



ICAO

*International Civil Aviation Organization***THE ELEVENTH MEETING OF SYSTEM WIDE  
INFORMATION MANAGEMENT TASK FORCE  
(SWIM TF/11)***Bangkok, Thailand, 25 – 29 May 2026*

- Agenda Item 3:** Outcomes of relevant meetings on SWIM-related matters
- ICAO APAC CNS and other relevant Meetings

**OUTCOMES OF SWIM TF Task Leads (TLs) MEETINGS AND JOINT CRV OG AD-HOC EXPERT GROUP AND SWIM TF TLS MEETINGS AFTER SWIM TF/10**

(Presented by the Secretariat)

**SUMMARY**

The paper presents outcomes of SWIM TF TLs Meetings and Joint CRV OG Ad hoc Expert Group and SWIM TF TLs Meetings after SWIM TF/10 meeting held in 2025-2026.

**1. INTRODUCTION**

1.1 The Tenth Meeting of the System Wide Information Management Task Force (SWIM TF/10) was held from 20 – 23 May 2025 in the ICAO APAC Regional Office, Bangkok, Thailand. The Meeting was attended by 109 participants from 23 States/Administrations, 2 International Organizations and one industry partner. The SWIM TF/10 meeting report, working papers, information papers, and other resources can be accessed by the following link:

<https://www.icao.int/APAC/meetingdocs?fid=710#block-icao-page-title>

1.2 As an established effective practice in progressing various tasks of the SWIM TF, online Task Leads (TLs) coordination Meetings have been organized from time to time between Task Force Meetings to follow up on the progress of each task more effectively and better understand the regional information exchange requirements to be supported by APAC SWIM as well as the feasible and appropriate approach to establish SWIM over the regional network.

1.3 Additionally, the CRV OG Ad-hoc Group Meeting held on 2 June 2022 discussed the need for combined Meetings of CRV OG and SWIM TF to discuss the expectations of SWIM TF from the CRV network. Since then, the joint quarterly meetings have been held every year.

1.4 This paper shared information about the outcomes of the SWIM TF TLs Meetings and Joint CRV OG Ad hoc Expert Group and SWIM TF TLs Meetings after SWIM TF/10.

**2. DISCUSSION**

**SWIM TF Task Leads coordination Meetings after SWIM TF/10**

2.1 A total of **three (3)** SWIM TF Task Leads coordination meetings were held after SWIM TF/10 to review the outstanding SWIM TF/10 action items, which included relevant SWIM updates such as APAC SWIM implementation roadmap, SIPG and editorial ad-hoc group updates, joint events preparation, SWIM TI-related specifications, etc. The Minutes of the Meetings (MoM) of the three Meetings on **21 August 2025, 17 November 2025** and **3 February 2026** were shared with SWIM TF TLs. The reports are also provided in **Appendix A, Appendix B, and Appendix C.**

**Joint CRV OG Ad hoc Expert Group and SWIM TF TLs Meetings**

2.2 A total of **three (3)** Joint Meetings of the CRV OG expert Ad-hoc group and SWIM TF TLs were conducted on **1-5 September 2025, 20 November 2025** and **5 February 2026**. Out of three meetings, the 1-5 September meeting was an in-person meeting, which was named the **ICAO APAC CRV-SWIM Experts Workshop: Reviewing of CRV II Specifications and ICAO APAC SWIM Architecture.**

2.3 The MoM of joint Meetings conducted using Microsoft Teams is provided in **Appendix D and Appendix E.**

**3. ACTION BY THE MEETING**

3.1 The Meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any matters as appropriate.

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# Minutes of the Meeting of SWIM TF TL Meeting: 21 August 2025 08:00 AM-10:00 AM BKK time

**Meeting Date:** 21/08/2025 08:00 AM

**Location:** Microsoft Teams Meeting

**Participants:**

1. Dr. Amornrat Jirattigalachote	Thailand	Co-Chair, Task 1,4, 7 Lead
2. Ms. Kristin Cropf	USA	Co-Chair
3. Mr. Jeremy Bienkowski	Australia	Task 6 Lead
4. Ms. Gao Honglei	China	Tasks 5 and 8 Lead
5. Mr. David Leow	Singapore	Task 1, 7 Lead
6. Mr. Yukinobu Ryu	Japan	Task 2, 5, 8, 9 Lead
7. Mr. Lu Xiaodong	Japan	Tasks 2, 5, and 8 Lead
8. Mr. Jim Laymon	USA	Task 3 Lead
9. Mr. Saugat Prasai	USA	
10. Mr. Yosuke MORO	Japan	
11. Mr. Shwan Han	ROK	
12. Mr. Wen Zhu	USA	Task 4 lead
13. Dr. Soniya Nibhani	ICAO	SWIM TF Secretary
14. Mr. Zhang De	ICAO	
15. Ms Xu Jian	ICAO	Associate Programme Officer, ANS (CNS) Implementation

## **Notes:**

The meeting was chaired by Dr. Amornrat Jirattigalachote, Strategic Planning Manager (Engineering), Policy and Strategy Management Bureau of AEROTHAI. Ms. Soniya Nibhani, Regional Officer ANS (CNS) Implementation, ICAO Asia and Pacific Regional Office, acted as the meeting secretary.

## **Adoption of agenda:**

The meeting adopted the attached provisional agenda.



Provisional Agenda  
SWIM\_Leadership Me

## **Agenda Item 1:** Welcome & Opening Remarks

- Dr. Amornrat Jirattigalachote and Ms. Kristin welcomed all delegates to the SWIM TF TL Meeting and shared opening remarks with delegates.

## **Agenda Item 2:** SWIM TF Action Items Progress Review

SWIM TF/11  
Appendix A to WP/07

- SDS schema update to include all information service overview metadata fields identified in Doc 10199 PANS-IM – **Task 5 Lead**
  - APAC Common SWIM Information Services
    - Inclusion of reference(s) for each information service in the brief description column – **Task 6 Lead**
    - Development of an explanation for synchronous REQ/REP and asynchronous REQ/REP and guidance for expert groups to identify specific MEP – **SIPG, China, Japan, and ROK**
  - Development of SWIM information services validation process – **China, Japan, and ROK**
  - Update on APAC SWIM Implementation Guidance materials (IGD)
    - Requirements for online repositories of IGD on the ICAO Secure Portal
  - Recommendations on methods for implementing FF-ICE services using web service-based REQ/REP MEP – **China, Japan, and ROK**
  - Indicators to measure SWIM implementation in APAC in accordance with the Delhi Declaration – **SWIM TF Co-Chair & ICAO Secretariat**
- 
- For the SDS schema update to include all information services overview metadata fields identified in Doc 10199 PANS-IM, USA informed that FAA has begun updating the SDS v2.0 schema to align with the Service Description Conceptual Model v3.0 and review related recommendations from the SWIM TF/10 meeting and SDS Comparison Study.
  - It was added that a meeting invite for SIPG Task 7 members has been shared for next week to give an update on the analysis of the schema differences and review the comparison study that was done in May 2025. A thorough study of the SDCM and the version 2 schema will be introduced during the meeting. In addition, there is a plan to make and collect any other changes with an expected timeline to have the schema completed and published by the end of November 2025. It was shared that the objective is to make sure all the metadata that was described in the conceptual document is included in the schema.
  - The Meeting noted that there's a working paper to be presented at the Information Management panel meeting next month, which will have the latest version of the ISO data model. The WP revision is required to make sure the metadata there is also included in the SDS version 2.0 and that they are aligned.
  - It was informed that IMP has asked Singapore to prepare a paper on the SDS journey for APAC. In addition, the USA has been asked to produce an information paper on SDS and some of the recent APAC collaborations. It was agreed that all IMP members in APAC will review the papers and provide their feedback. **ACTION ITEM 1-1**
  - Latest adoption of APAC Common SWIM Information services by CRV OG/29 and proposal to present it in APANPIRG/36 was shared with the Meeting.
  - For inclusion of reference(s) for each information service in the brief description column, the latest status of work was shared, and it was informed that work is ongoing.
  - For the development of an explanation for synchronous REQ/REP and asynchronous REQ/REP, it was discussed that further discussion can be done in the FF-ICE Ad-hoc group meeting planned in December 2025. ROK shared the status of the work for technical explanation and guidance material on the implementation of REQ/REP and timelines as follows:

