International Civil Aviation Organization

Sixth Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (APAC ATMAS TF/6)

Bangkok, Thailand 2-4 June 2025

Agenda Item 6: ATMAS integration to SWIM

SWIM IMPLEMENTATION AND ATMAS INTEGRATION

(Presented by the Secretariat)

SUMMARY

This paper presents outcomes and recommendations of the First Working Session of the SWIM Implementation Pioneer Ad-Hoc Group (SIPG WS/1) and the tenth meeting of the System-Wide Information Management Task Force for ATMAS TF.

1. INTRODUCTION

1.1 The SIPG under the System-Wide Information Management Task Force (SWIM TF) was established by **the Decision SWIM/TF/07/03** during the SWIM TF/7 Meeting in 2023 to develop an initial version (prototype) of the Asia/Pacific regional SWIM.

1.2 Based on the 15 SIPG teleconferences held since its inception in June 2023 and the lessons learnt from the Joint Event of SWIM over CRV Demonstration and Surveillance Data over SWIM Trial conducted in Hong Kong China from 28-29 May 2024, the SIPG identified critical tasks for the construction and implementation of SWIM in the Asia/Pacific region. Many of these tasks, which are related to the design of the regional SWIM, require in-depth discussions that are not feasible during 1.5-hour monthly teleconferences.

1.3 To expedite progress toward the regional SWIM implementation target as agreed through **Conclusion APANPIRG/33/9**, the SWIM TF Task Leads Meeting in August 2024 agreed to the need for an in-person SIPG working session. This session was planned to focus on four essential agenda items to develop a concrete proposal for consideration of the tenth Meeting of SWIM Task Force (SWIM TF/10) planned to be held in May 2025.

1.4 The First Working Session of the SWIM Implementation Pioneer Ad-Hoc Group (SIPG WS/1) was held from **14 to 17 January 2025** in the ICAO Asia Pacific Regional Office, Bangkok, Thailand. The meeting was attended by **51** Participants from **13** States/Administrations and **2** International Organizations. The Working Session report and presentations can be accessed at:
https://www/icao.int/APAC/Meetings/Pages/2025-SWIM-SIPG-Working-Session.aspx

1.5 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 and presentations can be accessed at: https://www.icao.int/APAC/Meetings/Pages/2025-SWIM-Seminar-and-SWIM-TF10-SIPG2.aspx

1.6 This paper shared the recommendation made by the SIPG WS/1 and SWIM TF/10 for ATMAS TF/6 consideration.

2. DISCUSSION

2.1 The summary of the discussion in the Working Session and SWIM TF/10 is given in the following paragraphs.

SIPG WS/1

SWIM Transition – SIPG Lead (SP/05)

2.2 The SIPG lead presented SP/05 to the meeting. The presentation highlighted the challenges of transitioning from a non-SWIM environment to a SWIM environment, in particular, from AMHS to SWIM. It is foreseen that the transition period might be a significant duration, and this highlighted the need to address how such a mixed-mode environment can work.

2.3 The presentation generated a lot of discussions on mixed-mode environments and how long such an environment is likely to exist. There was also discussion over the types of data currently being carried on AMHS that are not represented by the existing SWIM data models. After some deliberation, it was clear that there are some data types in AMHS that have a clear mapping to the SWIM data models. Some data models do not have similar mappings but have expert bodies working on migrating them to SWIM. Finally, there is at least 1 data type that does not have a SWIM mapping or a migration plan to SWIM. There are some AMHS data types that have a clear sunset date attached to them, e.g., FPL2012. There are some that have a migration target date set but no sunset date and others that have no dates set.

2.4 During the discussion, it was highlighted that the ACSICG has a group looking at the AMHS to SWIM transition. It would be good for the SWIM TF to work with this group to map the transition plan together.

2.5 After many discussions, the following conclusions were reached for this agenda item:

1) Reach out to the relevant expert groups governing each data type within AMHS for their SWIM migration strategy, if any, and the proposed sunset date for the AMHS data type. E.g., AAITF, FF-ICE Ad-hoc group, MET IE, ATFM ad-hoc group, etc.)

2) Work closely with the ACSICG AMHS to SWIM transition group to map out a transition plan together. One of the topics to clarify is the need for AMHS to SWIM conversion.

3) Explore more on SWIM implementation using legacy formats. Starting with the list of common SWIM services, looking for services that can quickly be turned into SWIM information services using legacy data formats. Reference to the ATM Information Reference Model (AIRM) is necessary to maintain semantic interoperability.

4) **Inform the ATM Automation Systems Task Force (ATMAS TF) of the need for ATM automation Systems to integrate into SWIM**.

***Action WS-1-12*:** SIPG to capture the above conclusions in a working paper and present them at the SWIM TF/10 meeting.

