



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 7: SWIM Task Force ToR, Programme, Work Plan, and Action Items review

## **REVIEW OF SWIM TF ToR, SOW, WORK PLAN, AND OUTSTANDING ACTION ITEMS**

(Presented by Secretariat)

### **SUMMARY**

The paper presents the current SWIM TF's Terms of Reference (ToR), the revised SWIM TF's work plan, and the Action List to reflect the latest work status.

## **1. INTRODUCTION**

1.1 The 20<sup>th</sup> Meeting of the Communications, Navigation and Surveillance Sub-Group of APANPIRG (CNS SG/20), held in Bangkok, Thailand, from *11 to 15 July 2016*, established System Wide Information Management Task Force (SWIM TF) by the **Decision CNS SG/20 – D3: Establishment of SWIM Task Force**.

1.2 The Sixth Meeting of the APAC SWIM Task Force (SWIM TF/6) held from *17 – 20 May 2022* via Video Teleconferencing (VTC) updated the latest SWIM TF Terms of Reference (ToR). The SWIM TF/6 Meeting resources can be accessed by the link: <https://www2023.icao.int/APAC/Meetings/Pages/2022-SWIM-TF6.aspx>.

1.3 SWIM TF also prepares a work plan for various tasks and updates it in a timely manner. In addition, action items are reviewed every year and updated based on the progress in the meeting.

1.4 This paper shares the latest status of the SWIM TF ToR, work plan and action items and requests their updates.

## **2. DISCUSSION**

### *Terms of Reference (ToR)*

2.1 The SWIM TF/5 Meeting in 2021 revised the ToR of SWIM TF, considering the progress made since the establishment of SWIM TF, the update of ICAO global and regional air navigation plans, and the revised task groups adopted at SWIM TF/4. The Meeting endorsed Draft Decision SWIM TF/05/02- *Revised SWIM TF ToR* for adoption by CNS SG/25, further adopted by CNS SG/25 by **Decision CNS SG/25/04**.

2.2 The SWIM TF/6 Meeting in 2022 reviewed and updated the draft ToR and endorsed the draft decision SWIM TF/06/05 for CNS SG/26 adoption, which was adopted by CNS SG/26 through **Decision CNS SG/26/07**.

2.3 Further meetings of the SWIM TF reviewed the ToR every year. However, no modifications were proposed. The latest ToR of SWIM TF is provided in **Appendix A** to this paper.

Statement of Work (SOW)

2.4 To ensure that the objectives set in the ToR can be achieved, the Statement of Work (SOW) of each Task was updated in the SWIM TF/10 Meeting. The finalised SOWs are provided in **Appendix B** to this paper.

2.5 The SWIM TF/10 Meeting was informed of the current Task leads as follows:

**Table 1.** Task Scope and Task Leads Update.

Groups	Task No.	Subject/Task	Task Leads
Implementation Planning	1	Regional implementation philosophy & roadmap	David Leow (Singapore) Amornrat Jirattigalachote (Thailand)
SWIM infrastructure	2	Regional SWIM infrastructure	Xiaodong Lu (Japan), <del>Yasushi Iwasawa (Japan)</del> Yosuke MORO (Japan) Henry Chan (Hong Kong, China)
	3	Security service	Jim Laymon (USA)
Technical Architecture	4	Development and maintenance of regional information exchange models	Amornrat Jirattigalachote (Thailand) Wen Zhu (USA)
Governance	5	Regional SWIM Governance Framework	Young Jin Ha (ROK) Mark Kaplun (USA), <del>Yasushi Iwasawa (Japan)</del> Yosuke MORO (Japan) Xiaodong Lu (Japan), Honglei Gao (China)
Information Services	6	Information services	Marco Kok (Hong Kong, China) Jeremy Bienkowski (Australia)
Validation & Demonstration	7	SWIM Demonstration	David Leow (Singapore) Amornrat Jirattigalachote (Thailand)
	8	SWIM services and application validation	Yosuke MORO (Japan) Xiaodong Lu (Japan), Honglei Gao (China), Young Jin Ha (ROK)
Coordination and Promotion	9	Monitoring of Panels' work	<del>Yasushi Iwasawa (Japan)</del> Yosuke MORO (Japan)
	10	Regional coordination and SWIM-related information sharing	John Moore (IATA)
	11	SWIM implementation education and promotion	<del>Thomas Green (USA)</del> Vacant

Groups	Task No.	Subject/Task	Task Leads
		(New task)	

2.6 It was added that Task 3 required a co-lead from the APAC region to be able to suggest better and incorporate the security requirements specific to the APAC region. Similarly, additional support was required for Task 6 and Task 11. As the current ToR of SWIM TF has significantly increased the work of SWIM TF and recognising the importance of effective communication of SWIM-related understanding with relevant groups, the SWIM TF/10 Meeting encouraged States/Administrations to nominate lead/co-leads for Task 11 on a priority basis.

2.7 The SWIM TF Task Leads Meetings held in 2025-2026 discussed the need for Task restructuring of SWIM TF a few times. Therefore, SWIM task restructuring was added as an agenda item under agenda item 7 in this meeting.

Work Plan

2.8 The SWIM TF/1 Meeting prepared the Work Plan for the SWIM Task Force, which outlined the phased approach for SWIM implementation in the APAC region and assigned various tasks to task leads and contributors. The SWIM TF/10 Meeting reviewed the SWIM TF Work Plan and there were no updates to the Work Plan. The latest version of the SWIM TF Work Plan is provided in **Appendix C**.

Action Items

2.9 The Action Items List updated by SWIM TF/10 is provided in **Appendix D** for Meeting review and updates.

**3. ACTION BY THE MEETING**

3.1 The Meeting is invited to:

- a) note the information contained in this paper;
- b) review and update ToR, SOWs, and Work Plan;
- c) review and update the task structure of SWIM TF, if required;
- d) review and update the Action Items List;
- e) nominate experts to participate in various tasks; and
- f) discuss any relevant matter as appropriate.

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## 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) 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, 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 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;
- m) Assist APAC Member States to implement the Asia/Pacific regional SWIM, as appropriate;; 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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<b>Statement of Work</b>
<b>Task 1 Implementation Planning</b>
<b>Task Manager: David Leow and Amornrat Jirattigalachote</b>

<b>Project: SWIM Task Force</b>	
<b>Revision number: 04</b>	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- Maintain the Asia/Pacific regional roadmap for SWIM implementation.
- Track the work done by the SWIM Implementation ad-hoc Pioneer Group (SIPG) and update the regional roadmap.

**Deliverables**

- Maintenance of the Asia/Pacific regional roadmap until the SIPG completes the implementation of the Asia Pacific SWIM Technical Infrastructure.

**Milestones**

- The roadmap is updated according to the SIPG timelines.