SWIM TF/11  
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## Overview


- Purpose**
  - This task aims to develop **guidance material** on facilitating a common understanding of the Request/Reply Message Exchange Pattern (MEP). It outlines definition of Request/Reply MEP (including synchronous and asynchronous), data flow of each pattern (i.e., sequence diagram), industrial use-cases, routing mechanisms, deployment strategies (in the aspect of APAC SWIM), and interoperability considerations.
- Deliverable**
  - Request/Reply Message Exchange Pattern Guidance Material (Document)
    - To be submitted to SWIM TF as deliverable of SIPG work
    - After the release of guidance material, further activities could be defined and conducted at the SIPG level like GEMS

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## Timeline

The timeline is a horizontal arrow pointing right, with months 7 through 5 marked. A yellow dot is placed at the start of month 1 (January 2026). Above the arrow, the following activities are listed:

- 7: Define Contents (Review at the monthly meeting)
- 8: Develop Document (Initial authoring led by ROK)
- 9-11: Circular Initial Draft
- 12: Review & Modify Document (Loop)
- 2026 (Yellow dot at start of month 1)
- 1: SIPG Meeting (Review at the 3<sup>rd</sup> SIPG meeting)
- 2-5: Q. Further work is required ?
- 5: SWIM TF (Submit Guidance Material)



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### Contents of Guidance Material (TBD)

1. Introduction
2. Normative References
3. Terms, Definitions & Abbreviations
4. Request/Reply Pattern Definitions
5. Transport & Interface Specifications (e.g., protocol, message encodings)
6. Data-Flow & Interaction Models (Clarifies how data actually moves end-to-end)
7. Routing Mechanisms (e.g., Path Based Routing(PBR), etc)
8. Security & Trust Framework (e.g., X.509, OAuth 2.0, etc)
9. Quality of Service & SLAs (e.g., latency, throughput, availability, monitoring KPIs)
10. Validation & Conformance Testing Methodology
11. Use-Cases in industry
12. Concept of Operations for Request/Reply Pattern in SWIM
13. Use-Cases in SWIM (e.g., Eurocontrol SWIM, FAA SWIM)
14. Deployment Strategy Candidates for APAC SWIM
15. Interoperability & Cross-Border Coordination Consideration  
(Provides conformance profiles for neighbouring (e.g., Eurocontrol) regions)
16. Appendix

- It was requested to present the **drafted explanation for operational people in a simplified and short format**, if possible, in the upcoming FF-ICE Ad-hoc group in December 2025. ROK will prepare and present this draft and share it with the SWIM TF Co-Chair and Singapore before November 2025. **ACTION ITEM 1-2**. David will share the slides presented by Singapore with the ROK. **ACTION ITEM 1-3**
- For the development of the SWIM information services validation process, it was clarified that validation of SWIM information services is based on two levels. First is to consider the high-level evaluation of the information service by a standard process, as presented by the ROK in the last meeting. At the lower level, technical level, to validate the information service, a service definition and detailed specification for each information service are required. The Meeting recalled that the information service definition is being developed in IMP and will take time. Dr Amo suggested not to wait for ISD to develop by IMP but start with one of the standardized processes that was presented by ROK in the last meeting. It was decided that China, Japan and the Republic of Korea will conduct an online meeting and discuss the task's way forward further and present it at the next SWIM TF TL Meeting. **ACTION ITEM 1-4**
- Recalling APANPIRG/35 adopted the FIXM 4.3 version as a standard format to support FF-ICE R/1 and cross-border ATFM operations from Q3 to 2026 in the APAC region by Conclusion APANPIRG/35/4, it was informed that the Regional FIXM v4.3 Extension was endorsed by CNS SG/29 Meeting, which will be adopted by APANPIRG/36.
- The Meeting noted that the team consists of Thailand, Singapore, Hong Kong, and China, is developing the ATFM message template in FIXM format using FIXM 4.3 extension for their own use. It may be presented to the next SWIM TF meeting to propose the FIXM ATFM message template utilizing this extension.
- For requirements for online repositories of IGD on the ICAO Secure Portal, it was requested to share feedback. **ACTION ITEM 1-5**
- The meeting discussed the status of IGD materials on these topics:



**Draft Work Plan for IGD**

<b>Asia/Pacific Regional Document(s)</b>	
<ul style="list-style-type: none"> <li>• Implementation roadmap</li> <li>• Guidance                             <ul style="list-style-type: none"> <li>- SWIM TI specifications</li> <li>- Security framework</li> <li>- Information exchange models</li> <li>- Governance framework</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Registry model</li> <li>- Service specifications</li> <li>etc.</li> </ul> <p><i>APAC FIXM Extension</i></p> <p><i>Candidate Baseline SWIM Discovery Service Standard</i></p> <p><i>APAC Common SWIM Information Services</i></p>

- The meeting recalled two Decisions adopted by CNS SG/28:

**Decision CNS SG/28/03** (*Decision SWIM TF/08/02*) - Candidate Baseline SWIM Discovery Service Standard for APAC

**Decision CNS SG/28/04** (*Decision SWIM TF/09/01*) - APAC SWIM Technical Infrastructure Profiles v1.0

- For recommendations on methods for implementing FF-ICE services using web service-based REQ/REP MEP, it was noted that work is being done, led by the ROK.
- For indicators to measure SWIM implementation in APAC in accordance with the Delhi Declaration, two proposals were discussed:

Indicators for progress of SWIM implementation within the APAC region		
Level of involvement of APAC States/Administrations in SWIM-related demonstrations or trials	The existence of national SWIM activities, SWIM sections, plans or policies, enhancements in ANS infrastructure aimed at meeting SWIM requirements	Detailed indicators at the component level (e.g., IP Network, EMS, Registry, IWXXM/FIXM/AIXM,.....)
<p><b>Approach:</b></p> <ol style="list-style-type: none"> <li>1. Formulate a list of all potential indicators.</li> <li>2. Categorize them into similar types</li> <li>3. Survey to decide potential indicators for APAC</li> </ol> <p><b>Some Examples:</b></p> <ol style="list-style-type: none"> <li>1. The State/Administration is participating in one or more regional/bilateral SWIM events as observer/contributor.</li> <li>2. SWIM is added in the State National Air Navigation Plan or ANS strategic documents, incorporating SWIM or a separate SWIM implementation plan/roadmap document.....</li> </ol>		
<p><b>Value of Indicators:</b></p> <ol style="list-style-type: none"> <li>1. Preparation/Planning</li> <li>2. Under Development/Implementation</li> <li>3. In Operation</li> </ol>		



**Proposed indicators to measure SWIM implementation in APAC**

Delhi's Declaration  
Expediting the implementation of ICAO provisions related to System Wide Information Management (SWIM)

↳ High level → Simple indicator

	Study Phase	Implementation Phase	Operational Phase
Description	<ul style="list-style-type: none"> <li>Participating in SWIM demonstration/technical trial and/or</li> <li>Having a plan, including milestones and timelines, for SWIM implementation</li> </ul>	Implementing one of the following SWIM components <ul style="list-style-type: none"> <li>SWIM TI</li> <li>SWIM information service(s)</li> </ul>	SWIM is in operation
Value	0.25	0.5	1

- It was agreed that indicators will be classified into the *study phase*, *implementation phase* and *operational phase*. More detailed descriptions for each classification will be prepared by Thailand and will be shared with all task Leads for feedback. Once the document is ready, it will be shared with States to provide their feedback through a survey. **ACTION ITEM 1-6**

**Agenda Item 3:** Update on SWIM Implementation Pioneer Ad-hoc Group

- Availability requirements of edge EMS and gateway EMS
- Exploration of Option 2 Internet connection for regional SWIM TI where domestic SWIM traffic operating on edge EMS always needs to be routed through the gateway EMS
- The SIPG lead updated about the test bed setup and related issues and challenges, including CRV connection for testing and trust framework instance incorporation.

