

International Civil Aviation Organization**Twenty Seventh Meeting of the Communications/  
Navigation and Surveillance Sub-group (CNS SG/27)  
of APANPIRG**

Bangkok, Thailand, 28 August - 1 September 2023

**Agenda Item 4:** Information Management (IM)

## 4.2 Outcomes of SWIM Seminar

**OUTCOMES OF SYSTEM WIDE INFORMATION MANAGEMENT SEMINAR**  
(Presented by the Secretariat)**SUMMARY**

This paper presents the outcomes of SWIM Seminar held on 8 May 2023 for meeting information.

**1. INTRODUCTION**

1.1 The ICAO Asia/Pacific System-Wide Information Management (SWIM) Seminar 2023 was held on **8 May 2023** at the ICAO Asia and Pacific Regional Office, Bangkok, Thailand. The theme of the Seminar was *Asia/Pacific SWIM: Where are We Now?* The Seminar focused on sharing SWIM implementation status across the Asia/Pacific region. In particular, diverse SWIM stakeholders spanning various stages of implementation offered their insights and key lessons learned from their SWIM journeys. Additionally, this event aimed to foster the exchange of views on how the ICAO Asia/Pacific SWIM Task Force can best support the regional SWIM Implementation. The SWIM Seminar report and presentations can be accessed by [this link](#).

1.2 This paper summarized the outcomes of SWIM seminar for CNS SG27 Meeting information.

**2. DISCUSSION**

2.1 The Seminar was opened by Dr. Amornrat Jirattigalachote, Strategic Planning Manager (Engineering), Policy and Strategy Management Bureau of AEROTHAI, Co-Chair of SWIM Task Force, and Ms. Kristin Cropf, SWIM Programme Manager, Federal Aviation Administration (FAA) and Co-Chair of SWIM Task Force. Dr. Amornrat Jirattigalachote warmly welcomed all participants and thanked Member States/Administrations and the International Organization for continuously supporting ICAO regional activities. She briefly explained the significant presentations of the Seminar and the benefits of enhancing the task force's leadership with regional views to better deal with the challenges and progress the implementation of SWIM. Ms. Kristin Cropf also shared gratitude to all Task Leads and speakers for supporting the SWIM Seminar<sup>7</sup>). Dr. Amornrat Jirattigalachote, Co-Chair of the SWIM Task Force, moderated the Seminar and Ms. Soniya Nibhani, Regional Officer ANS (CNS) Implementation, facilitated the Seminar with the support of Ms. Zhong Wenhan, Regional

Officer CNS, and Ms. Varapan Meefuengsart, the Programme Assistant, from ICAO Asia and Pacific Regional Office.

2.2 A total of **Nine** (9) presentations were delivered by Experts from Australia, Hong Kong China, India, Japan, the Republic of Korea, Singapore, Thailand, USA, and SWIM TF Co-Chairs. The presentation materials can be accessed by the [link](#).

**The Summaries of all presentations are as follows:**

*SP01 – ICAO Asia/Pacific SWIM Task Force Journey*

2.3 Dr. Amornrat Jirattigalachote, ICAO APAC SWIM Task Force Co-Chair, shared the ICAO APAC SWIM Task Force (SWIM TF) Journey. She recalled the significant achievements of SWIM TF since its establishment in 2017 and how they helped speed up the SWIM implementation in the APAC region. It was informed that SWIM TF is focusing on developing the APAC Regional Document(s), including implementation roadmap and regional guidance on several SWIM components such as SWIM technical infrastructure specifications, governance framework, registry models, etc.. It was added that SWIM TF is working closely with other sister contributory bodies of the ICAO APAC region, such as CRV OG, SURSG/S3TIG, ATFM SG, and FF-ICE SWG along with AMHS/SWIM Gateway Study Group (SWAMWAY SG) from EUR/NAT region to promote SWIM implementation.

*SP/02 - CAAS SWIM Journey*

2.4 Mr. David Leow, Head (Air Traffic Management Software Engineering), Civil Aviation Authority of Singapore (CAAS), and Mr. Elvin Liow, Principal Engineer, CAAS, introduced Singapore's, SWIM Journey. Mr. David Leow recalled CAAS's experience in participating in the two Mini Global Demonstrations in 2013 and 2016 by which CAAS was introduced with the concept of SWIM. Experiment with Prototype SWIM in 2015, including the Prototype architecture and its coverage, the SWIM in ASEAN Demonstration in 2019, and the 2020 decision to upgrade the CAAS Prototype SWIM to support ATM operations were elaborated. Furthermore, the presentation also provided the lessons learned from the two demonstrations mentioned above, the SWIM in ASEAN demonstration, and the ones from implementing the CAAS SWIM. Furthermore, Singapore's expectations from the SWIM TF were shared with participants.

*SP/03 - JCAB SWIM Journey*

2.5 Mr. Yasushi Iwasawa, Special Assistant to the Director, Japan Civil Aviation Bureau, briefed about the Introduction of SWIM in JAPAN. He shared the current status and issues of information sharing in JCAB and solutions to solve those issues by introducing SWIM to support the realization of measures for the growing air traffic such as Trajectory Based Operations. Participants were further informed about JCAB's history of SWIM implementation since 2017, steps for service providers and users to start SWIM development and operation, and work plans for preparatory meetings for SWIM in Japan. The lessons learned from SWIM's initial services development together with additional reference information, were shared.