**Dependencies**

- Dependencies with projects supervised by different SG (will be controlled by APANPIRG):
  - AAITF
  - MET/IE WG
  - ATFM SG
  - APA-CDM TF
- Dependencies with projects supervised by the SG (will be controlled by SG):
  - CRV OG
  - SURICG
- Dependencies between tasks in the project (will be controlled by the Task Force):
  - SIPG
- Other dependencies
  - IMP
  - TFP

**Task participants**

State/Organization	Name	Role/Responsibility	Email	Phone
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State/Organization	Name	Role/Responsibility	Email	Phone
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**Working arrangements**

- Face-to-face meetings
- Web conferences
- Needs an ICAO secured portal, name: [Click here to enter text.](#)
- Other: E-mail



**Statement of Work**

**Task 2 Regional SWIM Infrastructure**

**Task Leader: ~~Yasushi Iwasawa~~Yosuke Moro, Xiaodong Lu, Henry Chan**

<b>Project:</b> APAC SWIM Task Force	
<b>Revision number:</b> 03	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- Define the high-level APAC SWIM Architecture including policies on implementation and distribution of SWIM services
- Define the requirements for the APAC SWIM Infrastructure with the goal of ensuring technical interoperability
- Outline policy to ensure backwards compatibility with non-SWIM capable entities
- Develop a roadmap for the implementation of APAC SWIM Infrastructure

**Deliverables**

- Develop APAC SWIM Architecture requirements and policy
  - Regional interoperability and connectivity
  - Common aeronautical VPN (CRV) integration
  - Supporting Regional SWIM information services
  - SWIM mediation and backwards compatibility
  - APAC SWIM Architecture roadmap
- Develop APAC SWIM Infrastructure requirements
  - Messaging requirements
  - Security requirements
  - Technical Infrastructure Management requirements

**Milestones**

Indicate here the main milestones of the task or give a reference to a planning (Gantt chart etc)

- Milestone 1: Define a CRV-based APAC SWIM Architecture to ensure interoperability during the transition period (Related to the discussion of AMHS/SWIM Gateway Study Group)
- Milestone 2: Develop APAC SWIM Technical Infrastructure Profiles based on the related ICAO documents (Related to the discussion of IMP)
- Milestone 3: Propose an approach to implement secure APAC SWIM Infrastructure by cooperating with Task 3 Security Services (Related to the discussion of TFP and CYSECP)
- Milestone 4: Validate the APAC SWIM Infrastructure implementation via the joint demonstration with other task teams (Related to the discussion of ATMRPP)

**Dependencies**



Dependencies with projects supervised by different SG (will be controlled by APANPIRG):

- Manual on SWIM, SARPS, PANS and Guidance material from IMP, TFP, CYSECP, CP and ATMRPP

Dependencies with projects supervised by the SG (will be controlled by SG):

- Availability and capability of CRV implementation

Dependencies between tasks in the project (will be controlled by the Task Force):

- Task 3 – Security Services
  - Provide a trust framework for information services
- Task 5 – Governance
  - Integrate SWIM Governance requirements and policy
- Task 6 – Information Services
  - Support the implementation of SWIM Information Services
- Task 8 – SWIM Service and Application Validation
  - Get feedback for interoperability from SWIM Service and Application Validation

**Task participants**

State/Organization	Name	Role/Responsibility	Email	Phone
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**Working arrangements**

- Face to face meetings
- Web conferences
- Needs an ICAO secured portal, name: [Click here to enter text.](#)
- Other: Email

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**Statement of Work**

**Task – 3 Security Services**

**Task Manager: Jim Laymon (FAA); TBD**

<b>Project: APAC SWIM Task Force</b>	
<b>Revision number:</b> 01	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- Advises TF Chair and Task Leads in the area of cybersecurity for APAC. Specific objectives include:
  - Determining the scope of security responsibility of SWIM, consistent with SWIM technical infrastructures envisioned by the ICAO Information Management Panel (IMP) and the APAC regional network infrastructures, including the CRV.
  - Proposing a trust framework to ensure that the correct information is sent to the correct users, considering identity and access management initiatives (IAM) from member states.
  - Ensures interoperability of trust frameworks within the APAC region and with other ICAO regions.
  - Developing SWIM Cyber Security Architecture Framework and SWIM security strategy for the Asia-Pacific Region. Analyses and captures SWIM security risks.
  - Provide security guidelines and best practices to be incorporated in SWIM APAC Governance activities.

**Deliverables**

- APAC SWIM Security Scope and Context (Working Paper)
- APAC SWIM PKI Trust Framework (Working Paper)
- Cyber Security Architecture Framework for SWIM in ICAO Asia-Pacific Region (Final, working Paper)

**Milestones**

- Draft Cyber Security Architecture Framework for SWIM in ICAO Asia-Pacific Region by (TBD)
- Working paper on APAC SWIM Security Scope, due TBD
- Working paper on the trust framework for APAC SWIM, due TBD
  - Survey of IAM Initiatives relevant to APAC SWIM, due TBD
  - Development of framework, due TBD
- APAC Trust Interoperability Demonstration - Complete
- Cyber Security Architecture Framework for SWIM in ICAO Asia-Pacific Region (Final Version), TBD



**Dependencies**

Dependencies with projects supervised by different SG (will be controlled by APANPIRG):

- SARPS, PANS & Guidance material from the IMP & other relevant panels (ie, ATMRPP)
- Coordination with CRV OG

Dependencies with projects supervised by the SG (will be controlled by SG):

Dependencies between tasks in the project (will be controlled by the Task Force):

- SWIM Manual Vol. II- Implementation Guidelines provide SWIM Security Capability and Security Non-Functional Qualities requirements in 5.3 under Chapter 5-SWIM Technical Infrastructure (TI).
- Annex 17 – Security (tenth edition, April 2017), Doc 8973 Aviation Security Manual (9th edition, Oct.2014) and Doc 9985 ATM Security Manual (first edition, restricted, 2013) provide guidance for Cyber Security Architecture Framework of SWIM.
- Task 2 - Regional SWIM infrastructure
- Task 5 – Governance
- Task 6 – Information Services

Dependencies with projects at member states:

- SWIM Identity and Access Control projects

**Task participants**

State/Org- anization	Name	Role/Respon- -sibility	Email	Phone
FAA	Jim Laymon	Task Lead	Jim.Laymon@faa.gov	(609) 485-6930
TBD	TBD	Task Lead	TBD	TBD
		Team Member		
...				

**Working arrangements**

- Face-to-face meetings
- Needs an ICAO-secured portal, name: SWIM Cyber Security
- Teleconference
- Other: Internet Cooperative Work

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**Statement of Work**

**Task 4 Technical Architecture**

**(Development and Maintenance of Regional Information Exchange Models)**

**Task Manager: Amornrat Jirattigalachote and Wen Zhu**

<b>Project: SWIM Task Force</b>	
<b>Revision number:03</b>	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- Support APANPIRG WG/TF 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

**Deliverables**

- Support APANPIRG WG/TF regarding information exchange models
- Information exchange model gap identification, i.e. to 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 for the Asia/Pacific operational use
- Strategy to maintain the artifacts required to support the regional development and maintenance of information exchange model(s) and the extensions
- Approaches for information exchange model interoperability within the region and with other aviation partners

**Milestones**

- Now – SWIM TF Dissolution
  - Review of operational requirements on data required to be exchanged to support the Asia/Pacific regional operations
  - Examine if the required data attribute(s) are currently available in the existing information exchange models
  - Develop and test the extension(s) and/or new information exchange model(s), if needed
- SWIM TF/5
  - The first version of strategy to maintain the artifacts required to support the regional development and maintenance of information exchange model(s) and the extensions

**Dependencies**

- Dependencies with projects supervised by different SG (will be controlled by APANPIRG):
  - ATFM SG
  - APA-CDM TF
  - MET/IE WG
- Dependencies with projects supervised by the SG (will be controlled by SG):
  - None
- Dependencies between tasks in the project (will be controlled by the Task Force):
  - Task 1 Implementation Planning



- Task 2 SWIM Infrastructure
- Task 5 Governance
- Task 8 SWIM Services and Application Validation
- Task 10 Regional Coordination and SWIM-related Information Sharing
- Other dependencies:
  - Information exchange model change control boards, e.g. FIXM Change Control Board (FIXM CCB)

**Task participants:**

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**Working arrangements**

- Face-to-face meetings
- Webconferences
- Needs an ICAO-secured portal, name: [Click here to enter text.](#)
- Other: E-mail

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**Statement of Work**

**Task 5, SWIM Governance**

**Task Manager: Mark Kaplun (USA), TBD (ROK)**

<b>Project: SWIM Task Force</b>	
<b>Revision number:</b> 02	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objectives**

- I. 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 is consistently applied and enforced throughout the APAC.
- II. Develop or adopt standards, policies, and procedural guidelines to support the functional requirements for implementing all aspects of service-oriented development in the context of APAC SWIM.
- III. Facilitate visibility and control for insight into all APAC SWIM-enabled services by supporting developments of flexible mechanisms for service discovery, including, but not limited to, service registries.

