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 6: State, regional and global SWIM updates

PROGRESS UPDATE ON SWIM IMPLEMENTATION IN JAPAN

(Presented by JAPAN)

SUMMARY

This paper presents a progress update on the implementation of System-Wide Information Management (SWIM) in Japan. It outlines Japan's strategic approach, the development of SWIM technical infrastructure, and the commencement of operational information services in March 2026.The paper also highlights Japan's alignment with ICAO Global Air Navigation Plan (GANP) and the APAC SWIM Implementation Roadmap, as well as future steps toward full SWIM-enabled operations.

1. INTRODUCTION

1.1 Japan has been promoting the digital transformation of Air Traffic Management (ATM) through the introduction of System-Wide Information Management (SWIM), in line with the ICAO Global Air Navigation Plan and Aviation System Block Upgrades (ASBU).
The Civil Aviation Bureau of Japan (JCAB) has recognized SWIM as a key enabler to enhance safety, efficiency, capacity, and predictability in increasingly complex air traffic operations.

1.2 Japan's SWIM initiative aims to shift from traditional text-based aeronautical information exchange to standardized, machine-readable digital information services, enabling real-time information sharing among air navigation service providers, airspace users, aerodrome operators, and other stakeholders. In this regard, Japan acknowledges the important role of continuous engagement and information exchange within the ICAO APAC SWIM Task Force and the SWIM Implementation Pioneer Ad-hoc Group. These activities have supported Japan's steady progress through shared experiences, regional coordination, and practical guidance.

1.3 Japan's SWIM implementation has been guided by a phased and operationally focused approach. Rather than a single system replacement, Japan has pursued the gradual integration of SWIM concepts into existing ATM environments, ensuring continuity of operations while enabling future scalability.

Key principles of Japan's SWIM roadmap include:

Coexistence with legacy systems during transition,

Early operational use of various types of digital information,

Provision of standardized information services via a centralized SWIM platform.

1.4 Japan has established a national SWIM technical infrastructure as a digital information platform for aviation-related data. The infrastructure enables centralized collection, management, and dissemination of aeronautical, meteorological, and operational information through standardized interfaces.

Key characteristics of Japan's SWIM Technical Infrastructure include:

Internet-based access with appropriate security controls,

Service-oriented architecture supporting multiple information services,

Capability to provide information in internationally standardized digital formats.

This infrastructure forms the foundational layer for future SWIM-enabled applications and services.

1.5 Japan officially commenced the provision of SWIM information services on 4 March 2026, marking a major milestone in its SWIM implementation.

Initial services focus on:

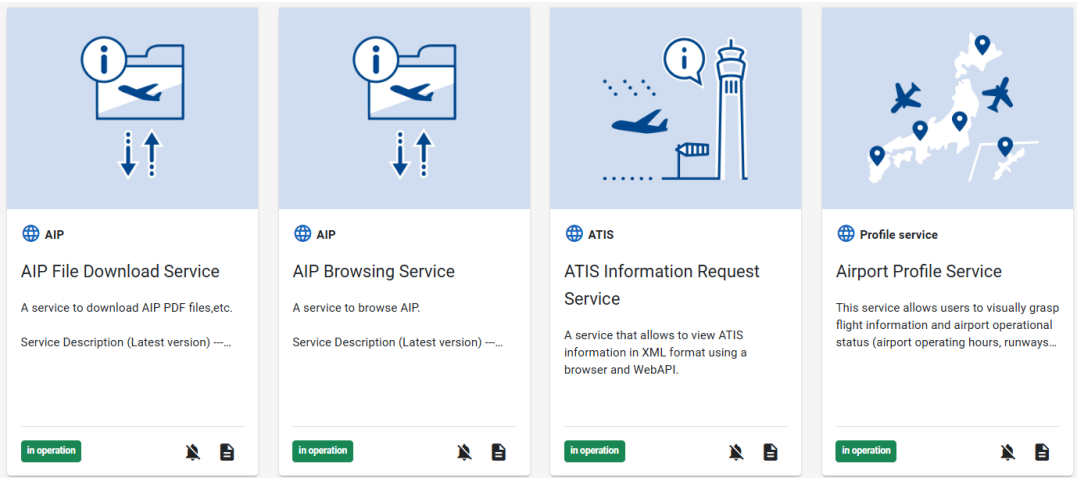
Aeronautical Information (e.g. Digital NOTAM, AIP),

