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*International Civil Aviation Organization***The Seventh Meeting of System Wide Information Management Task Force (SWIM TF/7)***Bangkok, Thailand, 09 – 12 May 2023***Agenda Item 2:** Outcomes of relevant meetings on SWIM related matters**OUTCOMES OF RELEVANT MEETINGS**

(Presented by the Secretariat)

SUMMARY

The paper presents the relevant outcomes of the meetings held in the year 2022 including the thirty third Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/33), the twenty sixth meeting of Communication, Navigation, and Surveillance Sub Group (CNS SG/26), actions on the works accomplished by the Sixth Meeting of the APAC SWIM Task Force (SWIM TF/6), the Second Meeting of the Surveillance Study Group (SURSG/2), and relevant discussions in other meetings.

1. INTRODUCTION

1.1 The Thirty-third Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/33) was hosted by Indonesia at the Trans Resort Bali in Bali, Indonesia *from 22 to 24 November 2022* as a hybrid event (in-person and virtual participation). The Meeting was attended by **326** participants from **30** Member States, **2** Special Administrative Regions of China, and **7** International Organizations (ACI, CANSO, IATA, ICAO, IFALPA, IFATSEA and PASO). The APANPIRG/33 meeting report, working papers, information papers, and other resources can be accessed by the following link:

<https://www.icao.int/APAC/Meetings/Pages/2022-APANPIRG33.aspx>

1.2 The Twenty Sixth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/26) of APANPIRG was held *from 5 to 9 September 2022* via Video Tele-Conference (VTC) using Microsoft Teams. The meeting was attended by **247** participants from **26** States/Administrations, and **4** International Organizations, including 21 participants from industry partners. The CNS SG/26 meeting report, working papers, information papers, and other resources can be accessed by the following link:

<https://www.icao.int/APAC/Meetings/Pages/2022-CNS-SG-26.aspx>

1.3 The Sixth Meeting of the APAC SWIM Task Force (SWIM TF/6) was held *from 17 – 20 May 2022* via Video Tele-Conferencing (VTC). The meeting was attended by **213** participants from **18** States/Administrations, **5** International Organizations, and **1** service provider. The papers and report of SWIM TF/6 meeting are available at:

<https://www.icao.int/APAC/Meetings/Pages/2022-SWIM-TF6.aspx>

1.4 The Second Meeting of the Surveillance Study Group (SURSG/2) was held via Video Tele-Conference (VTC) from *15 to 17 March 2022*. The Meeting was attended by **97** participants from **16** States/Administration and **2** International Organizations and **1** industry partner. The meeting report, working papers, information papers, and other resources can be accessed by the following link:

<https://www.icao.int/APAC/Meetings/Pages/2022-SURSG2.aspx>

1.5 The APANPIRG/33 meeting reviewed the outcomes of the CNS SG/26, noted with appreciation the work done and achievements by the SG and the contributory bodies reporting to APANPIRG through the SG, the meeting discussed CNS related matters and took the following actions on the report of CNS SG/26 meeting and other papers presented under Agenda Item 3.4.

1.6 This paper summarized relevant information and updates from CNS SG/26 and APANPIRG/33 with the highlight on the reviewed outcomes of SURSG/2, SWIM TF/6, and SURICG/7 meetings, and relevant discussions of other meetings of CNS SG/26.

2. DISCUSSION

The actions taken by APANPIRG/33 meeting on CNS related matters are highlighted below:

2.1 The CNS SG/26 meeting adopted the following **5** Conclusions and **2** Decisions:

Reference	Subject
Conclusion CNS SG/26/03 (<i>ACSICG/09/04</i>)	- Revised AFTN/ATSMHS Routing Directory
Decision CNS SG/26/04 (<i>SWIM TF/06/01</i>)	- The Use of the Internet for MET Information Services in Regional SWIM architecture
Decision CNS SG/26/07 (<i>SWIM TF/06/06</i>)	- Revised SWIM TF Terms of Reference
Conclusion CNS/SG/26/09	- Update of Flight Inspection Guidance Material (FIGM)
Conclusion CNS SG/26/10 (<i>SURICG/7/1 (DAPs WG/5/1)</i>)	- Mode S DAPs IGD 4.0
Conclusion CNS SG/26/12 (<i>SURICG/7/4</i>)	- Revised ADS-B Implementation and Operations Guidance Document (AIGD)
Conclusion CNS SG/26/13 (<i>ATMAS TF/3/1</i>)	- ATMAS IGD Edition 1.0

2.2 The contents of the above Conclusions/Decisions adopted by the CNS SG/26 are provided in **Attachment A** to this paper.

2.3 Based on the outcome of discussions on various agenda items, the CNS SG/26 meeting developed **5** Draft Conclusions and **1** Draft Decision for consideration by APANPIRG/33 Meeting, which were further adopted by APANPIRG/33. The Conclusions/Decisions adopted by APANPIRG/33 are as follows:

Reference	Subject
Conclusion APANPIRG/33/6 (CNS SG/26/01 (ACSICG/09/01 (CRV OG/09/01)))	- Revised Amendment of the Management Service Agreement for CRV project (RAS14801)
Conclusion APANPIRG/33/7 (CNS SG/26/02 (ACSICG/09/02 (CRV OG/10/01)))	- Extension of CRV Contract for one year.
Decision APANPIRG/33/8 (CNS SG/26/05 (SWIM TF/06/03))	- Harmonization of Timelines for SWIM-related Initiatives
Conclusion APANPIRG/33/9 (CNS SG/26/06 (SWIM TF/06/02, SWIM TF/06/04))	- The Asia-Pacific SWIM Implementation Timeframe and inclusion of the Asia/Pacific SWIM Implementation in the Asia/Pacific Seamless ANS Plan
Conclusion APANPIRG/33/10 (CNS SG/26/08 (SRWG/6/2))	- Planning Principle for Aeronautical Frequency Bands of 108-117.975 MHz, 960-1215 MHz and 117.975-137 MHz
Conclusion APANPIRG/33/11 (CNS SG/26/11 (SURICG/7/3))	- Revised Surveillance Strategy for the APAC Region