**Deliverables**

- I. WP: APAC SWIM Service Discovery and Registry Interoperability Approach
- II. WP: APAC SWIM Governance Policies: Status and Plans
- III. WP: APAC SWIM Service Level Agreement (SLA): Template
- IV. WP: SWIM Interoperability Assessment Matrix (SIAM): Template
- V. IP: SWIM Metadata standards and taxonomies

**Milestones**

- I. Operational deployment of SWIM Discovery Services (SDSs) produced by the FAA and KAC (March 2022)
- II. Analysis and subsequent updates of SDS/registries network in APAC SWIM (August 2022)
- III. APAC SWIM Governance Policies: Status and Plans (TBD)
- IV. Release of SLA Template (June 2022)
- V. Release of SIAM Template (July 2022)

**Dependencies**

Dependencies between tasks in the project (will be controlled by the Task Force):

- Task 2 – Technological solutions and architectural views to be utilized in support of APAC SWIM infrastructure
- Task 3 - Information and analysis about security solutions deployed in APAC regions
- Task 6 - Identified standards and technological approaches to be utilized for service validations



**Task participants**

State/Organization	Name	Role/Responsibility	Email
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**Working arrangements**

- Face to face meetings
- Webconferences
- Needs an ICAO secured portal, name: [Click here to enter text.](#)
- Other: [Click here to enter text.](#)

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**Statement of Work**

**Task 6: Information Services**

**Task Manager:** Marco Kok (Hong Kong, China), Jeremy Bienkowski (Australia)

<b>Project:</b> SWIM Task Force	
<b>Revision number:</b> 04	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- To define the list of APAC Common SWIM Information Services based on operational needs in APAC
- To define the data catalog for APAC Common SWIM Information Services

**Deliverables**

- Develop the APAC Common SWIM Information Services and determine the priority of implementation for
  - APAC Common SWIM Aeronautical Information Services
  - APAC Common SWIM Flight Information Services
  - APAC Common SWIM MET Information Services
  - APAC Common SWIM Surveillance Information Services
- Develop the associated data catalog for APAC Common SWIM Information Services
- Document the above deliverables related to Information Services in “APAC SWIM Implementation Guidance Document”
- Provide input for the development of the sample use cases for inclusion in the “APAC SWIM Implementation Guidance Document” to demonstrate the operational benefits brought by the various SWIM information services within a State or between States.

**Milestones**

- Milestone 1: Present the results on the region-wide survey on APAC Common SWIM Information Services in SWIM TF/9 (May 2024)
- Milestone 2: Present the propose list of information to be exchanged via APAC Common SWIM Information Services, with the description of the business functionality, in SWIM TF/9 and seek comments (May 2024)
- Milestone 3: Seek comments from relevant groups (AAITF, ATFM SG, FF-ICE Ad-hoc group, MET/IE WG, SURSG, MET SG, AOP SG, and ATM SG) and subject matter experts on the proposed list of APAC Common SWIM Information Services updated by SWIM TF/9 (Jun 2024 to Apr 2025)
- Milestone 4: Revise the list of initial APAC Common SWIM Information Services and their data catalog based on feedback received from different contributory bodies and present it in SWIM TF/10 for further consideration (May 2025)



- Milestone 5: Monitor the global development of Information Service Definition (ISD) template for subject-matter-expert Panels, e.g. ATMRPP, METP, which is being progressed by IMP; and develop domain-specific ISDs for APAC Common SWIM Information Services according to the agreed priority of each service, with regional descriptions aligned with the global guidance (Nov 2025)

**Dependencies**

- Task Group #5 (Governance) – the work on interoperability of Registry and service discovery, which provides recommendations on the Information Service Overview.

**Task participants**

State/Organization	Name	Role / Responsibility	Email
Hong Kong China / HKO	Mr. Marco Kok	Co-Lead	mhhok@hko.gov.hk
Australia / Airservices Australia	Mr. Jeremy Bienkowski	Co-Lead	Jeremy.Bienkowski@AirservicesAustralia.com
Thailand / TMD	Mr. Wanchalearm Petsuwan	Contributor	wpetsuwan@hotmail.com
Thailand / TMD	Ms. Rassmee Damrongkietwattana	Contributor	rassmee@hotmail.com
Thailand / TMD	Mr. Worapong Noothong	Contributor	pui-74@hotmail.com
Thailand / AEROTHAI	TBC	Contributor	TBC

**Working arrangements**

- Face to face meetings
  - Webconferences
  - Needs an ICAO secured portal, name: [Click here to enter text.](#)
  - Other: emails
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<p><b>Statement of Work</b></p> <p><b>Task 7 SWIM Demonstrations</b></p>
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**Task Manager:** David Leow (Singapore) and Amornrat Jirattigalachote (Thailand)

<b>Project: SWIM Task Force</b>	
<b>Revision number:</b> 1	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- Track and observe SWIM demonstrations and trials within the Asia/Pacific region and ensure that reports of those demonstrations and trails are presented to the SWIM Task Force
- Provide, if requested, support for regional SWIM demonstrations
- Support trials and proof of concepts work as determined by the SIPG

**Deliverables**

- Reports from other SWIM demonstrations within the Asia/Pacific region
- Reports on SIPG trials and PoC activities

**Milestones**

- As needed: Reports from other SWIM demonstrations
- As needed: Reports from SIPG trials and PoCs

**Dependencies**

- Dependencies between tasks in the project (will be controlled by the Task Force):
  - All

**Task participants**

State/Org- anization	Name	Role/Respon- -sibility	Email	Phone
Singapore	David Leow	Lead	david_leow@caas.gov.sg	+65 6595 6771
Thailand	Amornrat Jirattigalachot e	Lead	amornrat.ji@aerothai.co.th	+66 2 287 8262
Hong Kong, China	Henry Chan	Leader	hhlchan@cad.gov.hk	+852-2910-6574

**Working arrangements**

- Face to face meetings
- Web conferences
- Needs an ICAO secured portal, name: [Click here to enter text.](#)
- Other: [Click here to enter text.](#)

**Statement of Work**



**Task 8 SWIM Service and Application Validation**

**Task Leader: Yosuke Moro, Xiaodong Lu, Honglei Gao, Yong Jin Ha**

<b>Project: APAC SWIM Task Force</b>	
<b>Revision number:</b> 03	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- Construct a platform for SWIM service and application validation
- Support the implementation of SWIM service and applications
- Support the demonstration of SWIM based operations

**Deliverables**

- Develop validation requirements for APAC SWIM Infrastructure services
  - Interface Management
  - Messaging
  - Security
- Define and validate the required SWIM services and applications for supporting different operation levels under mixed-mode environment
  - SWIM based information sharing (ATFM, A-CDM and etc.)
  - FF-ICE/R1 operation
  - FF-ICE/R2 operation
  - Trajectory Based Operations
- Develop a common platform for SWIM service and application validation
  - Test system for FIXM, AIXM, and IWXXM message exchange
  - Technical support for regional validation and demonstration

**Milestones**

Indicate here the main milestones of the task or give a reference to a planning (Gantt chart etc)

- Milestone 1: ~2019.12 Construct a platform for SWIM service and application validation
- Milestone 2: ~2020.11 Conduct a demonstration for FF-ICE/R1 service validation
- Milestone 3: ~2023.12 Develop validation requirements for Regional SWIM Infrastructure
- Milestone 4: Validate the Regional SWIM Infrastructure with Security Services via the joint demonstration
- Milestone 5: Validate the required SWIM services and applications for different operation levels via the APAC TBO Pathfinder Project

**Dependencies**

Dependencies with projects supervised by different SG (will be controlled by APANPIRG):