**Agenda Item 4:** Update on the Regional Coordination Meeting

- SWIM TF/CRV OG Coordination Meeting
  - Guidance on using the residual bandwidth of the operational CRV for SWIM testing purposes
  - Preparation of the upcoming joint workshop on 1-5 September 2025
- Dr Amo shared key outcomes of the SWIM TF/CRV OG Coordination Meeting held on 13 March 2025.
- It was noted that the Eurocontrol COM chart has incorporated the CRV connection.
- For hosting the sandbox, detailed requirements are being drafted by Thailand. Dr Amo will share the list of requirements with SWIM TF TLs before sharing with CRV OG. **ACTION ITEM 1-7**
- The Guidance on using the residual bandwidth of the operational CRV for SWIM testing purposes will be shared with SWIM TF TLs by the ICAO Secretariat for advance review next week. **ACTION ITEM 1-8**
- The Meeting discussed some issues related to DSCP marking of CRV traffic, which will be presented by Singapore in the joint workshop on 1-5 September 2025. It was suggested that the presentation/paper be prepared in advance with the ICAO Secretary before **27 August 2025**. **ACTION ITEM 1-9**

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- Dr Amo will share details to be discussed from the SWIM perspective in the upcoming joint workshop to incorporate in the Order of Business. **ACTION ITEM 1-10**

**Agenda Item 5:** Updates on the assigned tasks by Task leads/contributors, including progress reports and issues

- **Task 1:** Regional Implementation Philosophy & Roadmap
  - ✓ Task 1 update was provided under SIPG updates.
- **Task 2:** Regional SWIM Infrastructure
  - ✓ Covered under agenda item 2.
- **Task 3:** Security Services
  - ✓ Covered under agenda item 2.
- **Task 4:** Development and Maintenance of Regional Information Exchange Models
  - ✓ Covered under agenda item 2.
- **Task 5:** Task 5: Regional SWIM Governance Framework
  - ✓ Covered under agenda item 2.
- **Task 6:** Information Services
  - ✓ Covered under agenda item 2
- **Task 7:** SWIM Demonstration
  - ✓ No updates.
- **Task 8:** SWIM Services and Application Validation
  - ✓ Covered under agenda item 2.
- **Task 9:** Monitoring of Panels' Work
  - ✓ No updates.
- **Task 10:** Regional Coordination and SWIM Related Information Sharing
  - ✓ Covered under agenda item 2.
- **Task 11:** SWIM Implementation Education and Promotion
  - ✓ No updates.

**Agenda Item 6:** Next Meeting date and any other business

- ✓ The meeting noted that Singapore Aviation Academy is planning to organize a SWIM workshop in March 2026.
- ✓ The Meeting agreed to have the next SWIM TF TL meeting during the week of 17 November 2025. The ICAO Secretariat was requested to share the poll to schedule the next meeting.

**ACTION ITEM 1-11**

# Minutes of the Meeting of SWIM TF TL Meeting: 17 November 2025 08:00 AM-10:00 AM BKK time

**Meeting Date:** 11/17/2025 08:00 AM

**Location:** Microsoft Teams Meeting

**Participants:**

1. Dr. Amornrat Jirattigalachote	Thailand	Co-Chair, Task 1,4, 7 Lead
2. Ms. Kristin Cropf	USA	Co-Chair
3. Mr. Jeremy Bienkowski	Australia	Task 6 Lead
4. Ms. Gao Honglei	China	Tasks 5 and 8 Lead
5. Mr. Marco Kok	Hong Kong China	Task 6 Lead
6. Mr Henry Chan	Hong Kong China	Tasks 2 Lead
7. Mr. David Leow	Singapore	Task 1, 7 Lead
8. Mr. Yukinobu Ryu	Japan	Task 2, 5, 8, 9 Lead
9. 毛呂 洋祐	Japan	
10. Mitsuyuki KOND	Japan	
11. Yosuke MoRO	Japan	
12. Mr. Lu Xiaodong	Japan	Tasks 2, 5, and 8 Lead
13. Abilla Walter D	USA	
14. Mr Justin Prasai	USA	
15. Ms. Soniya Nibhani	ICAO	SWIM TF Secretary
16. Mr. Zhang De	ICAO	Regional Officer, CNS
17. Ms Xu Jian	ICAO	Associate Programme Officer, ANS (CNS) Implementation

## Notes:

The Meeting was chaired by Dr. Amornrat Jirattigalachote, Expert (Director Level), Aeronautical Radio of Thailand Ltd. (AEROTHAI). Ms. Soniya Nibhani, Regional Officer ANS (CNS) Implementation, ICAO Asia and Pacific Regional Office, acted as the Meeting secretary.

## **Adoption of agenda:**

The Meeting adopted the attached provisional agenda.



Provisional Agenda  
SWIM\_Leadership Me

## **Agenda Item 1: Welcome & Opening Remarks**

- Dr. Amornrat Jirattigalachote welcomed all Task Leads to the Meeting.

**Agenda Item 2:** (Outstanding) SWIM TF Action Items Review

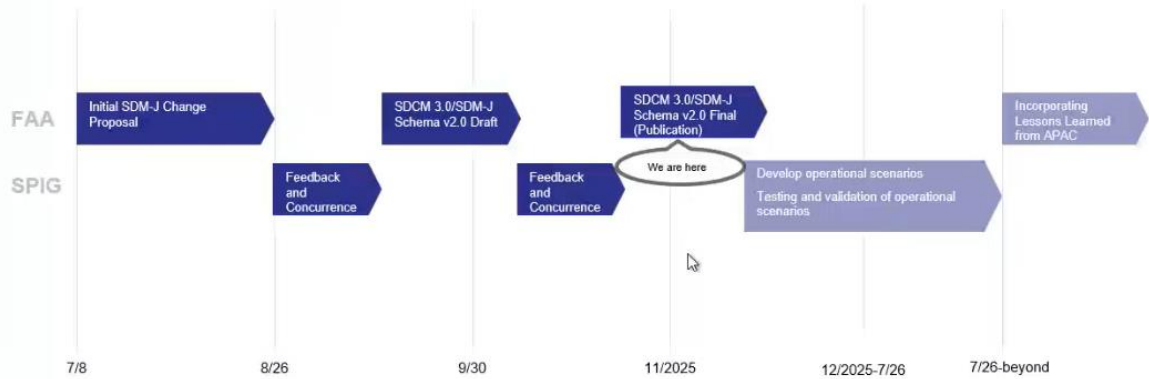
- SDS schema update
  - Finalization of proposed APAC Common SWIM Information Services (including Action Item 10-6)
  - Clarification on APAC Common SWIM Surveillance Information Services regarding the use of ASTERIX Cat 21+FPL as information exchange model (SURSG Chair)
  - Tentative timelines for surveillance data sharing exchange model (SURSG Chair)
  - Feedback on Guidance Materials for the sharing of surveillance data in SWIM - SURSG/5 (23-24 March 2026)
  - Update on development of explanation for synchronous REQ/REP and asynchronous REQ/REP (to be shared at FF-ICE/3 by ROK)
  - Update on APAC SWIM Implementation Guidance materials (IGD) (focusing on Action Item 10-8 and 10-28)
- The Meeting recalled that *Draft Decision CNS SG/28/02 (Decision SWIM TF/08/01)- Information Management Panel consider the adoption of SWIM Discovery Service as a Global Standard for Globally Interoperable Service Discovery* was adopted by APAPIRG/35 as **Decision APANPIRG/35/6**.
  - FAA shared an update about progress on Action item 10-25 about SDS schema update to include all information service overview metadata fields identified in Doc 10199 PANS-IM. It was noted that all feedback is collected and the SDS schema is ready to be released by following the process as follows:

## SDS v2.0 Schema Update

- Performed Gap Analysis:**
  - ROK, Comparison of SWIM Discovery Service (SDS) Implementation Specification between v1.0 and v2.0, SWIM T/F 10 – WP 21
  - IMP SWIM Registry Interoperability Job Card, Proposed Amendment to the Manual on SWIM Implementation (Doc 10203) to Support Registry Interoperability
  - PANS-IM Doc 10199
- Updated both SDM-J and SDCM with any missing information based on Information Service Overview**
- Feedback consolidation**
  - Established working sessions and socialize draft schema to collect feedback
  - Finalized schema with gap analysis and working group feedback
  - Future versions of SDS spec will be iteratively released per pertinent updates to PANS-IM
- Schema Release**
  - Targeting [schema release week of November 24, 2025](#); will be published in [discovery.swim.aero](#) site
  - Stakeholders will also be notified via email upon publication.