SWIM TF/10

SIPG Action WS-1-12: Conclusions of the Asia-Pacific SWIM Transition Discussions – SIPG (WP/09)

2.6. This paper presented the deliberations of the SIPG for SWIM transition and shared the following 4 recommendations for the SWIM TF's consideration:

Recommendation 1: Reach out to relevant expert groups that govern the various data types being transmitted on AMHS for their SWIM migration strategy and proposed sunset date. (e.g., AAITF, FF-ICE ad-hoc group, MET/IE, ATFM ad-hoc group, etc.)

Recommendation 2: Work closely with the ACSICG AMHS and the SWIM Transition Group to map out a transition plan together. One topic of interest is the need for AMHS to SWIM conversion and how that should be managed.

Recommendation 3: Consider the use of legacy formats in the Asia-Pacific SWIM. This is to enable existing data to be quickly onboarded onto SWIM. The ATM Information Reference Model should be used to maintain semantic interoperability.

Recommendation 4: Inform the ATM Automation Systems Task Force (ATMAS TF) of the need for ATM automation systems to be SWIM compatible.

2.7. The Meeting deliberated the recommendations in detail and agreed to adopt recommendations 1, 2, and 4 as proposed. For recommendation 3, the Meeting discussed whether SWIM TF or operational expert groups would be a more appropriate body to determine the data formats for information exchange within SWIM. Moreover, it was noted that referencing the use of legacy formats in the region could potentially hinder progress towards SWIM transition. As a result, recommendation 3 was revised and adopted by the Meeting as follows:

Recommendation 3: Consider the possible use of any other data formats, in addition to AIXM, FIXM, and IWXXM, in the Asia-Pacific SWIM. This is to enable existing data to be quickly onboarded onto SWIM. The ATM Information Reference Model should be used to maintain semantic interoperability.

2.8. For recommendation 1, the Meeting was informed that the ATFM SG/14 meeting endorsed the draft conclusion, which was later adopted by APANPIRG/35 as **Conclusion**

APANPIRG/35/4, on the adoption of FIXM v4.3 as the standard format for cross-border ATFM information exchange in the SWIM environment from Q3/2026.

2.9. The MET/IE WG Chair informed that the 6th meeting of the ICAO Meteorological Panel (METP) was held in March 2025. At this meeting, the Panel was informed that, while the IWXXM format had become a standard format for the international exchange of aeronautical meteorological information since November 2020, it had not yet reached a sufficient level of global implementation. A key reason for this slow implementation of the IWXXM format was attributed to the fact that Annex 3 continued to require States to issue and disseminate products also in TAC format and/or in abbreviated plain language. To encourage global progress towards IWXXM format, it was proposed to amend Annex 3, to specify the removal of TAC and plain text language forms as the standard format for the international exchange of aeronautical meteorological information with an applicability date of November 2030 (i.e. to align with the expected applicability date of Amendment 84 of Annex 3). The METP agreed to the proposed removal of the use of TAC and plain text language forms for the international exchange of aeronautical meteorological information such as METAR, SPECI, TAF, trend forecasts, SIGMET and AIRMET information, volcanic ash advisory (VAA) information, tropical cyclone advisory (TCA) information, and space weather advisory (SWXA) information.

2.10. The Meeting requested the ICAO Secretariat to coordinate with ICAO APAC Aeronautical Information Services − Aeronautical Information Management Implementation Task Force (AAITF) to share the plan for the AIS to AIM transition, particularly regarding the anticipated sunset date of exchanging aeronautical information over AFTN/AMHS. **ACTION ITEM 10-3**

2.11. In response to a query regarding the global strategy for AMHS to SWIM transition, it was shared that no such discussion is currently taking place within the Air Traffic Management Requirements and Performance Panel (ATMRPP). ATMRPP is presently focused on the transition strategy for FPL2012 to FF-ICE. Discussion on migration of other ATS messages, in addition to FPL2012, CHG, DLA, CNL, RQP, RQS, DEP, ARR, has only recently been initiated.

2.12. The Meeting noted concern regarding the differing suggestions on communication infrastructure implementation provided to APAC States/Administrations. For instance, various MET meetings have emphasized the need for the timely implementation of capable primary and, where relevant, secondary links for the exchange of IWXXM messages. It was highlighted in these meetings that IWXXM, as the successor to Traditional Alphanumeric Code (TAC), can only be transported over links with specific capabilities, which AFTN links do not support. Readiness of AMHS with File Transfer Body Part (FTBP) and the Interpersonal Message (IPM) Heading Extension (IHE) to support the exchange of IWXXM messages/reports has been promoted in MET and ACSICG meetings. However, it had also been informed at these meetings that AMHS would not support the exchange of AIXM and FIXM messages and that SWIM would be required for such exchanges. This differing guidance for ANS communication capacity enhancements has created confusion among States/Administrations, particularly whether to transition from AFTN to AMHS, upgrade existing AMHS, or bypass AMHS entirely and implement SWIM directly.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the outcomes of the SIPG WS/1, SWIM TF/10 and discuss the recommendations related to ATMAS and necessary follow-up actions; and

b) discuss any relevant matter as appropriate