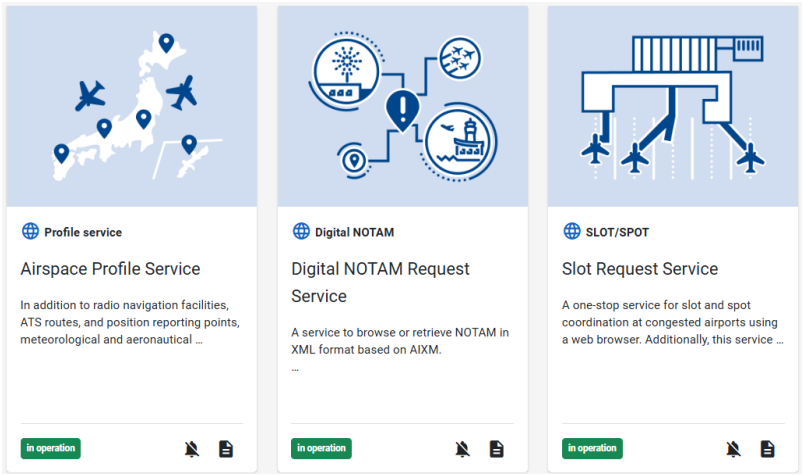
Meteorological Information,

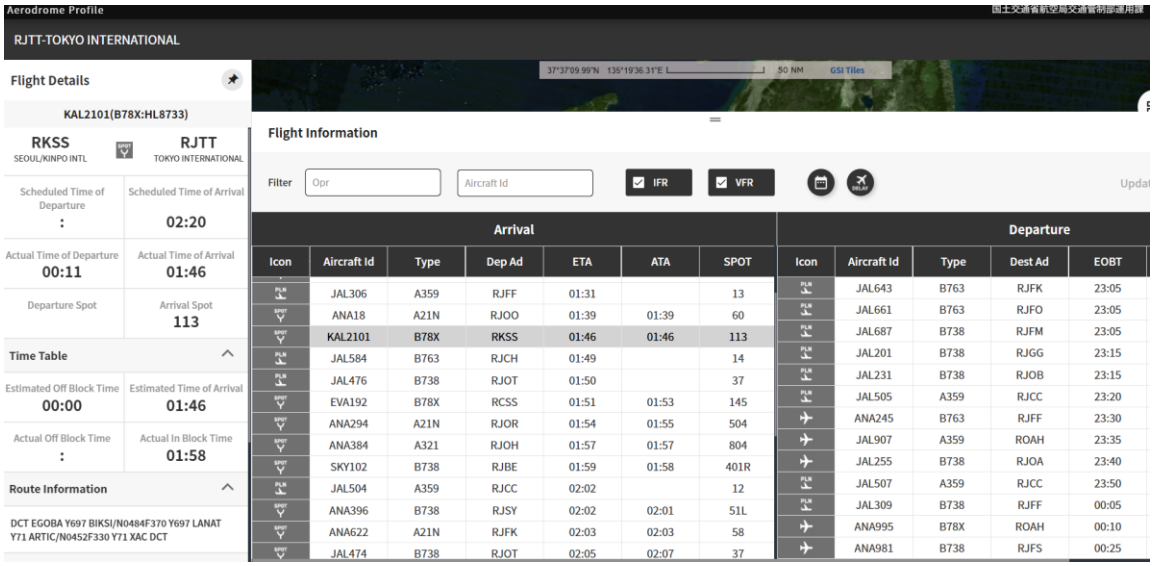
Flight and ATS-related operational information,