- Manual on SWIM, SARPS, PANS and Guidance material from IMP, TFP, CYSECP, CP and ATMRPP

Dependencies with projects supervised by the SG (will be controlled by SG):

- The status of SWIM TI implementation in APAC Region

Dependencies between tasks in the project (will be controlled by the Task Force):

- Task 2 – Regional SWIM Infrastructure, Task 3 – Security Services
  - Provide a platform for SWIM-based operations
- Task 5 – Governance
  - Integrate SWIM Governance requirements and policy
- Task 6 – Information Services
  - Support the validation of SWIM Information Services

**Task participants**

State/Organization	Name	Role/Responsibility	Email	Phone
Japan	Yosuke Moro	Co-Leader	moro-y02vf@mlit.go.jp	+81-3-5253-8111
Japan	Xiaodong Lu	Co-Leader	luxd@mpat.go.jp	+81-422-41-3528
China	Honglei Gao	Co-Leader	gaohonglei@atmb.net.cn	+86-010-87786917
China	Hongming Ren	Member	renhongming@atmb.net.cn	+86-010-84247276
ROK	Sehwan Han	Co-Leader	hsh91@airport.co.kr	+82-2-2660-4383
ROK	Younghoon Kim	Member	yh89@airport.co.kr	+82-2-2660-2878
PCCW Global	Bono Ng	Member	bcng@pccwglobal.com	+85-2-3419-2103

**Working arrangements**

- Face to face meetings
- Web conferences
- Needs an ICAO secured portal, name: [Click here to enter text.](#)
- Other: Email

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<p><b>Statement of Work</b></p> <p><b>Task 9 Monitoring of Panel work</b></p>
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**Task Manager: Yosuke Moro**

<b>Project: SWIM Task Force</b>	
<b>Revision number:</b> 02	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- Monitor developments by IMP and escalate issues/inputs as required

**Deliverables**

- Monitor developments by the IMP and escalate issues as required
- Periodic updates to IMP from SWIM Task Force work plan

**Milestones**

Indicate here the main milestones of the task or give a reference to a planning (Gantt chart etc)

- Milestone 1: IMP/3 September 30 to October 4, 2024, in Montreal
- Milestone 2: IMP/WG/13, 15 to 19 September 2025 in Montreal
- Milestone 3: IMP/4, 20 to 24 April 2026, TBD

**Dependencies**

- ATM SG
- ATFM SG
- CNS SG
- MET SG

**Task participants**

State/Org- anization	Name	Role/Respon- sibility	Email	Phone
Japan	Yosuke Moro	Task manager	moro-y02vf@mlit.go.jp	+81-3-5253-8111

**Working arrangements**

- Face to face meetings
- Needs an ICAO secured portal, name: [Click here to enter text.](#)



Other: Click here to enter text.

**Statement of Work**

**Task 10 : REGIONAL COORDINATION AND SWIM-RELATED INFORMATION SHARING**

**Task Manager: John Moore**

<b>Project: SWIM Task Force</b>	
<b>Revision number:</b> 2.0	<b>Approved:</b> Click here to enter a date.

**Objective and scope of the project**

- Monitor identified SWIM-related activities being undertaken in Asia & Pacific Region outside of the ongoing direct SWIM discussions and initiatives
- Liaise with relevant regional TF/WGs to refine operational and communications requirements, provide guidance to those WG/TFs developing and using SWIM, and influence outcomes from other WGs and TFs that will support successful expansion of SWIM

**Deliverables**

- Identify and monitor SWIM related activities (and their interdependencies) in planning or development within other Working Groups (WGs) and Task Forces (TFs).
- Update other groups on the activities of the SWIM TF
- Update SWIM TF on the activities of other groups outside of the direct activities of the SWIM TF or related groups

**Milestones**

- Updates where relevant at other WG/TF meetings and a Working Paper update at each SWIM TF meeting
- Updates (WP/IP) to APANPIRG WG/TF as needed

**Dependencies**

- All relevant WGs, TFs or initiatives unrelated to ICAO group activities (eg: CANSO, OEM or individual State activities)

**Task participants**

State/Org- anization	Name	Role/Respon- -sibility	Email	Phone
IATA	John Moore	Task Lead	<a href="mailto:moorej@iata.org">moorej@iata.org</a>	




**Working arrangements**

- Face to face meetings
- Needs an ICAO secured portal, name: [Click here to enter text.](#)
- Other: Web meetings and Phone Calls

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**Statement of Work**

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

**Task Manager: Thomas Green**

<b>Project:</b> APAC SWIM Task Force	
<b>Revision number:</b> V1	<b>Approved:</b> <a href="#">Click here to enter a date.</a>

**Objective and scope of the project**

- Creation of an educational and promotional program needed to support SWIM implementation, operations, and facilitate cooperation among stakeholders within the region.
- Collaboration with other APAC SWIM TF task to ensure cohesiveness between the guidance materials and educational material deliverable from the APAC SWIM TF.
- Management, organization, and dissemination of all APAC SWIM educational material
- Creation of an APAC SWIM education and promotional catalog

**Deliverables**

- APAC Region SWIM Educational and Promotional Roadmap
- APAC Regional SWIM Brochure
- APAC Regional SWIM Symposium
- APAC SWIM Regional Outreach Plan
- APAC SWIM Education and Promotional Catalog

**Milestones**

Task Number	Activity	Estimated Date of Completion
1	Creation of Draft APAC SWIM Brochure	TBD
2	Draft 3 year SWIM Education and Promotional roadmap	September 10, 2021
3	Confirm date for APAC SWIM Regional Symposium	TBD
4	Complete Draft APAC SWIM Regional Outreach Plan	TBD
5	Complete Draft of APAC SWIM Education and Promotional Catalog	TBD

**Dependencies**



- ICAO Doc 10039 - Manual on SWIM Concept
- SWIM Manual and Technical Guidance Material
- Guidance Materials issued via the various APAC SWIM TF Task

**Task Participants**

State/Organization	Name	Role/Responsibility	Email	Phone
LST	Thomas Green	Task Lead	<a href="mailto:Thomas.green@lstechllc.com">Thomas.green@lstechllc.com</a>	
AEROTHAI	Jittima Asawachaiportion	Participant	<a href="mailto:jittima214@gmail.com">jittima214@gmail.com</a>	

**Working arrangements**

- Face to face meetings
- Needs an ICAO secured portal, name: Click here to enter text.
- Other: Click here to enter text.

