Catalogue of Asia and Pacific Flight Inspection and Flight Validation Service Providers</i> (Eleventh Edition) in the Appendix G to the report is adopted and be published on the ICAO Regional Office website.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The information in <i>The Catalogue of Asia and Pacific Flight Inspection and Flight Validation Service Providers Tenth Edition, April 2018</i>) need to be updated as per the recommendation of CNS SG/24	Follow-up: <input type="checkbox"/> Required from States
When: 22-Oct-21	Status: Adopted by Sub-group
Who: <input checked="" type="checkbox"/> CNS Sub-group <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

List of Conclusions/Decisions adopted by CNS SG/25 on behalf of APANPIRG on Technical Matters

Conclusion CNS/SG/25/06 - Update of Flight Inspection Guidance Material (FIGM) for APAC Region	
What: That, the Edition 2.0 of the Flight Inspection Guidance Material (FIGM) provided in Appendix H to the Report be adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The FIGM is subject to regular review and update, in the light of on-going development of flight inspection standards and recommended practices.	Follow-up: <input type="checkbox"/> Required from States
When: 22-Oct-21	Status: Adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

Conclusion CNS SG/25/10 (SURICG/6/4) (DAPs WG/4/6) - Mode S DAPs IGD 3.0	
What: That, the <i>Mode S DAPs Implementation and Operation Guidance Document</i> Edition 3.0 provided in Appendix J to the report be adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Editorial correction and revision to reflect regional updates in implementation.	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 22-Oct-2021	Status: Adopted by Sub-Group
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG	

ATMAS TF/3
Attachment A to WP/02

List of Conclusions/Decisions adopted by CNS SG/25 on behalf of APANPIRG on Technical Matters

Conclusion CNS SG/25/11 (SURICG/6/5) (Draft Conclusion DAPs WG/4/7 and Draft Decision DAPs WG/4/8) - Revision of the Regional Supplement to ASTERIX Interface Control Document (ICD)	
<p>What: ICAO APAC Regional Office to:</p> <p>a) update EUROCONTROL with the latest SAC allocation within Asia Pacific; and</p> <p>b) coordinate the allocation of SAC within Asia Pacific and not the SIC.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why:</p> <p>a) EUROCONTROL published the SAC for all the regions except Asia Pacific. It is believed that the publication will be beneficial to the developers of future message protocol and surveillance related applications.</p> <p>b) SIC is managed by State and there is little value for ICAO APAC to manage the SIC. Considering the workload to manage the SIC and the negligible benefits, it is proposed that ICAO APAC not to manage SIC.</p>	<p>Follow-up:</p> <p><input type="checkbox"/> Required from States</p>
When: 22-Oct-2021	Status: Adopted by Sub-Group
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG	

Decision CNS SG/25/12 (SURICG/6/6): Revised ToR of Surveillance Study Group (SURSG)	
<p>That, the Revised Terms of Reference of the Surveillance Study Group (SURSG) provided in Appendix L to the report be adopted.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political /Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: The SURSG/1 meeting reviewed the ToR and made amendments on adding chair role and function, frequency of the meeting of SURSG and the mode of the various task lead meetings for effective progress update, decision making, work assignments as they arise and the need to update the list of contributing States as necessary.</p>	<p>Follow-up: <input type="checkbox"/> Required from States</p>
When: 22-Oct-2021	Status: Adopted by Sub-Group
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> APANPIRG <input checked="" type="checkbox"/> Other: SURICG	

List of Conclusions/Decisions adopted by CNS SG/25 on behalf of APANPIRG on Technical Matters

Conclusion CNS SG/25/13 (SURICG/6/7) - Integrity of ICAO Aircraft Address and Target Identification in ADS-B / MLAT / Mode S Data and Flight Plan		
What: To urge States/Administrations to proactively follow up with air operators to address discrepancies of ICAO Aircraft Address and Target Identification between ADS-B / MLAT / Mode S data and flight plan.		Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Such discrepancies will cause safety implications in ATC operation and induce additional workload to controllers and supporting staff in handling the cases.	Follow-up:	<input checked="" type="checkbox"/> Required from States
When: 22-Oct-2021	Status: Adopted by Sub-group	
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG		