2.4 All APANPIRG/33 Conclusions related to CNS are provided in **Attachment B** to this paper.

Sixth Meeting of System Wide Information Management Task Force (SWIM TF/6)

Implications of the Revised Terms of Reference as a result of the CNS SG/25 Decision

2.5 SWIM TF/6 noted the impact and implications of the change in the Terms of Reference (ToR) of the SWIM Task Force as a result of the decision by the CNS SG/25 meeting. The SWIM TF/6 meeting was informed that with the revised ToR, the work of the APAC SWIM Task Force has been increased significantly. The SWIM TF needed to deliberate the impact of these changes on ongoing work. The SWIM TF/6 meeting was invited to review the current deliverables, how to deliver on the items stated in the new ToR, and consider how the task groups should be structured to produce the required deliverables.

Aviation Support Service Providers Joining CRV

2.6 PCCW introduced PCCWG Console Connect Aviation Platform for non-ANSP users to exchange SWIM data with CRV members. PCCWG informed that in order to provide an easy, managed, flexible and scalable mechanism for non-ANSP users to exchange SWIM data with CRV users, PCCW Global planned to extend its EMS node with its own developed software defined interconnection platform - Console Connect for Aviation and purposed built SWIM as Service Platform. The SWIM TF/6 meeting discussed the certification standard and ability to support MET data of the PCCW Console Connect Aviation Platform, and was informed that the platform is in concept stage. The SWIM TF/6 meeting agreed that there is the need to deliberate in CRV OG the security impact of mixed operational environment, i.e. connecting more SWIM technical infrastructure service providers and users using internet/other network based services with CRV through a gateway.

Consideration of SWIM Architecture for Efficient Provision of MET Information Services - MET SG nominated experts

2.7 With the operational needs of efficient MET information service provision, the Use of the Internet for MET Information Services in Regional SWIM architecture was endorsed as *Decision CNS SG/26/04 (SWIM TF/06/01)* to include the use of Internet for meteorological information services in designing the regional SWIM architecture. The SWIM TF/6 meeting also discussed the need of participation of MET experts in SWIM TF and requested Member States to nominate MET experts to contribute and participate in various tasks of SWIM TF. The revised SWIM TF ToR was adopted by CNS SG via *Decision CNS SG/26/07*.

The Asia-Pacific SWIM Implementation Timeline

2.8 China, Japan, Singapore, and Thailand presented a proposal for a target timeframe for SWIM implementation in the Asia-Pacific Region. Considering a significant amount of work produced by SWIM TF so far, the SWIM TF/6 meeting was suggested to consolidate all these works, experiences, and lessons learnt and to form an actionable implementation plan with a target timeframe for operational SWIM implementation in the Asia-Pacific region. Referencing the timeframes of related events and publications, including the publication of the ICAO PANS-Information Management (PANS-IM), which is expected to be published in 2024, and the sunset date of the current flight plan format (FPL2012) in 2032 being considered by ICAO ATM RPP, the paper proposed that the timeframe for SWIM implementation in the Asia-Pacific region to be set at between 2024 and 2030 with a buffer of 2 years before 2032 to conduct FF-ICE related operational trials prior to the planned sunset date for the FPL2012.

2.9 Considering the need to align all the timelines across different ICAO Air Navigation Commission Technical Panels regarding components related to SWIM to assist States in planning their investment and transition, APANPIRG/33 adopted the **Decision APANPIRG/33/8 (CNS SG/26/05 (SWIM TF/06/03)) - Harmonization of Timelines for SWIM-related Initiatives**.

SWIM Implementation and the Asia-Pacific Seamless ANS Plan

2.10 To align the relationship between SWIM implementation in Asia/Pacific and the Asia/Pacific Seamless ANS Plan, it was proposed that CNS SG and SWIM TF consider including SWIM implementation as part of Performance Improvement Plan in the next edition of the Asia/Pacific Seamless ANS Plan aligned with SWIM implementation timeframe. Considering that APAC SWIM Timeline is proposed to be started from 2024 and to incorporate into the Seamless ANS Plan v5.0, which will be published in 2025, the SWIM TF/6 meeting agreed to add SWIM-B2/1- Information Service Provision and SWIM-B2/2- Information Service Consumption under Priority Two in the Seamless ANS Plan v4.0 to be published in 2022. The content to be added to the plan was proposed in Appendix A to this paper. Accordingly, APANPIRG/33 adopted the **Conclusion APANPIRG/33/9 (CNS SG/26/06 (SWIM TF/06/02, SWIM TF/06/04)) - The Asia-Pacific SWIM Implementation Timeframe and inclusion of the Asia/Pacific SWIM Implementation in the Asia/Pacific Seamless ANS Plan**.

Result of Asia/Pacific SWIM Implementation Plan and Status Survey- Task 1 Leads

2.11 Following the **Conclusion CNS SG/25/03**, the ICAO Asia/Pacific SWIM Implementation Plan and Status Survey was prepared by China, Japan, Singapore, and Thailand in consultation with Task leads under SWIM TF, and later disseminated to all Asia/Pacific States/Administrations by State Letter on 1 March 2022. Throughout March and April 2022, 49 responses in total were received from 26 States/Administrations. The majority of the responses were from civil aviation regulators, AIS/AIM providers, ANSPs or ATM service providers, and MET service providers. Only one response was from airport operator, while none was obtained from airspace user.