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SWIM TF Work Plan

Project Group	Old Task number	Old Task Description	New Task No	New Task Description	Objective and scope	Task Lead(s)	Planned Start	Planned completion	Dependencies	Guidance for SOW
Implementation Planning	1-1	Benchmarking of best practices	1	Regional implementation philosophy & roadmap	Develop and maintain the Asia/Pacific regional roadmap for SWIM implementation, including SWIM technical infrastructure, SWIM governance, aeronautical information service, flight information service, and weather information service	David Leow (Singapore)	2017	2018	SWIM Task Force created, resources available Panels deliver as expected Task 1.7 (common vocabulary)	benchmark existing governance models (FAA, Europe), existing catalogues, existing arrangements for quality of service/SLA (availability/reliability), existing registries if any Benchmark mediation of legacy users Benchmark available existing SWIM and industry models for service descriptions ICCAIA IP13 to be included
		Guidance To States: Interregional workshop Develop SWIM implementation Guidance for phase 1 Develop SWIM implementation Guidance for phase 2 (dual operations) Regional workshops					2017	2022	SWIM iKit (if confirmed by IMP)	From the task 1-3 APANPIRG WG/TF planning to use or using SWIM may need guidance (ad hoc basis) Guidance to States
		Guidance for publishers/consumers;					2017	2017		Mediation of legacy users
	2019						2020	Lessons learnt from ASEAN SWIM demonstration		
	1-2	SWIM Regional roadmap					2019	2022	SWIM Manual 10039 and Technical Manual	Roadmap needs to be updated to reflect the changes and developments that have occurred in the last SWIM TF meetings. It needs to be more granular and help direct the work of the other task groups for APAC regional SWIM implementation.  To decide and agree on the target architecture for APAC SWIM that will address all the member concerns.
		2022	2024	New implementation Roadmap	1st Set the timeframe for implementation 2nd Discuss with the TF and decide on the elements for implementation 3rd Develop new roadmap for SWIM implementation.					
SWIM infrastructure	1-8	Regional SWIM Architecture	2	Regional SWIM infrastructure	<ul style="list-style-type: none"> <li>Define the high-level APAC SWIM Architecture including policies on implementation and distribution of SWIM services</li> <li>Define the requirements for the APAC SWIM Infrastructure with the goal of ensuring technical interoperability</li> <li>Outline policy to ensure backwards compatibility with non-SWIM capable entities</li> <li>Develop a roadmap for the implementation of APAC SWIM Infrastructure</li> </ul>	Mr. Xiaodong Lu (Japan)  Mr. Yukinobu Ryu (Japan)  Mr. Henry Chan (Hong Kong, China)	2017	2020	<ul style="list-style-type: none"> <li>Manual on SWIM, SARPS, PANS and Guidance material from IMP, CP or ATMRPP</li> <li>Availability and capability of CRV implementation</li> <li>Task 5 – Governance</li> <li>Task 6 – Information Services</li> <li>Task 8 – SWIM Service and Application Validation</li> </ul>	Define a CRV-based APAC SWIM Architecture to assure interoperability during the transition period Develop APAC SWIM Infrastructure requirements based on the related ICAO documents Propose an approach to implement secure APAC SWIM Infrastructure by cooperating with Task 3 Security Services
	New	NA	3	Security service	<ul style="list-style-type: none"> <li>Advise TF Chair and Task Leads in the area of cybersecurity for APAC. Specific objectives include:</li> <li>Determining the scope of security responsibility of SWIM, consistent with SWIM technical infrastructures envisioned by the ICAO Information Management Panel (IMP) and the APAC regional network infrastructures including the CRV.</li> <li>Proposing a trust framework to ensure that the correct information is sent to the correct users, considering identity and access management initiatives (IAM) from member states.</li> <li>Ensures interoperability of trust frameworks within APAC region and with other ICAO regions.</li> <li>Developing SWIM Cyber Security Architecture Framework and SWIM security strategy for the Asia-Pacific Region. Analyses and capture SWIM security risks.</li> <li>Provide security guidelines and best practices to be incorporated in SWIM APAC Governance activities.</li> </ul>	Mr. Jim Laymon (USA)	2023	2025	ICAO 2022 approval of: 1. X.509 Certificate Policy for the International Aviation Trust Framework (IATF) Certification Authority 2. IATF CP Criteria and Methodology for Cross Certification Identity Management 3. IATF CP Life Cycle Management (CPLCM) Operating Rules, 4. International Aviation Trust Framework Bylaws 5. IATF Criteria and Methodology for Global Resilient Aviation Interoperable Network (GRAIN)	Objective: Proposing a trust framework to ensure that the correct information is sent to the correct users, considering identity and access management initiatives (IAM) from member states. Proposed Guidance: APAC establishment of a Regional SWIM PKI Policy Management Authority in alignment with ICAO IATF SARPS  Objective: Ensures interoperability of trust frameworks within APAC region and with other ICAO regions. Proposed Guidance: APAC establishment of a Regional SWIM DT&E environment to conduct Interoperability testing with US FAA, EUROCONTROL and other Regional ANSPs. (MRTBO example)  Objective: Developing SWIM Cyber Security Architecture Framework and SWIM security strategy for the Asia-Pacific Region. Analyses and capture SWIM security risks. Provide security guidelines and best practices to be incorporated in SWIM APAC Governance activities  Proposed Guidance: FAA provide Technical interchange of SWIM IAM Phase 2 and SWIM IAM segment 3 planned investments that align with ICAO IATF requirements to include establishment of the FAA PKI Policy Management Authority to assist APAC development of SWIM Cyber Security Architecture Framework and PKI use governance.

Project Group	Old Task number	Old Task Description	New Task No	New Task Description	Objective and scope	Task Lead(s)	Planned Start	Planned completion	Dependencies	Guidance for SOW
Technical Architecture	1-6	Regional SWIM models	4	Development and maintenance of regional information exchange models	Support APANPIRG WG/TF 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	Dr. Amornrat Jirattigalachote (Thailand) Mr. Wen Zhu (USA)	2016	2017 TBD (Regional Extension will need to be maintained/updated to accommodate (i) new operational use cases and (ii) the release of new version of information exchange model(s))	Global model definitions available	From the task 1-3 models may need extension/refinements – there is already a case for ATFM Interaction with "light" approach discussed by IMP, coordination with 1-7 Relation with CCB – coordination with task 1-4 Regional Extension may need refinement - There is already a case for ATFM and ATFM/A-CDM integration; Interaction with "light" approach discussed by IMP - Coordiantion with Task 9 Relation with CCB - Coordination with Task 5
Governance	1-4	SWIM governance	5	Regional SWIM Governance Framework	I. 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 is consistently applied and enforced throughout the APAC. II. Develop or adopt standards, policies, and procedural guidelines to support the functional requirements for implementing all aspects of service-oriented development in the context of APAC SWIM. III. Facilitate visibility and control for insight into all APAC SWIM-enabled services by supporting developments of flexible mechanisms for service discovery, including, but not limited to, service registries.	Mr. Dongkie Park (ROK) Mr. Mark Kaplun (USA), Mr. Yukinobu Ryu (Japan) Mr. Xiaodong Lu (Japan), Ms. Honglei Gao (China)	2016	TBD (Note: SWIM Governance will be implemented throughout the SWIM lifecycle.)	I. Procedures for Air Navigation Services (PANS) Information Management (IM), Volume I System Wide Information Management II. Manual on System Wide Information Management (SWIM), Doc 10039, VOLUME I: SWIM Concept III. SWIM Discovery Service Implementation Specification Service Description Conceptual Model (SDCM) IV. APAC SWIM Roadmap	I. Effective governance will result in more consistent decision-making and reduce risk and uncertainty. II. Identify new areas for policy development based on collected input and present them to the APAC SWIM TF. III. Further update the SDS solution to reflect user experience, lessons learned, and emerging technological solutions. IV. Facilitate ongoing engagement with SDS implementers through regular feedback and reviews. V. Concentrate on what really needs to be delivered to SWIM consumers. VI. Ensure that consumers' and providers' needs are met by developing a comprehensive SLA-management solution that can be adapted to multiple states' SWIM deployment scenarios.
	1-5	Design Regional SWIM Registry and architecture for phase 2								
	2-1-2 2-1-4	Implement SWIM registry and architecture Guidance and Requirements for Publishers and Consumers								
Information Services	2-1-2	Promote new needs and new services and maintain database of publishers (ID/access points/services/interface/format...) pending registry implementation	6	Information services	To develop and define the APAC version of the SWIM information service overview specifications and APAC version of data catalogue for information services based on operational needs in APAC.	Mr. Marco Kok (Hong Kong, China)	2017	2023	Dependent on new use cases and operational needs identified in APAC.	•Develop the APAC version of the required and optional information services for ANSP to prioritize the implementation of services •Develop the APAC version of data catalogue for information services •Identify any additional optional fields required for SWIM service overviews in APAC in addition to those as defined in PANS-IM
Validation & Demonstration	1/2/2001	Promote new needs and new services and maintain database of publishers (ID/access points/services/interface/format...) pending registry implementation	7	SWIM Demonstration	• Report on the SWIM in ASEAN demonstration, particularly the lessons learnt • Track and observe SWIM demonstrations and trials within the Asia/Pacific region and ensure that reports of those demonstrations and trails are presented to the SWIM Task Force • Provide, if requested, support for regional SWIM demonstrations	Mr. David Leow (Singapore) Dr. Amornrat Jirattigalachote (Thailand)	2017	2019		An "Excel" file? Include service descriptions etc Assume registry services can be available on CRV from 2019 onwards 70 FAA applications are available for use and should be referenced in the catalogue
	2-2-1	SWIM generalization				2021	TBD (Depending on the demonstration/trial to be conducted in APAC)	Demonstration/Trial to be conducted within APAC		
	2-1-3	Support validation and publication of SWIM based applications	8	SWIM services and application validation	• Construct a platform for SWIM service and application validation • Support the implementation of SWIM service and applications • Support the demonstration of SWIM based operations	Mr. Yukinobu Ryu (Japan) Mr. Xiaodong Lu (Japan) Ms. Honglei Gao (China) Mr. Dongkie Park (ROK)	2017 2020	2019 2023	• Manual on SWIM, SARPS, PANS and Guidance material from IMP, CP or ATMRPP • The status of SWIM TI implementation in APAC Region • Task 2 – Regional SWIM Infrastructure • Task 3 – Security Services • Task 5 – Governance • Task 6 – Information Services	Support the validation of FF-ICE/R1 service Develop validation requirements for Regional SWIM Infrastructure Support the validation of Regional SWIM Infrastructure with Security Services via the joint demonstration Support the validation of required SWIM services and applications for different operation levels
	1-7	Monitoring of panels work	9	Monitoring of panels work	Monitor developments by IMP and escalate issues/inputs as required	Mr. Yukinobu Ryu (Japan)	2016	2022	SWIM Manual and Technical Manual	Escalate issues to the panels Report back from panels 2 IMP meetings per year, monthly conferences A need for a Discussion paper at IMP (deliverable of the task) Focal point for common controlled vocabulary, in coordination with 1-4 Version management should be coordinated regarding backward compatibility and the content of models (FIXM, AIXM) Focal pint to trigger change requests to the models