Decision CNS SG/25/14 (SURICG/6/8): Revised ToR of Surveillance Implementation Coordination Group (SURICG)		
That, the Revised Terms of Reference of the Surveillance Implementation Coordination Group (SURICG) provided in Appendix N to the report be adopted.		Expected impact: <input type="checkbox"/> Political /Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The ToR from dissolved SEA/BOB ADS-B WG was reviewed and necessary updates were identified.	Follow-up:	<input type="checkbox"/> Required from States
When: 22-Oct-2021	Status: Adopted by Sub-Group	
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> APANPIRG <input checked="" type="checkbox"/> Other: SURICG		

Conclusion CNS SG/25/15 (SURICG/6/9) - Revised ADS-B Implementation and Operations Guidance Document (AIGD)		
What: That, the revised ADS-B Implementation and Operations Guidance Document (AIGD) provided in Appendix O to the report, which consolidated all change proposals during SURICG/6, is adopted as Version 14.		Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Updates from SURICG/6	Follow-up:	<input type="checkbox"/> Required from States
When: 22-Oct-2021	Status: Adopted by Subgroup	

ATMAS TF/3
Attachment A to WP/02

List of Conclusions/Decisions adopted by CNS SG/25 on behalf of APANPIRG on Technical Matters

Who:	<input checked="" type="checkbox"/> CNS Sub group <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG
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Decision CNS SG/25/16 (ATMAS TF/2/1 (APA TF/7/1)) - Dissolution of APA TF	
What: Noting that most of the tasks outlined in the ToR have been achieved and the completion of residual part of action items will be undertaken by ATMAS TF. That, the APA TF be dissolved.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The APA TF Terms of Reference have been completed and pending action items will be undertaken by ATMAS TF.	Follow-up: <input type="checkbox"/> Required from States
When: 22-Oct-2021	Status: Adopted by Sub-Group
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: ATMAS TF	

Decision CNS SG/25/17 (ATMAS TF/2/2) – Revised ATMAS TF Terms of Reference	
What: That, the revised ATMAS TF Terms of Reference (ToR) as shown in Appendix P of the Report be adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: After dissolution of the APA TF, the ongoing APAC regional AIDC work will be conducted by ATMAS TF.	Follow-up: <input type="checkbox"/> Required from States
When: 22-Oct-21	Status: Adopted by Sub-Group
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: ATMAS TF	

ATMAS TF/3
Attachment B to WP/02

A List of Draft Conclusions from CNS SG/23 for Consideration by APANPIRG/30 Meeting

Conclusion APANPIRG/32/7 (CNS SG/25/02) - Implementation of CRV for small Pacific Island and small ANSP in the region using CRV Solution, PCCWG SLA Package D.	
<p>What: That, the CRV OG should consider the following to assist small Pacific Islands & small ANSP in APAC in the implementation of CRV:</p> <p>a) Small Pacific Island and small ANSP in the region to consider using CRV SLA package D as the CRV solutions to implement CRV for the exchange of voice & AMHS services</p> <p>b) With target date to implement CRV by the end of 2021 by APANPIRG Conclusion C 31/12, it is recommended that the CRV OG to work closely with the small Pacific Islands, small ANSP in the region and PCCWG on a cost effective CRV solution to implement CRV.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input checked="" type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To facilitate the implementation of CRV for the small Pacific Island & small ANSP in the region</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 03-Dec-2021</p>	<p>Status: Adopted by PIRG</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: ACSICG</p>	

Conclusion APANPIRG/32/8 (CNS SG/25/07) - Interrogator Code (IC) Planning and Coordination	
<p>What: That,</p> <p>With the need to extend the Use of Surveillance Identifier (SI) in Interrogator Code (IC) on top of Interrogator Identifier (II), the relevant APANPIRG Conclusions were updated as follows:</p> <p><i>Coordination Process for SSR Mode S Interrogator Code (IC) (formerly Conclusion 19/40)</i></p> <p>a) in view of the increasing density of SSR interrogator installations in the region, and that States have varying readiness to extend from Interrogator Identifier (II) to both Interrogator Identifier and Surveillance Identifiers (SI) codes, there will be a period whereby both II and SI will be used.</p> <p>b) while implementing SSR Mode S, States should take into account following issues while assigning IC for these installations:</p> <ul style="list-style-type: none"> • for planning the implementation of SSR Mode S interrogators, administrations should ensure that the interrogators with overlapping coverage are not operating with the same IC. • where, the coverage of the interrogator extends beyond the boundaries of the State, The IC should be worked out in 	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input checked="" type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>