2.12 Through elaboration on the survey results, some recommendations were provided:

- 1) Timeframe for completion date/expected completion date of the three SWIM key components, which was identified to be between 2022 and 2030, can be in line with the proposal stated in SWIM TF/6 WP/07.

- 2) With the list of common SWIM information services and SWIM-enabled applications indicated in the majority of the responses, it is suggested to adopt a phased approach in the Asia/Pacific SWIM implementation roadmap to be further devised, to ensure the harmonized implementation of this common list among stakeholders, in turn leading to the region-wide operational benefits.
- 3) Based on the feedback received and considering a significant amount of work done by SWIM TF so far, SWIM TF is recommended to consider consolidating (i) the Asia/Pacific SWIM Concept of Operations and (ii) the Asia/Pacific regional SWIM Implementation Guidance documents to assist States/Administration/Organizations in their SWIM planning and implementation. Moreover, in the case where the inclusion of SWIM in the new version of the Asia/Pacific Seamless ANS Plan, as proposed in SWIM TF/6 WP/08, is adopted by APANPIRG, these two documents can then be used as supplements to the Asia/Pacific Seamless ANS Plan in the future.

2.13 The SWIM TF/6 meeting noted that Recommendation-1 was already discussed and agreed. Recommendation-2 can be added to the Task 1 once a detailed SWIM Roadmap is prepared. Recommendation-3 was discussed in WP/21 of SWIM TF/6. Task 1 will consider a phased approach and a common set of SWIM information services while developing APAC SWIM Implementation Roadmap.

SWIM-TI Interface Binding to Achieve Interoperability

2.14 Japan clarified the required indicators for IP-based network that should be considered to construct the APAC regional SWIM and the current capabilities of CRV) that can provided to support the regional SWIM implementation at the beginning of the shift. To satisfy different requirements, the paper presented an interface binding approach for SWIM Technical Infrastructure to achieve both operational interoperability and applicational flexibility by considering the CRV based regional SWIM implementation.

APAC SWIM Service Level Agreement (SLA): Introduction - Task 5

2.15 The paper introduced the general Service Level Agreement (SLA) template intended for use as the basis for negotiating SLAs between APAC SWIM service providers and consumers. To provide a uniform and standardized format for an APAC SLA document, the SLA template, which was introduced in detail in WP/12, should be considered as a baseline SLA to be modified by APAC SWIM service providers and consumers. It is expected that users will extend the SLA template as required to fit their specific organizational and technological needs.

APAC SWIM Service Level Agreement (SLA): Template - Task 5

2.16 The paper contained the Service Level Agreement (SLA) template intended for use as the basis for negotiating SLAs between APAC SWIM service providers and consumers. Task 5 elaborated on the format and information needed in the Service Level Agreement (SLA) template, including its parties (service provider and service consumer), obligations (service performance and problem reporting), service maintenance, etc. SWIM TF/6 agreed that SLA template should be included in ICAO APAC SWIM Implementation Guidance Material, which is being developed, so that States can use it when they will develop their information services and provide information to their consumers. The SLA template will be reviewed and updated annually. The meeting also discussed the SLA management approach and suggested Task 5 group to prioritize and further study the details of SLA management method appropriate for APAC.

SWIM Discovery Service (SDS) Update and Next Steps

2.17 USA, ROK, China, and Japan described the status and plans of a growing collaborative effort to deploy a network of SWIM Discovery Services (SDS) in the Asia Pacific Region (APAC). The effort aims to support federated service discovery among independently developed and autonomously managed SWIM domains. The SWIM TF/6 meeting noted that the development of SDS will encourage the adoption of SWIM in the APAC region by allowing SWIM services to be discovered and used by aviation partners. The partners will work together to enhance service discoverability in the region by considering SDS use cases for multi-party environments and supporting for advanced data filtering in SDS.

APAC Service Overview Specification - Optional Fields

2.18 Hong Kong China proposed the optional descriptive elements to be added to the initial version of the APAC Service Overview Specification. The paper recalled the proposed additional fields for initial version of APAC Service Overview Specification presented in [SWIM TF/5 – WP/14](#) and summarized the suggestions on further addition of the fields received after SWIM TF/5 which were different from the current requirement set by IMP. The SWIM TF/6 meeting agreed that for the next steps, as Task 5 has been working on exchanging service metadata for APAC SWIM using a mature service description, Task 6 will join the ongoing registries effort of Task 5 to continue the work on the APAC SWIM service metadata model, and coordinate with Task 5 to study whether the descriptive capabilities suggested by States in the previous meetings could be accommodated as optional elements in the existing implementations of service description fields

Proposal to establish a Joint Work Group between the ATM SG and CNS SG to Create the FF-ICE Implementation Strategy

2.19 In SWIM TF/6, Task 9 leads shared the latest outcomes of the Second Meeting of the Information Management Panel (IMP/2), and the status of the Air Traffic Management Requirements and Performance Panel (ATMRPP), which is developing SARPs and Guidance Materials to implement FF-ICE operations under the SWIM environment.

2.20 Considering the FF-ICE implementation is not something that can be completed by the SWIM TF alone and collaboration with other groups such as ATM and CNS is important, the SWIM TF/6 meeting formulated and adopted the Draft Decision SWIM TF/06/05- *Establish a Joint Work Group between the ATM SG and CNS SG to Create the FF-ICE Implementation Strategy* for CNS SG/26 consideration.