- The Meeting noted that the draft schema will be shared with all Task Leads and SIPG for additional feedback. **ACTION ITEM 2-1**
- Timelines for further action for the SDS schema were shared as follows:

# High Level Timeline



- FAA requested Meeting consideration for the additional topic “Authentication” in SDS:

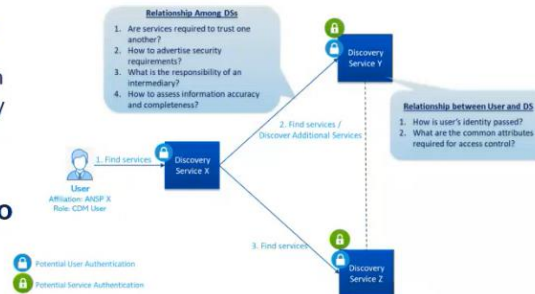
## Other considerations: Authentication

### Authentication not addressed in SDS 1.0

- Initial focus on functional aspect of service discovery
- Different approaches to user authentication
- Joint FAA/KAC WP at SWIM TF/5 “Security and Trust in the Context of SWIM Service Discovery”\*

### API Gateway as an opportunity to address authentication issues

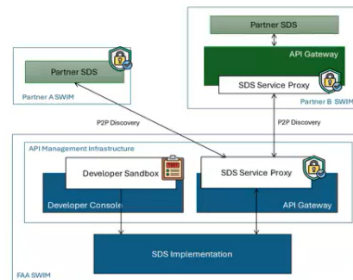
- Introduced in “Guidance Materials for Request and Reply Message Exchange Pattern in Asia/Pacific SWIM”



## Authentication in SDS: Key Questions

### Key Questions

- Should SDS address authentication directly or should it be delegated to the API gateway?
- Should SDS recommend specific authentication methods or specify general authentication requirements?
  - Service Level: mTLS
  - User Level: ODIC, OAuth2, SAML
  - Message Level: HTTP Message Signature
- Possible Joint paper on API gateways and SDS authentication at TF/11?



- It was noted that the idea of using the API gateway was initiated by the Republic of Korea, and the ROK is working closely with the USA on this topic.
- The Meeting was informed about the draft decision related to the publication of APAC common SWIM information services endorsement by the CNS SG/29 Meeting, and that it will be shared with APANPIRG/36 next week for adoption.
- For an update on the action items 10-6 and 10-8, updates were shared as follows for the way forward:

## Task 6 Information Services

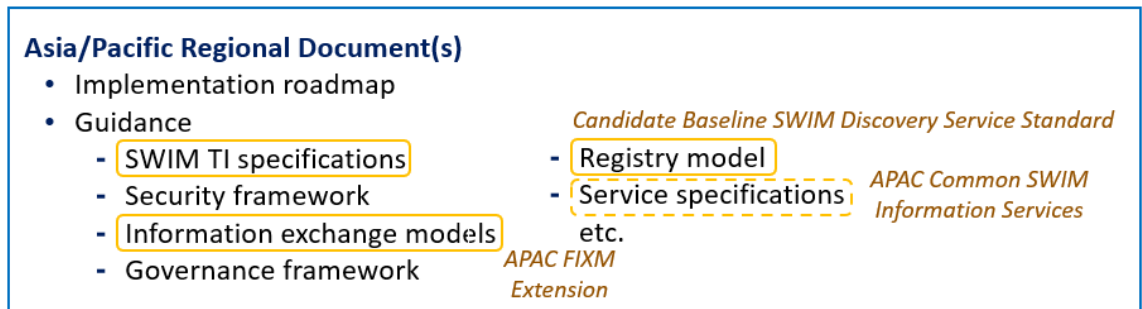
- **Work in progress**
  - Draft the Second Edition of the table of “Business Functionality of APAC Common SWIM Information Services” based on the comments received from SWIM TF/10
    - Reference: to be included (where available) within the “brief description” column
    - To consider the proposal to replace “Priority” field by “Applicability” and “Desired Implementation Timeframe”
    - Better consistency in approach to level of detail, message exchange pattern and granularity of business functionality
  - Draft short guidance material once table updates are mature (not necessarily finalised) as a reference for Expert Groups providing further input
  - For TF Leads meeting - seek guidance on whether we can finalise table update and guidance material to send to Expert Groups early in new year ahead of TF/11 (by March 2026)
    - Question - does the TF (or leads) need to ratify any changes to the table / guidance material before we send out to expert groups for additional input?
- **Work in progress**
  - WPs targeted for TF/11 for Task 6
    - Update to table (V1.x) of business functionalities including links to relevant source documents
    - Guidance Material (with a recommendation that Expert Groups regularly review the Business Functionalities each time they meet)

- It was noted that other expert groups are working on revising the current common information services, which will be presented in the next SWIM TF Meeting.
- The Meeting agreed that Task 6 will first create a guidance document based on the current APAC common SWIM information Services template, rather than discussing potential additional changes **before the end of December 2025**. **ACTION ITEM 2-2**
- Henry provided clarification on APAC Common SWIM Surveillance Information Services regarding the use of ASTERIX Cat 21+FPL as an information exchange model and Tentative timelines for the surveillance data sharing exchange model requested by SWIM TF in the past. It

was suggested that the SURSG study report can be added as a reference to surveillance information services.

- SWIM experts were requested to provide comments on Guidance Materials for the sharing of surveillance data in SWIM.
- The Meeting was requested to review the “R-R MEP Guidance document” shared by ROK and provide comments before the FF-ICE ad-hoc group Meeting in December 2025.
- The Meeting discussed IGD materials on these topics:

### Draft Work Plan for IGD



- Regarding action item 10-29, preparation of the Governance Framework chapter for inclusion in the regional SWIM IGD by Japan, the Meeting noted that work is in progress.
- Regarding action item 10-30, the work is in progress by Task 5.
- Regarding action item 10-20 related to TMC, NZ requested additional clarification from Malaysia. It was agreed that NZ will discuss it with Malaysia, and the ICAO Secretariat will request Malaysia to lead the drafting of this chapter. **ACTION ITEM 2-3**

#### Agenda Item 3: Update on SWIM Implementation Pioneer Ad-hoc Group

- The Meeting noted the key updates from SIPG about different tasks.

#### Agenda Item 4: Update on the Regional Coordination Meeting

- SWIM TF/CRV OG Coordination Meeting

- Dr Amo shared key outcomes of the *ICAO APAC CRV-SWIM Experts Workshop: Reviewing of CRV II Specifications and ICAO APAC SWIM Architecture* held from 1 – 5 September 2025.

#### Agenda Item 5: Updates on the assigned tasks by Task leads/contributors, including progress reports and issues

- **Task 1:** Regional Implementation Philosophy & Roadmap

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- ✓ Task 1 update was provided under SIPG updates.
- **Task 2: Regional SWIM Infrastructure**
  - ✓ The update was provided under SIPG updates.
- **Task 3: Security Services**
  - ✓ The Meeting was informed that the ANSIA TF/1 Meeting will be held from 28-30 Jan 2026. One of the topics for discussion will be the relationship between the Trust Framework Instance (TFI) and the SWIM implementation. Japan will present a paper on TFI work to be presented in IMP with ANSIA TF/1. **ACTION ITEM 2-4**
- **Task 4: Development and Maintenance of Regional Information Exchange Models**
  - ✓ FIXM 4.3 extension will be reviewed by APANPIRG/36.
  - ✓ ATFM SG is developing the message template. Once it is agreed by ATFM SG, it will be presented to the SWIM TF next year.
- **Task 5: Task 5: Regional SWIM Governance Framework**
  - ✓ Already updated under agenda item 2.
- **Task 6: Information Services**
  - ✓ Already updated under agenda item 2.
- **Task 7: SWIM Demonstration**
  - ✓ The Meeting noted the need to review the task structure in the next SWIM TF Meeting, as this task may not be required now, as SWIM is under construction. **ACTION ITEM 2-5**
- **Task 8: SWIM Services and Application Validation**
  - ✓ SWIM TF/10 agreed on the criteria for SWIM service validation, which is in progress within SIPG work by China, Japan and ROK.
- **Task 9: Monitoring of Panels' Work**
  - ✓ The Meeting noted key updates from the IMP Meeting as follows:

