International Civil Aviation Organization

Twenty-First Meeting of the ICAO Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF/21)

Bangkok, Thailand, 19 – 22 May 2026

Agenda Item 4: AIS-AIM Updates

THE ROLE OF AIS UNITS IN PROVIDING INFORMATION SERVICES THROUGH SWIM

(Presented by Japan)

SUMMARY

This paper presents that Japan commenced the provision of information services, including aeronautical information via SWIM, at 18:00 (UTC) on 3 March 2026. SWIM plays an essential role for aeronautical information service providers. This working paper aims to introduce best practices for implementing the provision of aeronautical information through SWIM in Japan, and to discuss and deepen the understanding of the roles fulfilled by AIS organizations.

1. INTRODUCTION

1.1 Japan commenced the provision of information services, including aeronautical information via SWIM, at 18:00 (UTC) on 3 March 2026. SWIM plays an essential role for aeronautical information service providers. This working paper aims to introduce best practices for implementing the provision of aeronautical information through SWIM in Japan, and to discuss and deepen the understanding of the roles fulfilled by AIS organizations. (Ref. AAITF/20 IP/04, SWIM Information Service in Japan)

Relationship between the provision of Aeronautical Information Services and SWIM

1.2 With regard to the provision of aeronautical information through SWIM, ANNEX 15 recommends the provision of digital data sets through information services.

> 5.4.3.1 **Recommendation.**— *When provided, the digital data sets specified in 5.3 should be made available through information services.*

1.3 In the APAC region, recognizing the importance of regional harmonization, consensus was reached last year on the introduction of the APAC Common SWIM Information Service (*Decision APANPIRG/36/11 – Adoption of APAC Common SWIM Information Services, v1.0*). Toward the target year of 2030, coordinated efforts for the implementation of Regional SWIM are required across the APAC Region.

1.4 SWIM can be an excellent platform that enables the reliable and timely provision of various aeronautical information that is increasingly being digitalized. Through the transition from point-to-point communications to many-to-many communications and by providing an appropriate interface for the intended users, SWIM enables a wide range of users to access information more

flexibly and efficiently than ever before, thereby contributing to the safety of flight operations.

1.5 For AIS organizations, the provision of aeronautical information through SWIM is of decisive importance. In preparation for the provision of aeronautical information via SWIM scheduled for March 2026, we have participated, from the perspective of an information service provider, in the development of the framework in collaboration with SWIM stakeholders.

2. DISCUSSION

Understanding of SWIM

2.1 The AIS unit provides aeronautical information through SWIM. SWIM does not refer to specific equipment or a particular network infrastructure; rather, it is a concept for information sharing. As a concept, the specific methods of implementation must be determined by each State in accordance with its own circumstances. JCAB studied ICAO Documents and undertook efforts to implement SWIM. When commencing the provision of information services through SWIM, one of the most critical elements is governance. In order for governance to function effectively, it is considered desirable for the AIS unit, as the information service provider, to participate from the early stages of SWIM development.

> *Definitions in PANS-IM (Doc 10199) state: Governance. The set of bodies, standards, policies and processes that ensure globally interoperable information is provided by reliable and trusted services.*

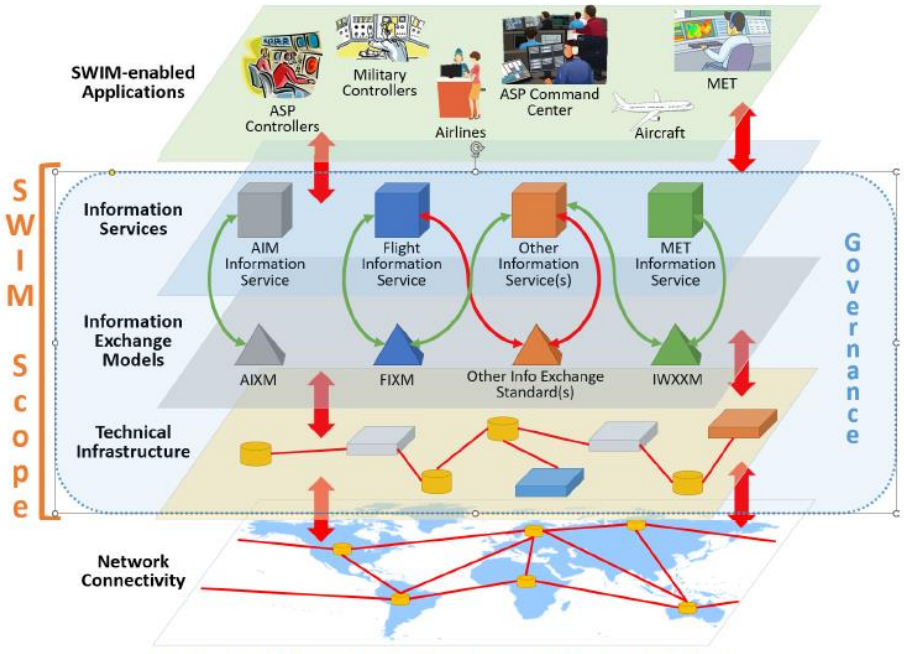

Figure 1-1. SWIM global interoperability framework (GIF) (refer to Doc 10039)