Project Group	Old Task number	Old Task Description	New Task No	New Task Description	Objective and scope	Task Lead(s)	Planned Start	Planned completion	Dependencies	Guidance for SOW
Coordination and Promotion	1-3	Regional coordination within APAC and guidance and training to APANPIRG bodies	10	Regional coordination and SWIM-related information sharing	<ul style="list-style-type: none"> <li>Identify SWIM related activities (and their interdependencies) in planning or development within other WGs and TFs.</li> <li>Liaise with relevant regional TF/WG to refine operational and communications requirements (ATFM SG, MET IE, AAIF, ACSICG, CRV OG, etc).</li> <li>Provide guidance to APANPIRG WG/TF using SWIM.</li> <li>Influence outcomes from other WGs and TFs that will support successful expansion of SWIM (eg: development of SWIM compatible CRV).</li> <li>This involves confirming inclusion on agendas and appropriate discussions ensuing</li> </ul>	Vacant	2016	2022	SWIM Manual and Technical Manual Guidance on IWXXM	Use APANPIRG organizational chart Revise on an annual basis Establish simple "MOU" between concerned APANPIRG bodies
		Guidance and training to APANPIRG WG/TF : - Provide guidance to APANPIRG WG/TF using SWIM					<ul style="list-style-type: none"> <li>From the task 1-3 APANPIRG WG/TF planning to use or using SWIM may need guidance (ad hoc basis) Guidance to States</li> <li>Mediation of legacy users</li> <li>Lessons learnt from ASEAN SWIM demonstration</li> </ul>			
	New	NA	11	SWIM implementation education and promotion (New task)	<ul style="list-style-type: none"> <li>Creation of an educational and promotional program needed to support SWIM implementation, operations, and facilitate cooperation among stakeholders within the region.</li> <li>Collaboration with other APAC SWIM TF task to ensure cohesiveness between the guidance materials and educational material deliverable from the APAC SWIM TF.</li> <li>Management, organization, and dissemination of all APAC SWIM educational material</li> <li>Creation of an APAC SWIM education and promotional catalog</li> </ul>	Mr. Thomas Green (USA)	2022	TBD (See dependencies)	Completion of this task is reliant on the work completed in Task 1-10. As the task are completed and guidance is created, the catalog can be populated.	