## ICAO IMP/WG-13 Meeting Overview

### Date & Venue:

September 15–19, 2025, ICAO HQ, Montreal, Canada

### Participants:

51 members from ICAO, States and industry (ICCAIA, IATA, CANSO)

### Purpose:

Mid-term review of Job Cards and SARPs amendments in preparation for **IMP/4 (April 2026)**

### Key highlights:

- ✓ ANC approved all Job Card revisions from IMP/3
- ✓ **NOTAM modernization (IMP.007.03)** priority raised to “High”
- ✓ AIS Manual (Doc 8126) update:
  - New Chapter 4 on Digital Aeronautical Information Products to be published by end of 2025
- ✓ ICAO considering **Digitalization Symposium in 2027**

## Major Discussion Points & Outcomes

### 1. Amendments to Annex 15 & PANS-IM

- ✓ Registry interoperability and security framework clarified
- ✓ Added fields “*Use limitation*” in Information Service Overview & Information Service Definition

### 2. NOTAM & DORIS Concept

- ✓ Strong push for **Digital Operational Reporting Information Service (DORIS)**
- ✓ Phased approach agreed for replacing NOTAM/AIP SUP
  - Timeline: IMP/4 to define steps; IMP/5 to finalize SARPs changes

### 3. Aeronautical Charts

- ✓ Transition to **on-demand electronic chart portrayal services**
- ✓ Review Annex 4 for digital datasets and removal of low-use charts

### 4. SWIM & Governance

- ✓ Progress on SWIM registry interoperability and SDS adoption (as raised from our region)
- ✓ Governance enhancements: Data protection principles will be added to SWIM Manual

### Concerns & Next Steps:

- ✓ Delay in AIM-related Job Cards due to resource shortages
- ✓ Global SWIM implementation still slow; FF-ICE adoption seen as key driver
- ✓ IMP4 – 20 to 24 April 2026, Montreal (The revision of the PANS-IM and SWIM Manual is scheduled for 2028.)

- **Task 10:** Regional Coordination and SWIM Related Information Sharing

- ✓ No updates.

- **Task 11:** SWIM Implementation Education and Promotion

- ✓ The Task 11 lead position is open for nomination. The Meeting was requested to nominate candidates if possible.

### Agenda Item 7: Next Meeting date and any other business

- ✓ The preparation of SWIM indicators is in progress, and it will be circulated to Task Leads by the end of 2025.
- ✓ The Meeting agreed to have the next SWIM TF TL Meeting during the week of 2 February 2026. The ICAO Secretariat was requested to share the poll to schedule the next Meeting.  
**ACTION ITEM 2-6**

# Minutes of the Meeting of SWIM TF TL Meeting: 3 February 2026 08:00 AM-10:00 AM BKK time

**Meeting Date:** 02/03/2026 08:00 AM

**Location:** Microsoft Teams Meeting

**Participants:**

1. Dr. Amornrat Jirattigalachote	Thailand	Co-Chair, Task 1,4, 7 Lead
2. Mr. Jeremy Bienkowski	Australia	Task 6 Lead
3. Mr. Marco Kok	Hong Kong China	Task 6 Lead
4. Mr Henry Chan	Hong Kong China	Tasks 2 Lead
5. Mr. David Leow	Singapore	Task 1, 7 Lead
6. Mr. Yukinobu Ryu	Japan	Task 2, 5, 8, 9 Lead
7. 毛呂 洋祐	Japan	
8. Mitsuyuki KOND	Japan	
9. Yosuke MoRO	Japan	Task 2, 5, 8, and 9 Lead
10. Mr. Lu Xiaodong	Japan	Tasks 2, 5, and 8 Lead
11. Mr. Sehwan Han	ROK	
12. Abilla Walter D	USA	
13. Mr Justin Prasai	USA	
14. Mr. Soon Nam	USA	
15. Ms. Soniya Nibhani	ICAO	SWIM TF Secretary
16. Mr. Zhang De	ICAO	Regional Officer, CNS
17. Ms Xu Jian	ICAO	Associate Programme Officer, ANS (CNS) Implementation

## Notes:

The Meeting was chaired by Dr. Amornrat Jirattigalachote, Expert (Director Level), Aeronautical Radio of Thailand Ltd. (AEROTHAI). Dr. Soniya Nibhani, Regional Officer ANS (CNS) Implementation, ICAO APAC Office, acted as the Meeting secretary. The presentation material is provided in **Appendix A**.

## **Adoption of agenda:**

The Meeting adopted the following provisional agenda.



Provisional Agenda  
SWIM\_Leadership Me

## **Agenda Item 1: Welcome & Opening Remarks**

- Dr. Amornrat Jirattigalachote welcomed all Task Leads to the Meeting.

**Agenda Item 2: APANPIRG/36 Outcomes**

- The Meeting noted that for Decision APANPIRG/35/6: *IMP consider adoption of SDS as a global standard for globally interoperable service discovery*, the commission has referred the information to IMP for consideration. In addition, the commission has advised ICAO HQ to develop a strategy to support SWIM implementation at the regional and national levels, while facilitating a harmonized approach across all regions.
- The Meeting noted about adoption of SWIM TF/10 proposed Conclusion/Decision by APANPIRG/36- Conclusion APANPIRG/36/11- Adoption of APAC Common SWIM Information Services v1.0 and Conclusion APANPIRG/36/12- Asia/Pacific Regional FIXM version 4.3 Extension.

**Agenda Item 3: ANSIA TF/1 Outcomes**

- The Meeting noted the following three work packages formulated by ANSIA TF/1 and their plan for the way forward:
  - a. Scoping the regional trust framework
  - b. Developing PKI and governance arrangements
  - c. Selecting use cases of regional interest
- It was informed that each of these work packages needs a Statement of Work (SOW) to be elaborated with a scope statement, associated tasks, expected deliverables and proposed timelines. The Meeting noted about following volunteer States to participate in each work package

SN	Work Package	Volunteer States	Work Package Lead
1	Scoping the regional trust framework	China, Fiji, India, Japan, Malaysia, Philippines, Singapore, Thailand, Tonga, and United States	Singapore (Tentative, to be confirmed)
2	Developing PKI and governance arrangements	Fiji, India, Japan, Philippines, Singapore, Thailand, Tonga, and United States	United States
3	Selecting use cases of regional interest	Fiji, India, Japan, Philippines, Singapore, Thailand, Tonga, and United States	India

- It was noted that SIPG Task 6 is also working on a similar topic. Malaysia is leading the work to establish a PKI infrastructure for the SIPG SWIM prototype. It was noted that this work was carried out by SIPG, as ANSIA TF did not exist at that time. It was also recalled that SIPG agreed in Task 6 to start with a self-signed certificate and eventually set up a PKI infrastructure. However, Malaysia is not participating in Work Package 2 of ANSIA TF. It was agreed that the SIPG lead will inform the Malaysia Task 6 members to contact the Work Package 2 lead (Mr Robert Segers, [robert.segers@faa.gov](mailto:robert.segers@faa.gov)) to contribute to Work Package 2. It was noted that ANSIA TF is currently

- developing the SOW, and Malaysia's inputs may be valuable to add additional details, including the need for intercoordination with other groups such as SWIM TF/SIPG. **ACTION ITEM 3-1**
- It was expected that ICAO APAC SWIM TI may be the first Trust Framework Instance Prototype that ANSIA TF plans to build. It was noted that SIPG can continue working on task 6 and share its experience with the ANSIA TF.