2.21 The CNS SG/26 meeting deliberated at length on the rationale and appropriate timing for the proposal of establishing a joint working group. The CNS SG Chair expressed his appreciation to the initiatives taken by the SWIM TF and shared his views, after consulting the views from the ATM SG Chair, that we should be prudent and with very strong justifications in establishing new contributory bodies under the APANPIRG. It is important for the meeting to consider how best we could make use of the existing contributory bodies. The meeting was also informed that the implementation of FF-ICE by its nature requires a strong and close coordination and cooperation between operational and technical experts where there may not be any single existing contributory body owning such a multi-disciplinary specialists to tackle the issue.

2.22 CNS SG/26 noted that the Third Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (ATMAS TF/3) held from 7 – 10 June 2022 had proposed to set up a half-day seminar to discuss the topics of interest identified by most member States, including FF-ICE, SWIM, system interoperability, etc. In this regard, the ATMAS TF may organise the seminar on FF-ICE in the APAC region in 2023.

2.23 CNS SG/26 reminded that FF-ICE presentation and small demonstration were conducted during the ICAO APAC SWIM Workshop held from 6-7 July 2021. However, considering the existing different levels of understanding on FF-ICE among the APAC States/Administrations, the meeting suggested that the said seminar could be a starting point and relevant

outcomes/recommendations may further be considered to bring the matter forward. Additionally, the meeting considered that it might be pre-mature to decide the said proposal and that a dedicated TF/WG may be considered in the future when such need has been fully deliberated by all relevant stakeholders during the seminar to be held by the ATMAS TF. CNS SG/26 requested the ICAO Secretariat to ensure that SWIM TF and ACSICG experts are involved in the FF-ICE workshop/webinar/seminar to be held by ATMAS TF.

Update on APAC SWIM Implementation Materials

2.24 The Information Management Panel (IMP) delivered to the Secretariat a draft of the Manual on SWM Implementation during its Second meeting. The goal of this Manual is to support, at a global level, the implementation of the draft provision proposed as a new Procedures for Air Navigation Services - Information Management (PANS-IM), which aims to publicize at the **beginning of 2023**. The SWIM TF/6 meeting was invited to review the draft ToC of the APAC SWIM Implementation Guidance Document and requested that SWIM TF may consider to consolidate the work, completed by SWIM TF and aligning with global guidance documents, into the APAC regional guidance material.

2.25 The SWIM TF/6 meeting requested ICAO Secretariat to compile all work done by the SWIM TF and consolidate the first draft of IGD for consideration by Task Leads prior to presenting the draft to SWIM TF. ICAO Secretariat will take the action and inform to SWIM TF in case of difficulties in completion of this task. The SWIM TF/6 meeting agreed to add the catalogue being prepared by Task 11 as a supplement material in the first draft of IGD.

Review of SWIM TF ToR and SWIM TF Work Plan

2.26 Revised SWIM TF Terms of Reference (ToR) was adopted by CNS SG/26 by **Decision CNS SG/26/07 (SWIM TF/06/05) – Revised SWIM TF Terms of Reference**. The ToR is provided in **Appendix B** to this paper. The SWIM TF/6 meeting also reviewed and updated the SWIM TF Work Plan.

States's Update on SWIM Implementation

2.27 India presented the Status and accomplishments of the Proof- of- Concept (POC) based SWIM project undertaken by India. The project scope covers building SWIM technical infrastructure, generating digital datasets for Digital NOTAM, OPMET & flight related ATS messages, which help INDIA to prepare a roadmap for the implementation of ground to ground SWIM infrastructure.

2.28 China presented the research and implementation of the SWIM services registry in China. SWIM TF/6 was informed that the research and demonstration of SWIM service registry has been started by Air Traffic Management Bureau (ATMB) in 2020 and a demonstrative platform of SWIM service registry which is named *SWIM service management center* has been designed and developed in a regional ATMB as experimental unit.

2.29 ROK presented UAM demonstration over SWIM in ROK that was held at Gimpo International Airport, Seoul, in 2021. For the demonstration, SWIM Testbed Configuration was introduced that SWIM-enabled application can receive all information required from the SWIM without directly connect to any ATM systems, and display ATM/UTM information and geo-spatial information in the three-dimensional map.

IATA Aircraft Equipage and Capability Survey – SWIM

2.30 IATA presented preliminary analysis of airline responses received from 22 airlines to the SWIM section of IATA's Aircraft Equipage and Capability Survey for Asia-Pacific and North Asia conducted in Quarter 1 of 2022. The IATA's Aircraft Equipage and Capability Survey specifically asked for aircraft fleet capabilities and operating approvals in the domains of PBCS, PBN, GNSS Augmentations, Mode S and SWIM. The airlines were asked to provide indications on future intentions

where current capabilities were planned to be enhanced by the end of the 2022 calendar year considering the impact of COVID-19. The SWIM TF/6 meeting appreciated IATA's sharing and expressed that it would be useful if IATA would conduct a survey on FF-ICE, as its implementation is well connected with SWIM.

Latest Development of IWXXM

2.31 Hong Kong China presented the publication of the latest version of IWXXM and the further development of IWXXM since 2021. IWXXM Version 2021-2 was published on 15 November 2021 with one of the major changes to adopt a new versioning scheme where IWXXM and individual report packages no longer shared the same version number. After the publication of IWXXM Version 2021-2, WMO Task Team on Aviation Data (TT-AvData) had adopted a more proactive approach to start development of IWXXM schemas based on the requirements in proposed amendment to ICAO Annex 3 endorsed by ICAO MET Panel but yet to be approved by the ICAO ANC. Development work for changes to IWXXM in relation to the proposed Amendment 81 has already been started.

The Seventh Meeting of the Surveillance Implementation Coordination Group (SURICG/7) and The Second Meeting of the Surveillance Study Group (SURSG/2)

Review Report of the Second Meeting of the Surveillance Study Group (SURSG/2)

Surveillance Study Group: Progress Report, Recommendations in Study Report on surveillance sharing, and moving forward

2.32 SURSG/2 provided a progress summary of SURSG tasks since SURSG/1, listed out major recommendations in the Study Report, and proposed way forwards for the recommendations. The details of revised high-level recommendation and moving forward agreed by SURSG/2 was shared.