A List of Draft Conclusions from CNS SG/23 for Consideration by APANPIRG/30 Meeting

<p>coordination with the ICAO Asia and Pacific Office and the neighbouring States concerned, and</p> <ul style="list-style-type: none"> • administrations should inform the ICAO Asia and Pacific Office about the assigned IC for these installations. <p><i>Coordination Requirements for SSR Mode S Interrogator Codes (IC) (formerly Conclusion 20/56)</i></p> <p>States be advised to provide the following information on SSR Mode S Interrogator Code to the ICAO Asia/Pacific Office for coordination and registration.</p> <ol style="list-style-type: none"> a) Name of country/territory and location of facility; b) Antenna Coordinates (Latitude and Longitude); c) Elevation of antenna above the Mean Sea Level (MSL) in meters; d) Maximum Coverage of SSR Mode S Interrogator in nautical mile; e) II Code (1 to 15) or SI Code (1 to 63); and f) Remarks (special configuration such as radar clustering, lockout override, II/SI mode capability) <p><i>Planning Criteria for SSR Mode S Interrogator Code (IC) Assignment (formerly Conclusion 20/57)</i></p> <p>The planning criteria for SSR Mode S IC coordination and assignment as provided in Appendix J of Doc 9924 (Third Edition, 2020) be adopted for use in the Asia/Pacific Region.</p>	
<p>Why: Due to higher density of radars, some States are facing a shortage of II codes. It has to be solved by transiting from II to SI code. It is noted that state may use a mixture of II and SI codes before complete migration to SI code.</p> <p>The assignment of interrogator codes (IC), where necessary in areas of overlapping coverage, across international boundaries of flight information regions, shall be the subject of regional air navigation agreements.</p> <p>States still have to coordinate with ICAO APAC Regional Office on the allocation of II codes and SI codes.</p>	<p>Follow-up: <input checked="" type="checkbox"/>Required from States</p>
<p>When: 03-Dec-2021</p>	<p>Status: Adopted by PIRG</p>
<p>Who: <input checked="" type="checkbox"/>Sub groups <input checked="" type="checkbox"/>APAC States <input checked="" type="checkbox"/>ICAO APAC RO <input type="checkbox"/>ICAO HQ <input checked="" type="checkbox"/>Other: SURICG</p>	

*Note: This draft conclusion will supersede **APANPIRG Conclusions 19/40, 20/56 and 20/57** once adopted.*

Conclusion APANPIRG/32/9 (CNS SG/25/08) - Transition from II code to II and SI mixed code	
<p>What: States with Mode S radar capable of performing II/SI mode operations are encouraged to transit from II code to II and SI mixed</p>	<p>Expected impact:</p>

ATMAS TF/3
Attachment B to WP/02

A List of Draft Conclusions from CNS SG/23 for Consideration by APANPIRG/30 Meeting

code, so as to ease the shortage of II codes. States planning to perform the transition shall coordinate with ICAO APAC Regional Office to obtain the SI codes.	<input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Due to higher density of radars, some States are facing a shortage of IC codes, which has to be solved by transiting from II to II and SI mixed code. It is noted that radars using II and SI codes can co-exist, hence there is no need for a big bang approach. However, States still have to coordinate with ICAO APAC Regional Office on the allocation of SI codes.	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 03-Dec-2021	Status: Adopted by PIRG
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG	

Conclusion APANPIRG/32/10 (<i>CNS SG/25/09</i>) - The APAC Regional Roadmap for Mode S Implementation	
What: That, the APAC Regional Roadmap for Mode S Implementation provided in Appendix D to the Report on Agenda Item 3.4 be adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The revised Roadmap defined the scope and rational steps for the implementation of Mode S in APAC region.	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 03-Dec-2021	Status: Adopted by PIRG
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG	

Presentation of the initial proposal:

1. The *Background* and *Comments* are provided in *italic text*.
2. The text of the proposed amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

- | | |
|---|-----------------------------------|
| a) Text to be deleted is shown with a line through it. | text to be deleted |
| b) New text to be inserted is highlighted with grey shading. | new text to be inserted |
| c) Text to be deleted is shown with a line through it followed by the replacement text which is highlighted with grey shading. | new text to replace existing text |