Project	Old Task number	New Task No	Old Task Description	New Task Description	Planned Start	Planned completion	Dependencies	Guidance for SOW	SOW (reference)	Task Lead(s)
SWIM - Definition phase	1-1		Benchmarking of best practices		2017	2018	SWIM Task Force created, resources available Panels deliver as expected Task 1.7 (common vocabulary)	benchmark existing governance models (FAA, Europe), existing catalogues, existing arrangements for quality of service/SLA (availability/reliability), existing registries if any Benchmark mediation of legacy users Benchmark available existing SWIM and industry models for service descriptions ICCAIA IP13 to be included	1-1 Benchmarking - SOW	David J. Almeida (USA)
			Guidance To States: Interregional workshop Develop SWIM implementation guidance for phase 1 Develop SWIM implementation guidance for phase 2 (dual operations) Regional workshops		2017 2017 2017 2019 As needed	2022 2017 2018 2020		From the task 1-3 APANPIRG WG/TF planning to use or using SWIM may need guidance (ad hoc basis) Guidance to States Mediation of legacy users Lessons learnt from ASEAN SWIM demonstration		
			Guidance for publishers/consumers;		2017	2018	Task 1.1 Task 1-5 and 1-6 Task 1-4 (service descriptions)	Common vocabulary requirement on publishers and subscribers to use the common controlled vocabulary Should include developing a guide for the preparation of service descriptions (dependency = 1.4) Could include guidance for developers/publishers on a set of protocols/formats to use See WP/5 appendices b and c for FAA guidance Analyse which guidance is necessary from IP/6 and WP/6		
	1-2		SWIM Regional roadmap	Task 1 - Implementation Planning	2019	2022	SWIM Manual 10039 and Technical Manual	Roadmap needs to be updated to reflect the changes and developments that have occurred in the last SWIM TF meetings. It needs to be more granular and help direct the work of the other task groups for APAC regional SWIM implementation. To decide and agree on the target architecture for APAC SWIM that will address all the members' concerns. To include target timelines for the production of regional requirements and guidelines. To include plan for the actual implementation of the regional SWIM technical infrastructure, regional governance framework, Registry(s), and information services.	1-2 Regional Roadmaps - SOW_TF1_AJv1	David Leow (Singapore) and Amornrat Jirattigalochote (Thailand)
	1-3		Regional coordination within APAC and guidance and training to APANPIRG bodies		2016	2022	SWIM Manual and Technical Manual Guidance on IWXXM	Use APANPIRG organizational chart Revise on an annual basis Establish simple "MOU" between concerned APANPIRG bodies	1-3 Regional Coordination - SOW_v0.1	John Moore (IATA)
			Guidance and training to APANPIRG WG/TF : - Provide guidance to APANPIRG WG/TF using SWIM		2017 2017 2017 2019 As needed	2022 2017 2018 2020		From the task 1-3 APANPIRG WG/TF planning to use or using SWIM may need guidance (ad hoc basis) Guidance to States Mediation of legacy users Lessons learnt from ASEAN SWIM demonstration		
	1-4		SWIM governance		2018	2022	SWIM Manual and Technical Manual draft SARPS (stable and mature) lessons learnt from existing governance models (FAA, Europe)	Should include all stakeholders in APAC Should identify SARPS and guidance issued by IMP/ATMRPP/METP Strong coordination required with 1-5 WP04 recommends two service. Description models - task 1.4 to study options Version management should address backward compatibility and the content of models (FIXm, AIXM) possibility to operate PKI through the CRV service provider to be further explored	1-4 SWIM Governance - SOW_updated_fri	David Wills (New Zealand) for SWIM TF/1 and Mark Kaplun (USA) from SWIM TF/2
	1-5		Design Regional SWIM Registry and architecture for phase 2		2017	2019	SWIM ConOps and Technical Manual Overall requirements: Refer 2.5.4 of DOC 10039	Should take into account how to efficiently implement 2.5.4 of DOC 10039. Search, access, discovery features Should include access control and search functionalities. Chapter 3.5 SWIM Registry For architecture should take into account CRV and that there is no central operational entity in APAC to run common services Input= paper about service description (FAA) Strong coordination required with 1-4 3 approaches proposed in WP07, not exclusive Not forget access to registries outside APAC Confirm if the option of PKI is suitable If yes coordinate with CRV OG to seek if PKI services provided by CRV provider would be a suitable option possibility to operate PKI through the CRV service provider to be further explored Consider SWIM architecture principles from IP02	1-5 SWIM Registry - SOW	Kang Jiseok (ROK) and David Leow (Singapore)
	1-6		Regional SWIM models		2016	2017	Global model definitions available	From the task 1-3 models may need extension /refinements - there is already a case for ATFM Interaction with "light" approach discussed by IMP, coordination with 1-7 Relation with CCB - coordination with task 1-4	1-6 SWIM Regional Models - SOW_TF1_AJv2	Amornrat Jirattigalochote (Thailand)
	1-7		Monitoring of panels work		2016	2022	SWIM Manual and Technical Manual	Escalate issues to the panels Report back from panels 2 IMP meetings per year, monthly conferences A need for a Discussion paper at IMP (deliverable of the task) Focal point for common controlled vocabulary, in coordination with 1-4 Version management should be coordinated regarding backward compatibility and the content of models (FIXm, AIXM) Focal pint to trigger change requests to the models	1.7 Monitoring Panels - SOW	Yukinobu Ryu (Japan)
SWIM Implementation Phase 1 - initial expansion of services and preparation of phase 2	2-1-1		Promote new needs and new services and maintain database of publishers (ID/access points/services/interface/format..) pen		2017	2019		An "Excel" file? Include service descriptions etc Assume registry services can be available on CRV from 2019 onwards 70 FAA applications are available for use and should be referenced in the catalogue	2-1-1 SWIM IMP Phase 1 - SOW_v1	Marco Mang Hin Kok (Hong Kong China)
	2-1-2		Implement SWIM registry and architecture		2019	2022	Task 1-5 completed CRV implemented	Assume registry services can be available on CRV from 2019 onwards Design and implement a mediation service (see SWIM TF-1, WP05)	2-1-2 SWIM Registry - SOW	David Leow (Singapore)
	2-1-3		Support validation and publication of SWIM based applications		2017	2019	Availability of SWIM applications (task 2-1-2) SWIM registry and architecture (DNS service, security, etc) (task 2-1-4) Procedures/SLA: Task 1-4 Models: 1-6	SARPS and guidance Envisage a regional validation as a final step - see report of SWIM TF-1 for large scale tabletop exercise	2-1-3 SWIM IMP Phase 1 - SOW v1	Xiaodong Lu (Japan), Gao Honglei (China) and Jiseok Kang (Republic of Korea)
SWIM Implementation Phase 2 -generalization	2-2-1		SWIM generalization		2022	2025	SWIM Manual and Technical Manual National transition roadmaps Task 2-1-2 Task 2-1-3 Task 2-1-1	Populate registry (2-1-2) using catalogue (2-1-1), and maintain it Make systematic cross-validation of new services using testbeds from 2-1-3 Optimize architecture on CRV (DNS, proxies) Assist States in their transition to full SWIM Assist States with LOA and guidance (1-1)	SOW to be drafted later on	TBD later on
	2-2-2		Facilitate dual operations		2022	2025		Operate a mediation service (see SWIM TF-1, WP05) until all states have transitioned to SWIM (2-2-1)	SOW to be drafted later on	TBD later on

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Action ID	Task No	Reference	Who	What	Due date	Status
1-1		2.2.1 & 2.2.2	Jeri Groce (Chair), Task 1, Secretariat	Introduce the mediation principle in the design of the SWIM transition	TBD	Open
1-2		1.1	All	Confirm their interest in ASEAN SWIM demonstration	30-Apr-2018	Completed
1-3		1.7 & 2.1.1	Yukinobu Ryu-san, (David Almeida)	Confirm terms used to designate the APAC SWIM "catalogue" are in compliance per controlled vocabulary	8-May-2018	Completed
1-4		Thomas Green	Le Thi Phuong, (David Almeida)	Contribute to Task 1-1 regarding the benchmarking of quality and verification process, Service Level Agreements (SLA)	TBD	Closed
1-5		New conversation	Jiseok Kang	Define the minimum set of information and basic function of APAC SWIM registry	30-Nov-2018	Completed
1-6	3;5	1.4	Mark Kaplun <del>and David Willis</del> Task 3 Lead (SWIM TF/6)	Embark requirements laid out in ICAO provisions and FAA best practices and other practices as available to define the SWIM security governance	4/30/2019 SWIM TF/11	Open
1-7	1	1.1	David Almeida and Edward Curtis	Introduce lessons learnt from ICCAIA in the benchmark	27-May-2018	Completed
1-8	8	2.1.3	Xiaodong Lu	Plan a large scale tabletop exercise and message exchange demonstration in the mid-term (2019 or 2020)	30-Nov-2018	Closed
1-9		Work Plan	Jeri Groce	Consolidate the SOW and update the work plan accordingly	22-May-2017	Completed
1-10		Work Plan	Frederic Lecat	Create a SWIM TF space under ICAO secure portal		Closed
1-11		1.2	Amo, Stuart Wilson, David Almeida	Define the purpose of scope of "Outreach to Aviation Partners" deliverable	5-Oct-2017	Completed
1-12	1	1.2 & 2.1.1	Amo, David Leow, Marco Kok	Align interdependencies between Task 1.2 and 2.1.1.	30-Apr-2018	Completed
1-13		1.5	Jiseok Kang	Develop Working Paper for APAC SWIM registry approach	31-Dec-2018	Completed
1-14		1.1	Ryu-San, David Leow, and David Almeida	Need to create a WP for presentation to the IMP, letting them know which artifacts the APAC TF is dependent on, and by what date we need the artifacts by.	1-Nov-2017	Closed
1-15		Work Plan	Frederic Lecat	Send out ICAO Regional Martial out to team	1-Nov-2017	Closed
1-16	1	1.2	Marco Kok, and John Moore	Develop plan for development of a data catalog for Aeronautical, Flight, and Weather data	30-Nov-2018	Closed