2.33 SURSG/2 deliberated the necessity for establishment of the Surveillance Sharing in SWIM Trial Implementation Group (S3TIG) to oversee a trial proposed by the recommendation. China, Hong Kong China, IATA, Singapore, and Thailand seconded the proposal, with PCCWG also indicated its interest in participating in the trial. SURICG/7 discussed the proposal for establishment of S3TIG and suggested that it would be more effective to form S3TIG as an ad-hoc group within SURSG in lieu of a contributory body under SURSG.

Surveillance Data Sharing Proof of Concept

2.34 SURSG/2 discussed the Surveillance Data Sharing Proof of Concept (POC) conducted by HKCAD, PCCWG and Frequentis ComSoft. PCCWG shared the outcomes of a POC conducted on 4 March 2022 to demonstrate sharing ADS-B data in a simulated SWIM over CRV environment and the benefits of a Surveillance Central Data Processor (SCDP). PCCWG shared a video to introduce the POC exercise which was presented in SURICG/7.

Implementation of FF-ICE Interoperability using GUF1 in SWIM

2.35 ROK presented its efforts to Implement FF-ICE Interoperability using Globally Unique Flight Identifier (GUF1) in SWIM Environment. The SURSG/2 meeting noted that by introduction of GUF1 to the surveillance data, it will not only solved mismatch problems on co-relation between FPL and surveillance data by Call sign, DoF, departure/arrival aerodrome, but also made the co-relation become simple and reliable. Additionally, ROK shared the detailed method of introducing the GUF1 in the surveillance information domain.

The Sharing of the Software Resource for Benchmarking Radars

2.36 To address the need to access the radar performance among APAC ANSPs for maintenance and evaluation purposes, this paper proposed that each Member State to share the relevant

radar analysis software for the radar benchmark. ROK introduced their radar analysis software “Astecat” developed by Incheon International Airport as one of the cost-free software tools for benchmarking radar performance that is openly shared for APAC States to use with no warranty and minimum maintenance support. The paper introduced the details of benchmarking of their surveillance systems, and their use of software in evaluating SI operation tests in Incheon International Airport. ROK was invited to provide their point of contact to ICAO on sharing their software.

Review APAC Regional Surveillance Strategy

2.37 The ICAO Secretariat presented the last version of the Surveillance Strategy for the APAC Region adopted in 2019 for SURICG/7 review. The SURICG/7 reviewed and revised the Strategy, which was endorsed by CNS SG/26. APANPIRG/33 adopted the **Conclusion APANPIRG/33/11 (CNS SG/26/11 (SURICG/7/3)) - Revised Surveillance Strategy for the APAC Region**.

Revision of Updates to AIGD

2.38 Hong Kong China led the incorporation of materials to update AIGD during the SURICG/7 meeting with the methodologies to measure 1090MHz congestions and mitigating measures raised by Singapore and ICCAIA, and the CPR Reasonableness Test by Japan. SURICG/7 formulated the Draft Conclusion, which was reviewed and adopted by CNS SG/26 as **Conclusion CNS SG/26/12 (SURICG/7/4) - Revised ADS-B Implementation and Operations Guidance Document (AIGD)**. The revised AIGD is available at [ICAO APAC e-document portal](#).

Progress on Data Sharing Projects among States

2.39 SURICG/7 reviewed the updated table on ADS-B Data Sharing Implementation Status which States and Administrations provided their updates during the ad-hoc working group sessions.

Ninth Meeting of the Aeronautical Communication Services Implementation Coordination Group (ACSICG/9) and Ninth and Tenth Meeting of the Common aeRonautical Virtual Private Network Operations Group CRV OG/9 and 10

Ninth Meeting of the Common aeRonautical Virtual Private Network Operations Group (CRV OG/9)

SWIM User Network Requirements analysis

2.40 In CRV OG/9, USA presented an analysis of the network requirements for SWIM users. CRV has been considered as an underlying Internet Protocol (IP) network for SWIM services. The meeting was informed that from the network point of view, SWIM users can be categorized into three different groups: a) SWIM subscribers (can be ANSPs or any entities), b) Global Enterprise Messaging Service (GEMS) providers, and c) ANSP based SWIM providers (and subscribers). USA added that the use of CRV to support SWIM may result in additional bandwidth demands due to the nature of XML based messages. However, CRV can provide a reliable and better secured network compared with the Public Internet.

2.41 The CRV OG/9 meeting agreed that the ICAO Secretariat would present a paper to SWIM TF on behalf of CRV OG to inform about the relevant discussion in CRV OG. It was also agreed that CRV ad-hoc expert Strategy and Design group would join SWIM TF meetings to note important discussions related to CRV and to inform CRV OG about the relevant outcomes.

SWIM Providers joining CRV

2.42 In CRV OG/9, New Zealand presented discussion on SWIM Meteorological providers joining CRV for the delivery of SWIM based Meteorological Data. New Zealand shared the concerns

about whether or not Meteorological Services need to go through the documented process to add a new service to the CRV as a Service Provider. The meeting agreed that the process to join CRV by non-ANSPs such as Meteorological Service providers required detailed deliberations. The meeting agreed that a specialised meeting would be organised to discuss and devise a method for non-aviation service provider's joining process to CRV.

Upgrade/Downgrade/Addition of New Services or Sites in CRV Contract

2.43 The CRV OG/10 meeting held on 18 April 2022 deliberated and reviewed the revised proposal for upgrade/downgrade/addition of new sites and services with reasonable pre-estimate of the anticipated losses suffered by PCCWG and endorsed the proposal to work further for revision of relevant documentation of CRV common package.