**Agenda Item 4:** (Outstanding) SWIM TF Action Items Review

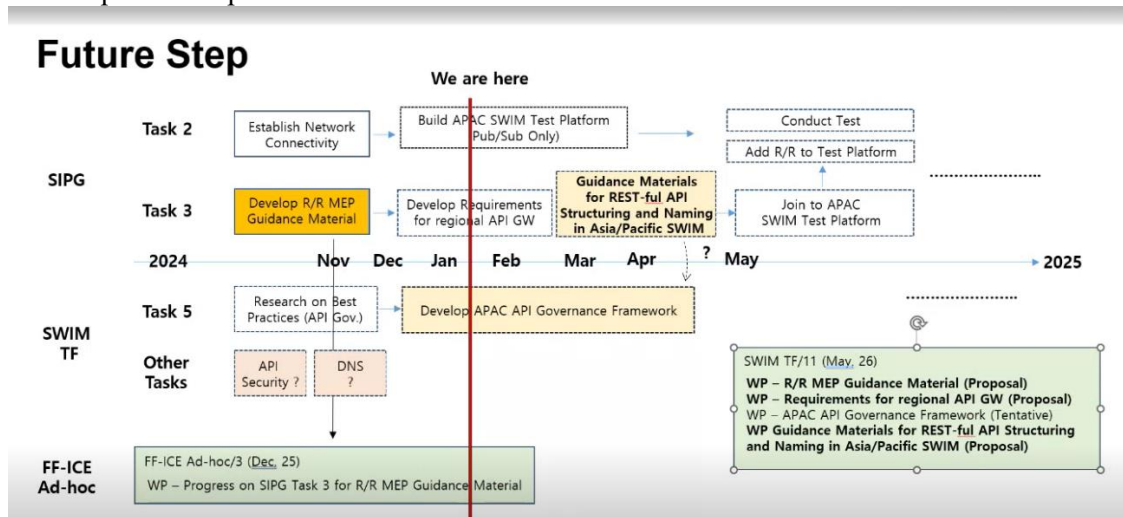
- SDS schema update
  - Finalization of proposed APAC Common SWIM Information Services (including Action Item 10-6)
  - Guidance Material for Business Functionality of APAC Common SWIM Information Services
  - Feedback on Guidance Materials for the sharing of surveillance data in SWIM - SURSG/5 (23-24 March 2026)
  - Update on development of explanation for synchronous REQ/REP and asynchronous REQ/REP (shared with FF-ICE/3 by ROK)
  - Update on APAC SWIM Implementation Guidance materials (IGD) (focusing on Action Item 10-8 and 10-28)
  - Update on APAC SWIM Indicators
- FAA shared that the SDCM version 3 and SDM version 2 schemas were uploaded on the <https://discovery.swim.aero/> website. There are no significant updates after November 2025. The Meeting was requested to share any feedback with the FAA.
  - It was noted that IMP is defining the SWIM Information Services Description (ISD). Once it is ready, the APAC common SWIM Information services can be mapped to them.
  - Task 6 presented a brief about Guidance Material for Business Functionality of APAC Common SWIM Information Services and shared a plan for related papers in SWIM TF/11:

## Task 6 Information Services

- WPs targeted for TF/11 for Task 6
  - WP: Update to table (*Draft Second Version*) of business functionalities including links to relevant source documents
  - WP: Guidance Material (with a recommendation that Expert Groups regularly review/update the Business Functionalities each time they meet)

SWIM TF/11  
Appendix C to WP/07

- It was agreed that all Task Leads will review the GM and share their feedback before **17 February 2026** by sending an email to Jeremy and Marco with a copy to all other task leads. **ACTION ITEM 3-2**
- Once all feedbacks are compiled, Task 6 leads will share the draft WP with ICAO Secretariat for sharing it with FF-ICE/4, SURSG/5, SURICG/11, MET IE WG/24, AAITF/21, APSAR WG/11, ATFM and A-CDM/SG/16 before the **end of February 2026**. **ACTION ITEM 3-3**
- It was requested that the Task 6 leads present the paper at the expert group Meeting. ICAO Secretariat will provide support to join the Meeting online, if possible, by the Task 6 leads if they are unable to participate in person. **ACTION ITEM 3-4**
- Henry shared about feedback received for *Guidance Materials for the sharing of surveillance data in SWIM* and requested that all task leads provide further comments, if any, before the **end of February 2026**. **ACTION ITEM 3-5**
- Soniya will create a channel for SWIM TF TLs and upload both GMs for TLs editing. **ACTION ITEM 3-6**
- The Meeting noted that ROK presented synchronous asynchronous request reply material with FF-ICE/3 in December 2025. FF-ICE/3 agreed to provide feedback on the business processes of each FF-ICE service by 28 February 2026 and requested that SWIM TF provide a technical solution for the identified business process.
- ROK provided updates as follows:



- It was noted that the ROK is preparing two GMs. 1. GM for REST-ful API structuring and naming for APAC SWIM and 2. GM for the request and reply message exchange pattern in APAC SWIM. It also informed about four papers planned for the SWIM TF/11 Meeting.
- The Meeting noted updates on Action Item 9-3 for evaluating FIXM v4.3’s suitability to support ATFM, A-CDM, and integrated ATFM/A-CDM operations.
- Further action taken by ICAO Secretariat for Conclusion APANPIRG/36/12 Asia/Pacific FIXM version 4.3 Extension was shared with the Meeting.
- For formulating *SWIM Implementation Indicators for APAC* for measuring SWIM implementation commitment as per the Delhi Declaration for 2025 – 2026, in a simplified categorization approach Meeting noted the following proposal of three categories with associated KPIs:
  - **In preparation/planning**
    - ✓ Readiness of implementation plan
    - ✓ Gap analysis: Determine required data transformation/preparation to standardized information exchange models

SWIM TF/11  
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- ✓ Stakeholder mapping: Identify information providers and consumers
- ✓ Service identification: Decide on and prioritize information services to be implemented
- ✓ TI design: Decide on SWIM TI architecture
- ✓ Governance framework design: Draft SWIM governance and policy framework
- **Under development/implementation**
  - ✓ Engineering buildup and testing
  - ✓ Data preparation: Transforming/preparing data in standardized information exchange models
  - ✓ Information services buildup:
    - ✓ Developing and implementing information services
    - ✓ Building (initial) service registry, if deemed necessary
  - ✓ TI buildup: Developing and implementing SWIM TI
  - ✓ Testing & validation
  - ✓ Governance establishment
- **In operation**
  - ✓ Live SWIM operation
  - ✓ Live data exchange: Real-time information exchange in standardized information exchange models through information services
  - ✓ Service discovery: Information services discoverable
  - ✓ Governance execution
  - ✓ Tracking Service Level Agreement(s)
  - ✓ Monitoring performance through Quality of Service (QoS) metrics
  - ✓ Information service lifecycle management
- It was agreed that all Task Leads will review the proposed indicators and share their feedback on the proposed indicators **by 17 February 2026. ACTION ITEM 3-7**
- Meanwhile, descriptions for each KPI will be prepared, and a WP will be presented in the SWIM TF/11 Meeting. **ACTION ITEM 3-8**

**Agenda Item 5:** Update on SWIM Implementation Pioneer Ad-hoc Group

- The Meeting noted the key updates from SIPG about different tasks and the delay SIPG is facing.

**Agenda Item 6:** Update on the Regional Coordination Meeting

- SWIM TF/CRV OG Coordination Meeting

- Dr Amo shared key outcomes of the last Meeting and reminded about the upcoming Meeting on 5 February 2026.

**Agenda Item 7:** Updates on the assigned tasks by Task leads/contributors, including progress reports and issues

- **Task 1:** Regional Implementation Philosophy & Roadmap
  - ✓ Already covered.
- **Task 2:** Regional SWIM Infrastructure
  - ✓ Already covered.

- **Task 3: Security Services**
  - ✓ Already covered
- **Task 4: Development and Maintenance of Regional Information Exchange Models**
  - ✓ Already covered.
- **Task 5: Task 5: Regional SWIM Governance Framework**
  - ✓ Already covered.
- **Task 6: Information Services**
  - ✓ Already covered.
- **Task 7: SWIM Demonstration**
- **Task 8: SWIM Services and Application Validation**
  - ✓ Already covered.
- **Task 9: Monitoring of Panels' Work**
  - ✓ The Meeting noted key updates from the IMP governance working group Meeting held in Bangkok in January 2026.
- **Task 10: Regional Coordination and SWIM Related Information Sharing**
  - ✓ No updates.
- **Task 11: SWIM Implementation Education and Promotion**
  - ✓ No updates.