2.2 SWIM requires decisions to be made on a wide range of issues, such as who will manage the SWIM information-sharing framework; who will be authorized to use SWIM services; the scope of information services to be handled through SWIM; the messaging exchange model to be employed; who will provide the information services; what regulations and rules are required; and who will be responsible for the issuance and management of accounts for the use of SWIM. Each of these matters must be determined individually, and they are the responsibility of those who introduce and implement SWIM.

2.2 In order for governance to function effectively, decision-making through discussions and communication among stakeholders is essential. In Japan, a SWIM Steering Committee was established for the development of SWIM and the committee is held periodically for decision-making. The Committee defined the objectives of SWIM and identified the relevant stakeholders, established basic policies, and developed the SWIM operational regulations. These documents are published on the SWIM Portal, enabling stakeholders to access them at any time.

2.3 Furthermore, in order to promote continuous improvement, a forum for dialogue among stakeholders with an interest in SWIM was established in the form of the SWIM Community (SWIM Education and Enhancement Team, referred to as "SWIMEE"), and regular discussions are conducted. Participants include the SWIM administrator as the organizer, the registry service provider responsible for registry services, information service providers including our AIS organization, and users of information services such as airlines, airport operators, and the aviation industry.

Role and tasks of the AIS unit

2.4 The AIS organization is an information service provider that delivers information services through SWIM. In its role as an information service provider, the AIS organization specifically determined the items described below. The AIS organization has long been responsible for the provision of aeronautical information and therefore possesses substantial expertise in this domain. This expertise can be effectively leveraged in the establishment and operation of governance for the implementation of SWIM.

a) It is necessary to determine AIXM 5.1.1 as the data exchange format and to prepare the required data accordingly. In the Asia/Pacific Region, in order to ensure a harmonized regional approach, the provision of data in the AIXM 5.1.1 format was decided. Compared with AIXM 4.5, which had previously been adopted in Japan, AIXM 5.1.1 has a more complex structure and contains a larger volume of information. In addition, GML is used for the representation of geographical information. Therefore, AIS personnel are required to possess knowledge of AIXM 5.1.1, geographic information systems including GML, and the skills necessary for data preparation, including data migration activities.

b) From the perspective of providing information services, it is necessary to make specific determinations regarding the types and scope of information to be provided, the range of intended users, and the procedures for reviewing and approving applications for use, including who is responsible for such approval.

c) In order to enable users to easily identify the information services they require, it is necessary to provide an overview of each information service. Services should be maintained in accordance with their lifecycle stages (development, inspection, product, and retired). The items to be included in the information service overview are specified in PANS-IM (Doc 10199).

d) In addition to the information service overview, an operational concept and a service description document were developed and shared with stakeholders. The operational concept describes, from a user perspective, the future direction, characteristics, use cases, benefits, and potential impacts on users of existing systems when a new information service is developed. The service description document specifies the content of the information service and the technical requirements necessary for its use. Through these documents, users can better understand the intentions of the information service provider, thereby enhancing predictability, confirming system development requirements in advance, and enabling more efficient system development.

e) Users of information services provided via SWIM are diverse, including AIS units, overseas organizations, private pilots, air traffic controllers, airlines and service providers, etc. It is necessary for each state to understand the needs of this wide range of users, organize the requirements for services, and design optimal user interfaces accordingly. The scope of SWIM information services does not extend to SWIM-enabled applications. Nevertheless, JCAB has continued to provide web-browser-based means for pre-flight information services so that users can easily access aeronautical information. This is because JCAB has long enabled users to view the AIP and NOTAMs through its website and has provided graphical information. For users for whom it is difficult or unnecessary to develop their own applications, web-browser-based services have been continuously provided. When offering the viewing services that are directly used by humans, it is expected that various requests regarding the user interface will be raised. For this reason, it is considered necessary to establish requirements in advance in collaboration with users of the viewing services, to provide a trial operation period, and to confirm that the services are operationally appropriate.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) understand the importance of the implementation of SWIM and the role of the AIS unit as an information service provider;

c) encourage States/Administrations to consider the following items toward providing aeronautical information services via SWIM:

- providing SWIM Common Services as an information service provider;
- developing a SWIM operating manual for the provision of information services; and
- studying the scope of SWIM users, the necessity of user authorization, and the development of service outlines.

d) discuss any relevant matters as appropriate.

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