Proposal to Extend CRV Contract

2.44 Endorsed by CRV OG/10, ACSICG/9 and CNS SG/26, the APANPIRG/33 adopted the **Conclusion APANPIRG/33/7 - Extension of CRV Contract for one year.**

MPLS/IP Based Inter-Regional Connection

2.45 The Secretariat provided current status of discussion being done for potential interconnection of CRV and REDDIG II and CRV and New PENS, including the final technical proposal for interconnection of CRV and REDDIG II and business models to way forward.

2.46 The ACSICG/9 meeting agreed to form an Ad-Hoc group to discuss potential options for business cases to move forward with the proposal, which comprised of APAC Member States having interregional connections, CRV OG Chairs, CRV and REDDIG II service providers, interested Member States of SAM region, and the ICAO Secretariat under CRV OG. It was finalized that the ICAO Secretariat will coordinate with relevant APAC Member States to nominate focal points for the Ad-Hoc group. The ICAO Secretariat will also coordinate with ICAO SAM Office to get nomination from interested SAM Member States.

Reporting Template on the Monitoring of AFTN/AMHS Traffic Load

2.47 The ACSICG/9 meeting discussed on a draft reporting template on the monitoring of AFTN/AMHS traffic load. Upon discussion, the ACSICG/9 meeting agreed to monitor under different scenarios as follows:

- The CRV OG may monitor Bandwidth Utilization Rate of APAC member states already implemented CRV by adding it into its meeting agenda items. The APAC member states may request PCCWG to share information about Bandwidth Utilization Rate in monthly report and then present it to CRV OG meetings, which resulted into an action item of ACSICG/9.
- For States' non-CRV AMHS connections, after deliberation and considering the multi-facet of data sources, the ICAO Secretariat will consult with experts to propose a common template to report on the monitoring of connection loading, which resulted into an action item of ACSICG/9.
- For States' AFTN-only connections, there is no concern over increased traffic load from XML-based message and thus no such need to monitor the traffic in this regard.

Aeronautical Fixed Service (AFS) Cybersecurity Considerations for Information over CRV

2.1 In ACSICG/9, WP/08 presented some interim security considerations for CRV, including Digital Identity and Network Information Security, prior to International Aviation Trust Framework (IATF) to be implemented in future. The paper further introduced the requirements for IATF Digital Identity concept uses Public Key Infrastructure (PKI) Digital Certificates, Network Information Security which includes the use of IPv6, Domain Name System (DNS), information security, network management and network contingencies, and SWIM interchanges with external entities.

2.2 The ICAO Secretariat shared that the interim measures proposed in the paper is more tangible and implementable comparing high level concepts, which can be considered as a useful reference for the CRV OG Operations Manual. While CRV OG and SWIM TF have their corresponding action items, the Co-Chairs noticed that the XML-based messages may compromise automation systems and it would be necessary to formulate managing plans to address the possible threat in cybersecurity. The ICAO Secretariat suggested to add regular Agenda Item for ACSICG meetings and invite States and Organizations concerned to continue the discussion on improving in the cybersecurity ideas presented in this paper. With CANSO and IATA expressed their interest to contribute to this Agenda Item, the Secretariat will coordinate with interested parties to discuss various tasks under this Agenda Item.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the outcome of the APANPIRG/33 and take any necessary follow-up actions; and
- b) discuss any matters as appropriate.

SWIM TF/7
Attachment A to WP/02

List of Conclusion/Decisions adopted by CNS SG/26 on behalf of APANPIRG on Technical Matters

Conclusion CNS SG/26/03 (ACSICG/09/04) - Revised AFTN/ATSMHS Routing Directory	
What: That, the AFTN/ATSMHS Routing Directory for the APAC Region provided in Appendix B to the report be further updated and distributed to States/Administrations as 29 th Edition.	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: A number of new ATSMHS connections have been established and became operational. Consequential amendments to the AFTN/ATSMHS Routing Directory are required.	Follow-up: <input type="checkbox"/> Required from States
When: 9-Sep-22	Status: Adopted by Subgroup
Who: <input checked="" type="checkbox"/> CNS SG <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

Decision CNS SG/26/04 (SWIM TF/06/01) - The Use of the Internet for MET Information Services in Regional SWIM architecture	
What: That, the use of Internet for meteorological information services will be considered in designing the regional SWIM architecture.	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 support cost-effective and efficient meteorological information services for exchange of less-sensitive meteorological information in SWIM.	Follow-up: <input type="checkbox"/> Required from States
When: 9-Sep-22	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	

Decision CNS SG/26/07 (SWIM TF/06/05) – Revised SWIM TF Terms of Reference	
What: That, the revised SWIM TF Terms of Reference (ToR) as shown in Appendix E 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 SWIM TF/5 and outcomes of Action item 25-1 from CNS SG/25.	Follow-up: <input type="checkbox"/> Required from States
When: 09 September 2022	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/26/09 - Update of Flight Inspection Guidance Material (FIGM)	
What: That, the Edition 3.0 of the Flight Inspection Guidance Material (FIGM) provided 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: 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: 9-Sep-22	Status: Adopted by Subgroup
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 type="checkbox"/> Other: -	

Conclusion CNS SG/26/10 (SURICG/7/1 (DAPs WG/5/1)): Mode S DAPs IGD 4.0	
What: The Mode S DAPs Implementation and Operation Guidance Document Edition 4.0 provided in Appendix G 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 revised draft includes ADS-B DAPs and adds guidance on the measurement of 1030/1090 MHz usage.	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 9-Sep-22	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"/> Other: -	