**Agenda Item 7: Next Meeting date and any other business**

- The Meeting was informed about the SWIM Training cum Workshop planned for 3 days in Viet Nam in the week of 24 August 2026. The proposed Topics to be covered were as follows:
  - ✓ SWIM as a paradigm shift: Why and how?
  - ✓ SWIM components: Information, Information Service (& Registry), TI, Governance
  - ✓ ICAO documents related to SWIM
  - ✓ SWIM ASBUs modules in GANP and their role as enablers for other ASBUs
  - ✓ Journey of SWIM TF
  - ✓ Building Asia/Pacific Regional SWIM TI Prototype – SIPG
  - ✓ How to develop SWIM use cases with examples?
  - ✓ SWIM and FF-ICE/R1

SWIM TF/11  
Appendix C to WP/07

- ✓ Sharing of States' journey for SWIM Implementation
- The Meeting requested SWIM TF TLs to provide comments on the topic and share training materials. **ACTION ITEM 3-9**
- Singapore agreed to prepare materials on ICAO documents related to SWIM. **ACTION ITEM 3-10**
- The Meeting agreed to have the next SWIM TF TL Meeting during the week of 28 September, except 29 September, when SIPG is planned. The ICAO Secretariat was requested to share the poll to schedule the next Meeting. **ACTION ITEM 3-11**

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads  
20 November 2025, Video Tele-Conference (VTC)

## Minutes of the Joint Meeting of CRV OG Experts and SWIM TF TLs: 20 November 2025 08:45 AM-10:00 AM BKK Time

**Meeting Date:** 11/20/2025 08:00 AM

**Location:** Microsoft Teams Meeting

### Attendance:

1. Dr. Amornrat Jirattigalachote [amornrat.ji@aerothai.co.th](mailto:amornrat.ji@aerothai.co.th)
2. Mr. Vaughan Hickford [vaughan.hickford@airways.co.nz](mailto:vaughan.hickford@airways.co.nz)
3. Mr. Kelepi Dainaki [KelepiD@fijiairports.com.fj](mailto:KelepiD@fijiairports.com.fj)
4. Benoit Reder [benoit.reder@aviation-civile.gouv.fr](mailto:benoit.reder@aviation-civile.gouv.fr)
5. Mr. David Leow [David\\_LEOW@caas.gov.sg](mailto:David_LEOW@caas.gov.sg)
6. Ms. Huang Zheng [huangzheng@catc.net.cn](mailto:huangzheng@catc.net.cn)
7. Ms. Gao Honglei [gaohonglei@atmb.net.cn](mailto:gaohonglei@atmb.net.cn)
8. Xuemeng Wang ADCC
9. Mr. Henry Chan [hhlchan@cad.gov.hk](mailto:hhlchan@cad.gov.hk)
10. Mr. Wallace Ng
11. Mr. Marco Kok [mhkok@hko.gov.hk](mailto:mhkok@hko.gov.hk)
12. Mr. LU Xiaodong [luxd@mpat.go.jp](mailto:luxd@mpat.go.jp)
13. 牧 俊太 [maki-s46yc@mlit.go.jp](mailto:maki-s46yc@mlit.go.jp)
14. JRANSA 豊福 直人 [jransa.msbs-002@jransaoffice.onmicrosoft.com](mailto:jransa.msbs-002@jransaoffice.onmicrosoft.com)
15. Mr. Fumio Tagawa (JRANSA) [jransa.msbs-037@jransaoffice.onmicrosoft.com](mailto:jransa.msbs-037@jransaoffice.onmicrosoft.com)
16. 毛呂 洋祐 [moro-y02vf@mlit.go.jp](mailto:moro-y02vf@mlit.go.jp)
17. Mr. Yosuke MORO, JCAB
18. Ms. Li Ying (CAAS)
19. Mr. Alex (CAAS)
20. Ms. Simon Lau
21. Mr. Hoang Tran (FAA) [Hoang.Tran@faa.gov](mailto:Hoang.Tran@faa.gov)
22. Mr. O'Neill, Al (FAA) [Al.O'Neill@faa.gov](mailto:Al.O'Neill@faa.gov)
23. Mr. Bouttaphanh, Vet (FAA) [vet.bouttaphanh@faa.gov](mailto:vet.bouttaphanh@faa.gov)
24. Mr. Shayne Campbell (FAA) [Shayne.A.Campbell@faa.gov](mailto:Shayne.A.Campbell@faa.gov)
25. Mr. Will Turner (FAA) [Will.CTR.Turner@faa.gov](mailto:Will.CTR.Turner@faa.gov)
26. Dr. Soniya Nibhani, ICAO [snibhani@icao.int](mailto:snibhani@icao.int)
27. Ms. Xu Jian, ICAO [jixu@icao.int](mailto:jixu@icao.int)

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Appendix D to WP/07

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads  
20 November 2025, Video Tele-Conference (VTC)

**Notes:**

Mr. Vaughan Hickford, CRV OG Co-Chair (Asia), moderated the Meeting.

**Agenda Item 1: Welcome & Opening Remarks**

1. Mr. Vaughan Hickford, CRV OG Co-Chair (Asia) and Dr. Amornrat Jirattigalachote, SWIM TF Co-Chair, welcomed all delegates and shared opening remarks.
2. The presentation used to moderate the Meeting is attached herewith for detailed information:



SWIM and CRV Joint  
Meeting\_20 Nov 2025

**Agenda Item 2: Outcomes of CRV OG/14**

1. Vaughan shared key outcomes of the *CRV OG/14* held in Tokyo, Japan, from 28-31 October 2025, along with the latest status of the CRV contract management process. The detailed process adopted by CRV OG/14 to decide the future of CRV was shared in detail. The Meeting noted that the following formula was used for making this key decision:  
  
CRV pre-RFI score > CRV post-RFI score → Extension of current CRV contract for 5 years  
CRV pre-RFI score < CRV post-RFI score → CRV II Request for Proposal (RFP) Process
2. The Meeting noted that the following draft conclusion has been drafted for extension of the current contract for 5 years with updated legal, commercial, financial and technical requirements and endorsed by ACSICG/12 and CNS SG/29 meeting for APANPIRG/36 adoption.

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MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads  
20 November 2025, Video Tele-Conference (VTC)

<b>Draft Conclusion CRV OG/14/01: Decision of CRV II Contract Management Process</b>	
<p>What: Following the procurement process formulated by CRV OG to choose one of the two options for APAC States/Administrations for the CRV II contract management process, i.e., <i>current CRV contract extension vs initiate the CRV II RFP process</i>:</p> <p>a) States/Administrations agree to extend the current CRV contract for <b>5 years</b>, which will be referred to as the <b>CRV II Network</b>. After extension, the CRV II contract date would be from 1 January 2029 with expiry on <b>31 December 2033</b></p> <p>b) The contract extension for the CRV network will include updated legal, commercial, financial and technical requirements of the current service provider and CRV network implementation.</p> <p>c) Considering internal procurement timelines of APAC States/Administrations, CRV OG should prepare baseline updates required for the CRV network <b>before 1 April 2027</b>;</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>

3. A discussion was made regarding the need for SWIM TF views on the revised cost to be negotiated by CRV OG for CRV II. After deliberation, it was agreed that SWIM TF need not be involved in the CRV cost-related discussion, as CRV OG will take care of it. CRV focal points of States/Administrations can address all national requirements while sharing expectations from CRV II for updated legal, commercial, and technical requirements. All requirements of SWIM-related bandwidth and other relevant network needs can be communicated by SWIM experts to their CRV national focal point. It was clarified that the CRV network is separate from the service. The CRV OG deals with the network, and if a service needs to use the CRV network, it must be handled separately. SWIM TF should be coordinated for the procedure of utilizing for onboarding new service.

**Agenda Item 3: Regional SWIM Establishment  
SWIM Implementation Pioneer Working Group**

12. It was noted that for regional SWIM establishment, SIPG is working to build the first prototype of SWIM in APAC, along with SWIM TF working on a list of common SWIM information services and associated bandwidth requirements and a clear sunset date.
13. It was shared that a discussion is being made about a parameter “timeout” related to the FF-ICE information service. More precisely, it is about what will happen if one sends the messages and then never receives a filing status response, which will be considered in the SWIM TI discussion. It was noted that the Third Asia/Pacific FF-ICE Ad Hoc Group Meeting and Workshop is planned for 15-19 December 2025.
14. SIPG informed about a delay of one month they are facing due to the delay in finalization of the routing mechanism discussion for messages in hierarchy architecture, along with setting up CRV links among States for testing.