**REVISED TERMS OF REFERENCE OF
ASIA AND PACIFIC
ATM AUTOMATION SYSTEM TASK FORCE (ATMAS/TF)**

Consists of objectives and deliverables as follows:

The Objectives of the APAC ATMAS/TF are to:

- 1) *Keep abreast of the latest developments in ATM automation systems and associated technologies to cope with forthcoming development and implementation of ICAO SARPs, the Global Air Navigation Plan (GANP), the Global Aviation Safety Plan (GASP) and Asia/Pacific Seamless Air Navigation Service (ANS) Plan (APSAP);*
- 2) *Facilitate the implementation, enhancements, operation and maintenance of ATM automation systems and services identified in the Aviation System Block Upgrades (ASBU) elements and APSAP elements using the project management principles where appropriate;*
- 3) *Ensure continuous and coherent development of the ATM automation systems that is harmonized with adjacent regions to enhance systems robustness, resilience, interoperability and cybersecurity; and*
- 4) *Review, identify and address major issues in technical, operational, safety and regulatory aspects to facilitate the implementation or provision of safe, efficient and orderly ATM services.*
- 5) *Encourage collaboration among ANSPs in implementing ATM automation systems so as to reduce operating costs and enable quick implementation of new requirements to cope with new challenges.*
- 6) *Follow up, oversee and share experiences of the AIDC implementation and provide a coordination framework among States for wider and effective implementation of AIDC across the APAC region.*

Deliverables to meet the Objectives:

- 1) *To submit progress report to the ICAO CNS Sub-group while keeping ATM Sub-group informed of addressing the APAC ATMAS/TF deliverables (listed in 2 to 7 below);*

2) To support the ICAO in making specific recommendations and developing guidance materials, such as minimum functional/performance requirements and additional/local requirements, which aim at facilitating the implementation or provision of robust, safe, efficient and orderly ATM services by the use of existing and/or new procedures, facilities and technologies in relation to ATM automation systems;

3) To review outcome of the AN-Conf., DGCA Conference, APANPIRG, CNS Sub-group, ATM Sub-group, RASMAG, and SURICG related to ATM automation systems, revise and update a tasks list and action items for the ATMAS/WG;

4) To study and identify applicable applications, share experience, and recommend the best industry practice in the Asia and Pacific Regions considering:

- Systems planning and design
- Open / Service Oriented Architecture
- HMI adaptation, data synchronization and operational enhancements
- Safety nets
- ICAO roadmap in the GANP / ASBU
- Systems interoperability
- Standardization of information exchange
- AIDC Implementation
- Operation and maintenance practice
- Acceptance and certification
- Flight inspection
- Cybersecurity
- Safety assessment
- Training
- Transition

5) To encourage research and development, trials and demonstrations of applications and technologies, and, as necessary, steer for the sharing of this information and expertise between States/Administrations through organizing educational seminars and symposia to educate States/Administrations and airspace users;

6) To formulate draft Conclusions and Decisions relating to matters in the field of ATM automation systems that come within the scope of the APANPIRG, CNS Sub-group, ATM Sub-group, and RASMAG work plan; and

7) To collaborate with relevant international organization (such as EuroControl) for harmonisation of ATM system requirements.

Timeframe for Deliverables:

For deliverable item 2 on guidance materials, it is anticipated that a first draft could be made available in 3 years after establishment of the Task Force for seeking endorsement by CNS Sub-group, after which the guidance materials would be updated/enhanced on an on-going basis. For other deliverable items 3-7, they will be made available as appropriate subject to review by the Task Force. The life time of the Task Force would be subject to review after endorsement of the first edition of the guidance materials.

Meeting:

The APAC ATMAS/TF shall convene annually with at least one face-to-face meeting per year, which is supplemented by teleconference meetings (e.g. WebEx) as appropriate.

Membership:

All APAC member States/Administrations providing air navigation services in the Asia and Pacific Regions. APAC members should nominate Subject Matter Experts from Civil Aviation Authorities, ANSPs, and other organizations with strong background in engineering and operation in relation to ATM automation systems to participate into the Task Force. The Task Force would also invite representatives of International Organizations recognized by the ICAO Council as representing important civil aviation interests to participate in its work in a consultative capacity.