Conclusion CNS SG/26/12 (SURICG/7/4) - Revised ADS-B Implementation and Operations Guidance Document (AIGD)	
What: That, the revised ADS-B Implementation and Operations Guidance Document (AIGD) provided in Appendix I to the Report, which consolidated all change proposals during SURICG/7, be adopted as Version 15.0.	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/7	Follow-up: <input type="checkbox"/> Required from States
When: 9-Sep-22	Status: Adopted by Subgroup
Who: <input checked="" type="checkbox"/> Subgroup <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG	

Conclusion CNS SG/26/13 (ATMAS TF/3/1) - ATMAS IGD Edition 1.0	
What: The Air Traffic Management Automation System Implementation and Operations Guidance Document Edition 1.0 provided in Appendix J to this Report be adopted	Expected impact: <input type="checkbox"/> Political / Global

List of Conclusions/Decisions adopted by CNS SG/26 on behalf of APANPIRG on Technical Matters

		<input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The revised draft has been added the DMAN function and reviewed/updated with inputs from various States	Follow-up:	<input type="checkbox"/> Required from States
When: 9-Sep-22	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: ATMAS TF		

SWIM TF/7
Attachment B to WP/02

A List of Conclusions adopted by APANPIRG/33 Meeting related to CNS

<p>Conclusion APANPIRG/33/6 (CNS SG/26/01 (ACSICG/09/01 (CRV OG/09/01))): Revised Amendment of the Management Service Agreement for CRV project (RAS14801)</p>	
<p>What: Recognizing that ICAO Technical Cooperation Bureau satisfactorily completed all the defined work items in the initial Management Service Agreement (MSA) and Project Document of RAS14801, that the required payments were settled, and that in end 2016, all the requirements of both parties have been fully completed and closed on record, That,</p> <p>i) all Pioneer States are encouraged to counter-sign the Revised amended Pro Document provided in Appendix A to Agenda Item 3.4;</p> <p>ii) any Pioneer State not countersigning is entitled to get its share of the remaining fund balance back. and</p> <p>iii) a Pioneer State for which a direct CRV connection is not considered feasible in 2017 by the selected vendor is entitled to get its initial contribution in full</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: The initial scope of MSA was completed by ICAO TCB which allowed for a successful evaluation process and selection of a best and final offer; a majority of Pioneer States is willing to use the rest of their initial contribution to continue to support CRV implementation.</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 24-Nov-22</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 type="checkbox"/> Other:</p>	

<p>Conclusion APANPIRG/33/7 (CNS SG/26/02 (ACSICG/09/02 (CRV OG/10/01))): Extension of CRV Contract for one year</p>	
<p>What:</p> <p>a) Recognizing that as per current contract, all authorities shall join the CRV project and sign the relevant Service Contract(s) with PCCWG with the billing start date on or before 31 December 2022 to not impose additional charges by the service provider and based on the survey responses of 2022, many Member States are in process to join CRV which may not be completed by December 2022, it is recommended to extend current CRV contract for one year.</p> <p>b) If agreed to extend, as per amended CRV contract, all authorities shall join the CRV program and sign the relevant Service Contract(s) with PCCWG with the billing start date on or before 31 December 2023 to not impose additional charges by the service provider.</p> <p>c) After the extension, the CRV contract expiry date will be 31 December 2028.</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>

A List of Conclusions adopted by APANPIRG/33 Meeting related to CNS

Why: Several ICAO Member States have requested to extend CRV contract due to COVID-19 pandemic in CRV Implementation webinar held in 2021 and based on the response of the survey done in 2022, many Member States are in process to join CRV which may not be completed by December 2022.	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 24-Nov-22	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 type="checkbox"/> Other:	

Decision APANPIRG/33/8 (CNS SG/26/05 (SWIM TF/06/03)): Harmonization of Timelines for SWIM-related Initiatives	
What: To feedback to the ICAO Air Navigation Commission Technical Panels for a need to harmonize the implementation timelines of SWIM-related initiatives.	Expected impact: <input checked="" type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: There exists different timelines for the implementation of SWIM-related initiatives identified by various ICAO ANC Technical Panels. This creates confusion within States on their corresponding implementation sequences and as to how these different timelines are to be met.	Follow-up: <input type="checkbox"/> Required from States
When: 24-Nov-22	Status: Adopted by PIRG
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input checked="" type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SWIM TF	

Conclusion APANPIRG/33/9 (CNS SG/26/06 (SWIM TF/06/02, SWIM TF/06/04)): The Asia-Pacific SWIM Implementation Timeframe and inclusion of the Asia/Pacific SWIM Implementation in the Asia/Pacific Seamless ANS Plan	
What: 1. To set the timeframe for the implementation of SWIM in the Asia-Pacific region to be between 2024 and 2030, with 2030 being the target timeline for implementation completion. 2. To include SWIM implementation in the next edition of the Asia/Pacific Seamless ANS Plan.	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: This is to set the concrete target implementation of the Asia-Pacific regional SWIM to assist States in harmonizing their implementation plans in order to achieve the seamless information exchange across the region in time for future operations, e.g. FF-ICE. Additionally, to ensure that SWIM, a key building block to achieve the vision outlined in ICAO Doc 9854 Global ATM Operational Concept (GATMOC), is captured in the Asia/Pacific Seamless ANS Plan,	Follow-up: <input checked="" type="checkbox"/> Required from States

A List of Conclusions adopted by APANPIRG/33 Meeting related to CNS

providing an overall framework for Asia/Pacific States to plan their implementations to meet the future performance requirements.	
When: 24-Nov-22	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: SWIM TF	