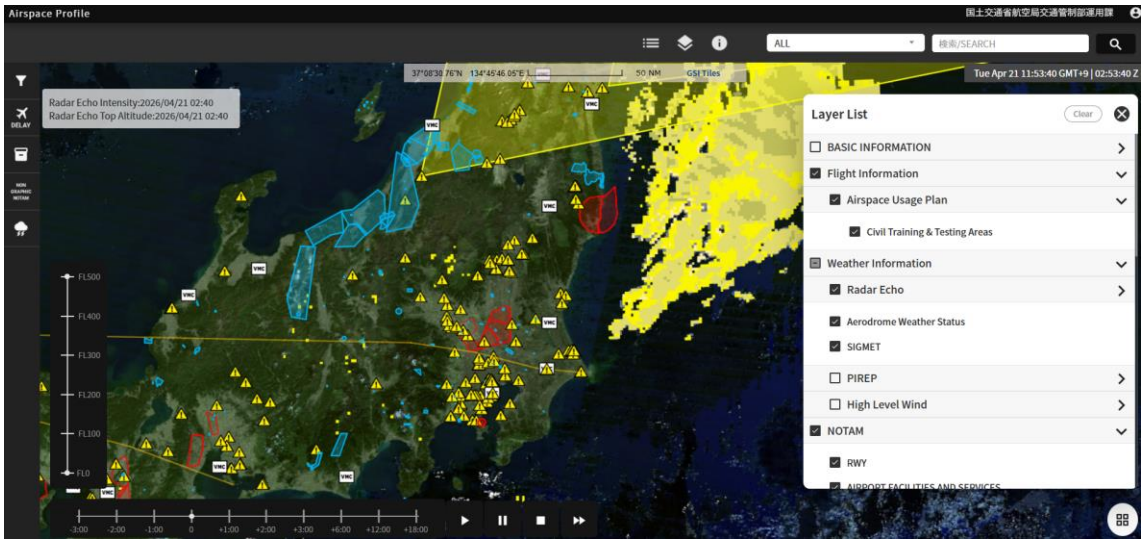
Integrated visualization services for improved situational awareness.

The services are provided through a SWIM portal, allowing authenticated and authorized users to access information via web-based interfaces and system-to-system connections.









2. DISCUSSION

2.1 Deployment of SWIM Information Services

Japan's SWIM implementation emphasizes early operational benefits through practical information services.

2.1.1 Digital Aeronautical Information Services ; Japan has transitioned from traditional text-based NOTAM to digital NOTAM services, enabling:
Machine-readable data formats,
Automatic visualization on maps,
Reduced risks of human error in interpretation.

Digital AIP data services are also provided in alignment with the AIRAC cycle, supporting downstream system integration by stakeholders.

2.1.2 Integrated Airport and Airspace Information Services ; Japan has introduced Airport Profile and Airspace Profile services, which integrate:
Aeronautical information,
Meteorological information,
Operational constraints and status information.

By visualizing multiple types of information on a single interface, these services enhance situational awareness and support more informed decision-making by operators and planners.

2.1.3 Flight Plan and ATS Information Services ; From March 2026 onwards, Japan has progressively introduced:
Flight Plan Filing Service,
ATS information distribution and request services,
Real-time information access through SWIM interfaces.

2.1.4 These services are designed to coexist with existing AMHS/AFTN-based processes while offering a pathway toward future ICAO concepts such as FF-ICE.

2.1.5 Overall, Japan's SWIM services are being operated smoothly and reliably, providing a stable foundation for further expansion of SWIM-enabled operations.

2.2 The deployment of SWIM services in Japan pursues the following objectives ;
Enhancement of safety through improved information accuracy and timeliness,
Improvement in operational efficiency and workload reduction,
Support for collaborative decision-making among ATM stakeholders,
Establishment of a foundation for future advanced ATM concepts.
Operational experience gained through early SWIM services is also contributing to capacity building within JCAB and among aviation stakeholders.

2.3 Japan's SWIM implementation is fully aligned with the ICAO APAC SWIM Implementation Roadmap, including the dual operation strategy where legacy systems and SWIM services coexist during the transition period.
Japan recognizes the importance of regional interoperability and continues to participate in ICAO APAC SWIM activities, contributing to harmonized regional implementation.

FUTURE WORK

2.4 Japan plans to further expand SWIM capabilities through:
Additional information services and enhanced data standardization,
Increased system-to-system connectivity with stakeholders,
Preparation for future ICAO concepts including trajectory-based operations and FF-ICE.
Japan will continue to refine governance, cybersecurity, and service management frameworks to ensure sustainable SWIM operations.

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 matters, as appropriate.

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