*SP/04 - AEROTHAI SWIM Journey*

2.6 Mr. Arthit Tosukolvan, Executive Air Traffic Systems Engineer, AEROTHAI, presented AEROTHAI SWIM Journey from the participation in the Mini Global I & II demonstrations in 2014-2015 to several latest and upcoming milestones such as FF-ICE/R1 Technical Trial, AAI-AEROTHAI Test, and SWIM Implementation in 2022-2025. He informed important milestones achieved and lessons learned from the Mini Global demonstrations I & II, SWIM Infrastructure Prototype development, the SWIM in ASEAN Demonstration, the work on FIXM version 4.1 APAC Extension, SWIM Information Services Prototype development, the Multi-Regional TBO Demonstration, the progress on FIXM version 4.2 Extension, the FF-ICE/R1 Technical Trial, AAI-

AEROTHAI Test, and the operational SWIM implementation. Lastly, he informed about expectations from SWIM TF.

*SP/05 - KAC SWIM Journey*

2.7 Mr. Sehwan Han, Senior Research Engineer, Korea Airports Corporation, shared the ROK SWIM Journey, focusing on the information lifecycle from provider to consumer in ROK's SWIM Trial Operation. He shared detailed information about the SWIM Testbed, including information sources in the test bed, consideration on information sources, information handling in the SWIM Testbed, and business service categories applied. In addition, he informed about SWIM Trial operations and roles of different stakeholders, including the Korea Aerospace Research Institute (KARI), Digital Air Traffic Management (DATM) Center, Operations Control Center at Headquarters (HQ) of Korea Airports Corporation (KAC), and others. Lastly, lesson learned from the whole journey was shared with participants.

*SP/06 - AAI SWIM Journey*

2.8 Mr. Lalit Kumar Pawar, Assistant General Manager (CNS), Airports Authority of India (AAI), introduced the SWIM project undertaken by AAI and the lessons learned from their SWIM journey. He explained the capabilities, technical infrastructure, information exchange models and databases used, the SWIM digital applications developed, and the considered SWIM governance of the SWIM system in AAI. The architecture used for SWIM integration with AEROTHAI and the AHMS in Mumbai as well as the challenges encountered were also elaborated. Lastly, a summary of the lessons learned from the SWIM journey in AAI and expectations from the SWIM TF was explained in details.

*SP/07 - FAA SWIM Journey*

2.9 Ms. Kristin Cropf, SWIM Programme Manager, Federal Aviation Administration (FAA), shared the FAA SWIM journey. She shared the historical information and current status of SWIM in the United States (US), along with SWIM's Role in FAA Operations. The current US SWIM environment, the lessons learned, and the improvement plan for each SWIM component as per the SWIM scope outlined in ICAO Doc 10039 Manual on SWIM Concept were shared. Lastly, the considerations on security aspect and SWIM operations as well as the considerations for SWIM TF were explained.

*SP/08 - Hong Kong Observatory (HKO) SWIM Journey*

2.10 Mr. Marco Kok, Acting Senior Scientific Officer, Hong Kong Observatory, presented the Hong Kong Observatory (HKO) SWIM Journey. He shared highlights of developments of SWIM in HKO and informed that HKO is working closely with local airlines adopting the bottom-up approach by establishing use cases and developing solutions to support their operations. The concept of the data slicing server to customize data, tailored in terms of time series and flight route as well as incorporated with Mode-S MET data, and other relevant details were shared with the participants. Additionally, the lessons learned so far and the expectations from SWIM TF, especially the close coordination with MET/IE WG and MET/R WG under ICAO APAC MET SG, were highlighted.

*SP/09 - Australian BoM SWIM Journey*

2.11 Mr. Aswhin Naidu, Aviation Customer Lead, Australian Bureau of Meteorology (BoM), presented the Australian BoM SWIM Journey. He introduced the exchange prototype of IWXXM data between BoM and Airservices Australia (AA) as well as the static SWIM Registry. The presentation further elaborated on the BoM's progress on IWXXM implementation, including how the aviation customers currently get MET products from BoM, the format of MET products and bulletins provided, and the current status and future plan for the IWXXM implementation. The topic structure for PUB/SUB message exchange pattern using AMQP was also raised for further discussion and

consideration of SWIM TF. Lastly, the presentation summarized the positives observed so far and the challenges faced.

### **Closing of Seminar**

2.12 Dr. Amornrat Jirattigalachote shared gratitude to delegates for their active participation and sharing of ideas. She summarised the key messages from each presentation, especially the expectations from SWIM TF, including:

- Regional guidance on, e.g., SWIM technical infrastructure specifications, registry model, governance framework, security framework, information exchange model version to be used;
- Transition plan;
- Process/Framework to on-board other aviation stakeholders (not only ANSPs); and
- Regional SWIM operation management process.

2.3 She also extended sincere appreciation to all speakers for joining the Seminar and sharing the information with APAC Member States. Additionally, she expressed appreciation and gratitude to the participants of the event.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

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

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