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Action ID	Task No	Reference	Who	What	Due date	Status
1-17		1.1 & 1.4	Stuart Wilson, and Mark Kaplun	Need to coordinate development of SWIM Governance Framework for coordination between Task 1.1 and Task 1.4	30-Jan-2018	Closed
1-18		Work Plan	Mark Kaplun	Coordinate with Stephan Dubet who is developing the ICAO IMP SWIM Governance document		Closed
1-19		1.5	David Leow	Provide detailed Task 1.5 SOW to Stuart	10-Jan-2018	Completed
1-20		1.4	Mark Kaplun	Provide Governance and Registry lessons learned out to Task 1.5	30-Jan-2018	Completed
1-21		1.6	Frederic Lecat	Send ED-133 documentation to Amo and Amo to take this into consideration for requirements development for Task 1.6		Closed
1-22		1.8	Jeri Groce	Determine who will be the leader of Architecture Task (Task 1.8)		Closed
1-23		Work Plan	Stuart Wilson	Coordinate possible dates for next meeting and send out a poll.		Closed
1-24		Action Item 1-16	APAC Task Force Leadership	APAC Task Force Leadership to support Marco Kok, and John More on Action Item 1-16.	9-Apr-2018	Closed
1-25		1.8	Yunkinobu Ryu	Provide proposal on structure of Task 1.8 by the end of January.	30-Jan-2018	Closed
2-1		2.1.3	Yunkinobu Ryu, Xiaodong Lu, Gao Honglei, Jiseok Kang	Plan Regional message exchange demonstration	30-Nov-2018	Closed
2-3	1	1.1	David Almeida, Thomas Green	Establish contact with any SWIM-related working groups in other ICAO Regions	30-Apr-2019	Closed
2-4	1	1.1	David Almeida, Thomas Green	Make recommendations on the APAC Region applicability of items in SWIM TF/2 WP/4	30-Apr-2019	Closed
2-5	10	1.3	John Moore	Coordinate SWIM TF and MET IE/WG outcomes and activities This action is really about broader coordination of SWIM activities in APAC (not solely MET) and raising awareness of the work of the SWIM Task Force.	31-Dec-2019	Closed
2-6	10	1.3	John Moore More appropriate lead would be Amo or David Leow as the leads of the demonstration.	Coordinate minutes of SWIM in ASEAN Demonstration with SWIM TF	30-Nov-2018	Closed
2-7	5	1.4	David Willis, Mark Kaplun; Xiaodong Lu	Examine CRV OG to determine what structure may be used to form an APAC Regional SWIM Governance Review Board	Closed in SWIM TF/5	Closed
2-8	5	1.4	David Willis, Mark Kaplun	SWIM in ASEAN Demonstration participant Administrations to share any lessons learned or other insights relating to SWIM governance	30-Nov-2019	Closed
2-9		1.4	David Willis, Mark Kaplun	Develop a draft APAC Governance Framework		Closed
2-10		1.6	Amornrat Jirattigalochote	Coordinate SWIM in ASEAN Demonstration findings on A-CDM data attributes with APA-CDM/TF		Closed
2-11	2	1.8	Yunkinobu Ryu, Xiaodong Lu	Investigate the role of CRV in APAC SWIM and make recommendations on how APAC SWIM will interconnect with the CRV	30-Apr-2019	Closed
2-12		2.1.1	Marco Mang Hin Kok	Re-Draft SWIM survey, together with educational material to also inform survey participants on SWIM	30-Apr-2019	Closed

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Action ID	Task No	Reference	Who	What	Due date	Status
2-14	1	1.1	David Almeida; Thomas Green (Thomas left),	Develop an APAC SWIM education implementation plan and high level education materials	SWIM TF/6 SWIM TF/7 SWIM TF/9 SWIM TF/10 SWIM TF/11	Open
2-15			All	Commence drafting an APAC Regional SWIM Implementation guidance document		Closed
2-16		Action Item 2-8	John Moore	Confirm the dates of the ASEAN SWIM Demo with David Leow and Amo		Closed
2-17		Action Item 2-15	Shane Sumner	Discuss the due date for the APAC Regional SWIM Implementation Guidance document and report back to the group		Closed
2-18		Action Item 2-15	Secretariat and David Almeida	Create a skeleton structure of APAC Regional SWIM Implementation guidance document		Closed
2-19		Action Item 2-14	All	All states are encouraged to provide more SWIM education materials		Closed
2-20	5	1.4	Wen Zhu, Mark Kaplun, David Leow, and David Almeida	Discuss and draft a proposal to the chair and try to get clarification on deliverables 1.4		Closed
2-21	2	1.8	David Leow and Amornrat Jirattigalochote	Provide all ASEAN SWIM Demo lessons learned and each subtask can absorb the lessons applicable to that group.	30-Nov-2019	Closed
2-22	5	2.1.4	Xiaodong Lu	Send an email to Jiseok Kang and Shane Sumner to resolve the discussion if task 2.1.4 should be included in the SWIM Registry/Architecture task		Closed
2-23			Jay Zimmer	follow up with Shane Sumner to coordinate how APAC TF can interface with the CRV during Plenary 3. Need CRV points of contact to get on the agenda and brief out as well as attend this meeting		Closed
3-1			Task leads	The Task Leads will address the APAC SWIM Implementation Materials Table of Contents of the at the next quarterly Task Force Lead Teleconference and provide input of supplementary materials by SWIM TF/4	30-Apr-2020	Closed
3-2	2;3	1.3	Wen Zhu	Set up dedicated working group to covers other areas of cybersecurity	30-Apr-2020	Closed
3-3	4	1.6	Amornrat Jirattigalochote	The APAC SWIM FIXM Extension be forwarded to the FIXM Change Control Board (CCB) for validation and publication on the FIXM official website	30-Apr-2020	Closed
3-4	9	1.7	Task Force members	SWIMTF members to submit comments to Japanese IMP member, Yukinobu Ryu	20-May-2019	Closed
			Tasf Force members	SWIMTF to review Table of Contents for APAC SWIM Education programme (Appendix F to the SWIMTF/3 meeting report)	30-Jun-2019	Closed
4-1	1,10	Task 1&10	Secretariat	Enhance communication with ICAO EUR/NAT Office on SWIM PT activities	On-Going	Closed
4-2	7		Task Leads	Further exploit and deliberate the outcomes of SWIM in ASEAN Demonstration to benefit States/Administration	SWIM TF/6 SWIM TF/7	Closed
4-4			Task Leads of Task 2, Task 5 and Task 6	To join the study group proposed by SURICG to explore the initiative on surveillance data sharing over SWIM	SWIM TF/5	Closed
4-5			TF chair and Task Leads	Review the ToR and consolidate the action items in this list	SWIM TF/5	Completed
4-6			Amornrat Jirattigalochote, Secretariat	Plan another SWIM workshop	1st TL meeting in 2021	Closed
4-7			TF chair and Task Leads	Follow up the Task 3 and Task 11	1st TL meeting in 2021	Closed

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Action ID	Task No	Reference	Who	What	Due date	Status
4-8	9	Task 9	Yukinobu Ryu, Secretariat	List of SWIM relevant ICAO Panels and representatives from APAC	Need to provide list before removing from Action Items  List provided	Closed
4-9	10	Task 10	John Moore, Secretariat	List of SWIM relevant meetings in APAC	SWIM TF/6	Closed
4-10	11	Task 11	Task Leads, Secretariat	Seek information on SWIM education and promotion for consolidation by Task 10.		Closed
4-11	11	Task 11	Task Leads, Secretariat	Share SWIM related material for future compilation of the APAC SWIM Implementation Materials	SWIM TF/6 SWIM TF/7	Closed
4-13	2	Task 2	Task 2 Group	Develop APAC SWIM TI Profile	SWIM TF/6 SWIM TF/7 SWIM TF/8 SWIM TF/10	Completed
5-1	Task 2, Task 5, 4,6 and Task 7	NA	Task Leads of Task 2, Task 5, Task 4 and Task 6, SURSG, S3TIG	Start study of surveillance data being carried via SWIM on CRV; Study to include exploration of updated exchange model	SWIM TF/6 SWIM TF/7 SWIM TF/9 SWIM TF/10	Closed
5-2	Task 7	NA	Task 7 TLs, Secretariat	Conduct SWIM over CRV demo; Present lesson learned and findings to the group	SWIM TF/6 SWIM TF/7 SWIM TF/9 SWIM TF/10	Completed

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Action ID	Task No	Reference	Who	What	Due date	Status	Comment	Additional Notes
4-3	3,5	Task 3&5	Task Governance and Task Security Management	Further cooperation on the security and trust in the context of SWIM service discovery		Ongoing	SWIM TF/5- As ongoing, need to remove from Action List and will manage by Secretariat	Wen and Jim to coordinate on this action (6/29)
4-12			Task Leads, Secretariat	Monitor GUF1 issue and share reference materials in using GUF1	On-Going	Ongoing	Besides ICAO DOC 9965, EUROCAE ED-133 is good information. FAA will share its guidance to APAC.	Kristin to reach out to Diana Liang for materials on this subject