Conclusion APANPIRG/33/10 (CNS SG/26/08 (SRWG/6/2)): Planning Principle for Aeronautical Frequency Bands of 108-117.975 MHz, 960-1215 MHz and 117.975-137 MHz	
What: That, Doc 9718, Handbook on Radio Frequency Spectrum Requirements for Civil Aviation, Volume II, Second Edition – 2022, is adopted as the planning principle for aeronautical facilities and services operating in the aeronautical frequency bands of 108-117.975 MHz, 960- 1215 MHz and 117.975- 137 MHz in APAC.	Expected impact: <input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To implement the updated ICAO provisions	Follow-up: <input type="checkbox"/> Required from States
When: 24-Nov-22	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 type="checkbox"/> Other: -	

Conclusion APANPIRG/33/11 (CNS SG/26/11 (SURICG/7/3)): Revised Surveillance Strategy for the APAC Region	
What: That, the Revised Surveillance Strategy for the APAC Region provided in Appendix D to Agenda Item 3.4 be adopted.	Expected impact: <input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To reflect the outcome of the latest development in surveillance technology.	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 24-Nov-22	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	

SWIM TF/7
Appendix A to WP/02

Seamless ANS Plan v4.0

With reference to the expected publication of the ICAO PANS-Information Management (PANS-IM) in 2024 and the expected sunset date of the current flight plan format (FPL2012) of 2032 being considered by ICAO ATM RPP, the timeframe for SWIM implementation in Asia-Pacific region was set at between 2024 and 2030. The expectation is that Asia-Pacific States will be SWIM ready by 2030 and the intervening 2 years till the expected sunset date of 2032 of the FPL2012 format can be used to conduct FF-ICE related operational trials. The timeframe **was adopted** by APANPIRG/33 by the **Conclusion APANPIRG/33/ xx** (SWIM TF/06/02) - *The Asia-Pacific SWIM Implementation Timeframe*.

APANPIRG/33 also considered including SWIM implementation as part of Performance Improvement Plan in the next edition the Asia/Pacific Seamless ANS Plan aligned with SWIM implementation timeframe which was adopted by the **Conclusion APANPIRG/33/ xx** (SWIM TF/06/04): *Inclusion of the Asia/Pacific SWIM Implementation in the Asia/Pacific Seamless ANS Plan*.

Therefore, in order to ensure that SWIM, a key building block to achieve the vision outlined in the Global ATM Operational Concept (Doc 9854), is properly captured in the Asia/Pacific Seamless ANS Plan, following SWIM ASBUs are included for the year 2024. The elements required to be added from 2025 would be added in the fifth amendments of the plan in 2025.

Functional Category	Element	Priority
Information	SWIM-B2/1- Information service provision: Requirements for an information service provider to make aviation-related information available as an information service.	2
	SWIM-B2/2- Information service consumption: Requirements for an information service consumer to discover and access aviation-related information provided via information services	2

TERMS OF REFERENCE

SWIM Task Force

Objectives: In order to achieve the SWIM thread as specified in the Aviation System Block Upgrade (ASBU) of the Global Air Navigation Plan (GANP), the Asia/Pacific Seamless ANS Plan objectives, and the air navigation systems that are in compliance with ICAO global standards for the conceptualisation and exchange of aeronautical, flight and meteorological information, the SWIM Task Force will:

- a) Benchmark the various successful implementations of SWIM in States and regions to promote best practices;
- b) Develop and maintain the Asia/Pacific regional roadmap for SWIM implementation, including SWIM technical infrastructure, SWIM governance, SWIM information services;
- c) ~~Define—Propose~~ a high-level Asia/Pacific regional SWIM architecture, the corresponding SWIM technical infrastructure requirements, and the implementation approach to construct such architecture principally over CRV and other IP based networks to ensure interoperability among regional SWIM ~~participants and participants,~~ to support transition for non-SWIM capable entities;
- d) Develop the Asia/Pacific regional SWIM cyber security architecture framework and SWIM security strategy in line with ICAO International Aviation Trust Framework (IATF);
- e) Support APANPIRG WGs/TFs regarding information exchange models and examine if any extension to the existing information exchange models, i.e. AIXM, FIXM, and IWXXM, and/or the new information exchange model(s) are required to support the Asia/Pacific regional operational requirements;
- f) Establish a robust and sustainable governance model to ensure that a common set of policies, rules, and standards for identifying, designing, implementing, discovering, and operating SWIM-enabling components, including SWIM registries, is consistently applied and enforced throughout the Asia/Pacific region;
- g) Develop and define the Asia/Pacific version of the SWIM information service overview specifications and the Asia/Pacific version of data catalogue for information services based on the regional operational needs;
- h) Track and observe SWIM demonstrations and trials within the Asia/Pacific region as well as provide, if required, support for regional SWIM demonstrations;
- i) Encourage and support interested APAC Member States to ~~C~~construct a platform for SWIM services and applications validation and to support the implementation of SWIM services and applications;
- j) Monitor developments by the IMP and escalate the regional issues as required;
- k) Identify, communicate, and liaise with relevant APANPIRG WGs/TFs in regard to SWIM-related activities, including providing support to refine SWIM operational and communications requirements-;
- l) Develop an educational and promotional materials required to support the regional SWIM implementation to ensure cohesiveness among regional SWIM participants;

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SWIM TF/7
Appendix B to WP/02

- m) ~~Assist APAC Member States to implement the Asia/Pacific regional SWIM, as appropriate; Implement the Asia/Pacific regional SWIM;~~ and
- n) Undertake any other approved tasks related to SWIM implementation that may arise in the future.

Composition:

The SWIM TF will consist of experts from ATM, AIM, MET, and CNS from Asia/Pacific States and international organizations such as IATA and ICCAIA.

Conduct of the work:

The task force will conduct its work through web conferences, teleconferences, other electronic means of communications, and Face-to-Face meetings.

Reporting:

The group will report to CNS SG.

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