**Agenda Item 4: CRV Governance**

SWIM TF/11  
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MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads  
20 November 2025, Video Tele-Conference (VTC)

14. The key discussion of the CRV OG Ad-hoc Group with the REDDIG team held on 23 October 2025 was shared with the meeting.

**Agenda Item 5: Next Meeting Date and Any Other Business**

15. The Meeting agreed to have the next Meeting on **5 February 2026** from 0800-1000 AM BKK time.

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads  
5 February 2026, Video Tele-Conference (VTC)

## **Minutes of the Joint Meeting of CRV OG Experts and SWIM TF TLs: 5 February 2026 08:00 AM-10:00 AM BKK Time**

**Meeting Date:** 02/05/2026 08:00 AM

**Location:** Microsoft Teams Meeting

### **Attendance:**

- |                                  |  |
|----------------------------------|--|
| 1. Dr. Amornrat Jirattigalachote | <a href="mailto:amornrat.ji@aerothai.co.th">amornrat.ji@aerothai.co.th</a>                                     |
| 2. Mr. Vaughan Hickford          | <a href="mailto:vaughan.hickford@airways.co.nz">vaughan.hickford@airways.co.nz</a>                             |
| 3. Benoit Reder                  | <a href="mailto:benoit.reder@aviation-civile.gouv.fr">benoit.reder@aviation-civile.gouv.fr</a>                 |
| 4. Mr. David Leow                | <a href="mailto:David_LEOW@caas.gov.sg">David_LEOW@caas.gov.sg</a>   |
| 5. Ms. Huang Zheng               | <a href="mailto:huangzheng@catc.net.cn">huangzheng@catc.net.cn</a>   |
| 6. Mr. Henry Chan                | <a href="mailto:hhlchan@cad.gov.hk">hhlchan@cad.gov.hk</a>   |
| 7. Ms. Simon Lau (HK)            |  |
| 8. Mr. Wallace Ng                |  |
| 9. Mr. LU Xiaodong               | <a href="mailto:luxd@mpat.go.jp">luxd@mpat.go.jp</a>   |
| 10. 牧 俊太                         | <a href="mailto:maki-s46yc@mlit.go.jp">maki-s46yc@mlit.go.jp</a>   |
| 11. Mr. Fumio Tagawa (JRANSA)    | <a href="mailto:jransa.msbs-037@jransaoffice.onmicrosoft.com">jransa.msbs-037@jransaoffice.onmicrosoft.com</a> |
| 12. Mr. Naoto Toyofuku (JRANSA)  | <a href="mailto:Toyofuku-n232@jransa.or.jp">Toyofuku-n232@jransa.or.jp</a>                                     |
| 13. Mr. Alex Hong (CAAS)         |  |
| 14. Mr. O'Neill, Al (FAA)        | <a href="mailto:Al.O'Neill@faa.gov">Al.O'Neill@faa.gov</a>   |
| 15. Mr. Will Turner (FAA)        | <a href="mailto:Will.CTR.Turner@faa.gov">Will.CTR.Turner@faa.gov</a>   |
| 16. Ms. Xu Jian, ICAO            | <a href="mailto:jixu@icao.int">jixu@icao.int</a>   |

### **Notes:**

Mr. Vaughan Hickford, CRV OG Co-Chair (Asia), moderated the Meeting. Ms Xu Jian acted as the Secretary of the meeting.

### **Agenda Item 1: Welcome & Opening Remarks**

1. Mr. Vaughan Hickford, CRV OG Co-Chair (Asia) and Dr. Amornrat Jirattigalachote, SWIM TF Co-Chair, welcomed all delegates and shared opening remarks.
2. The presentation used to moderate the Meeting is provided in Appendix A.

### **Agenda Item 2: APANPIRG/36 Outcomes**

1. Vaughan shared the details of the Conclusions adopted by APANPIRG/36 related to CRV.

SWIM TF/11  
Appendix E to WP/07

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads  
5 February 2026, Video Tele-Conference (VTC)

2. The Meeting noted updates from the APANPIRG/36 Meeting about the adoption of the proposed draft decision by the CRV OG/14 for the CRV II contract management process and related action item out of CRV OG/14.
3. Vaughan clarified that there are no plans to introduce any significant changes in CRV II. The key areas of improvement in CRV II include Internet access management, a more transparent pricing structure, stronger redundancy, enhanced contractual provisions, improved regional network visibility, and more proactive incident management.
4. The meeting confirmed that the baseline updates required for the CRV network should not affect ongoing or recently signed bandwidth upgrades and new circuits. Such changes are considered to fall within the scope of the existing contract. If PCCW Global requests a new contract for an additional circuit or a new site while an existing CRV contract is already in place, this is not in line with expectations. In such cases, States/Administrations should inform Vaughan.

**Agenda Item 3: ANSIA TF/1 Outcomes**

1. Dr Amo shared information about the three work packages formed by the ANSIA TF/1 Meeting to progress further on the work and way forward.
  - a. Scoping the regional trust framework
  - b. Developing PKI and governance arrangements
  - c. Selecting use cases of regional interest
2. It was informed that each of these work packages needs a Statement of Work (SOW) to be elaborated with a scope statement, associated tasks, expected deliverables and proposed timelines. The Meeting noted about following volunteer States to participate in each work package

SN	Work Package	Volunteer States	Work Package Lead
1	Scoping the regional trust framework	China, Fiji, India, Japan, Malaysia, Philippines, Singapore, Thailand, Tonga, and United States	Singapore (Tentative, to be confirmed)
2	Developing PKI and governance arrangements	Fiji, India, Japan, Philippines, Singapore, Thailand, Tonga, and United States	United States
3	Selecting use cases of regional interest	Fiji, India, Japan, Philippines, Singapore, Thailand, Tonga, and United States	India

3. Vaughan expressed his intention to participate in the next online ANSIA TF work package meeting. He informed that he had a conversation with a certificate implementation and management company, **Entrust**, which could provide a regional certificate management solution; therefore, he would contact the Work Package 2 lead, Mr Robert Segers ([robert.segers@faa.gov](mailto:robert.segers@faa.gov)), to discuss this work with him. **Action Item 11-1**

SWIM TF/11  
Appendix E to WP/07

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads  
5 February 2026, Video Tele-Conference (VTC)

4. Dr Amo shared that WP/05 of ANSIA TF/1, presented by Japan, which proposed three different PKI architectures for the APAC region, would be useful to review before holding further discussions with Entrust.

**Agenda Item 4: Regional SWIM Establishment: SWIM Implementation Pioneer Working Group**

1. SIPG informed the revised work programme for SIPG Task 2, with a target of completing the baseline GEMS architecture before March 2026. Once the baseline architecture is in place, SIPG will submit the required Excel sheet to the CRV OG, and all subsequent activities that depend on this architecture will be accelerated.
2. It was noted that PKI-related work is being led under SIPG Task 6, with Malaysia as the lead. Concerns were raised that these developments may overlap with or contradict PKI work under ANSIA TF. In addition, third-party providers such as Entrust are proposing PKI solutions, which should be considered in a coordinated manner to avoid parallel or duplicated efforts.
3. It was agreed to facilitate contact between SIPG Task 6, ANSIA Work Package 2 and relevant third-party providers, with the aim of establishing tripartite discussions to coordinate related activities.
4. Vaughan shared an update on the joint collaboration space (portal) for SWIM and the CRV OG. He will begin populating it over the next couple of weeks. Dr Amo and David will be informed once it is ready for use, along with an updated list of participants. **Action Item 11-2**

**Agenda Item 5: CRV Governance**

1. The CRV monthly cost for the APAC region was shared with the meeting. It was noted that Vaughan is working on a further plan for discussion of CRV Governance, which will be presented at the CRV OG/15 Meeting.

**Agenda Item 6: Any Other Business**

1. There were no discussions under this agenda.

**Agenda Item 7- Next Meeting Date**

2. The Meeting agreed to have the next Meeting on **2 July 2026** from 0800-1000 AM BKK time.