



**INTERNATIONAL  
CIVIL AVIATION  
ORGANIZATION**



# Proposal – ICAO APAC SWIM Indicators

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SWIM TF/11

SWIM TF Co-Chair & Secretariat

# Agenda

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**01** Why SWIM Indicators?  
Background information

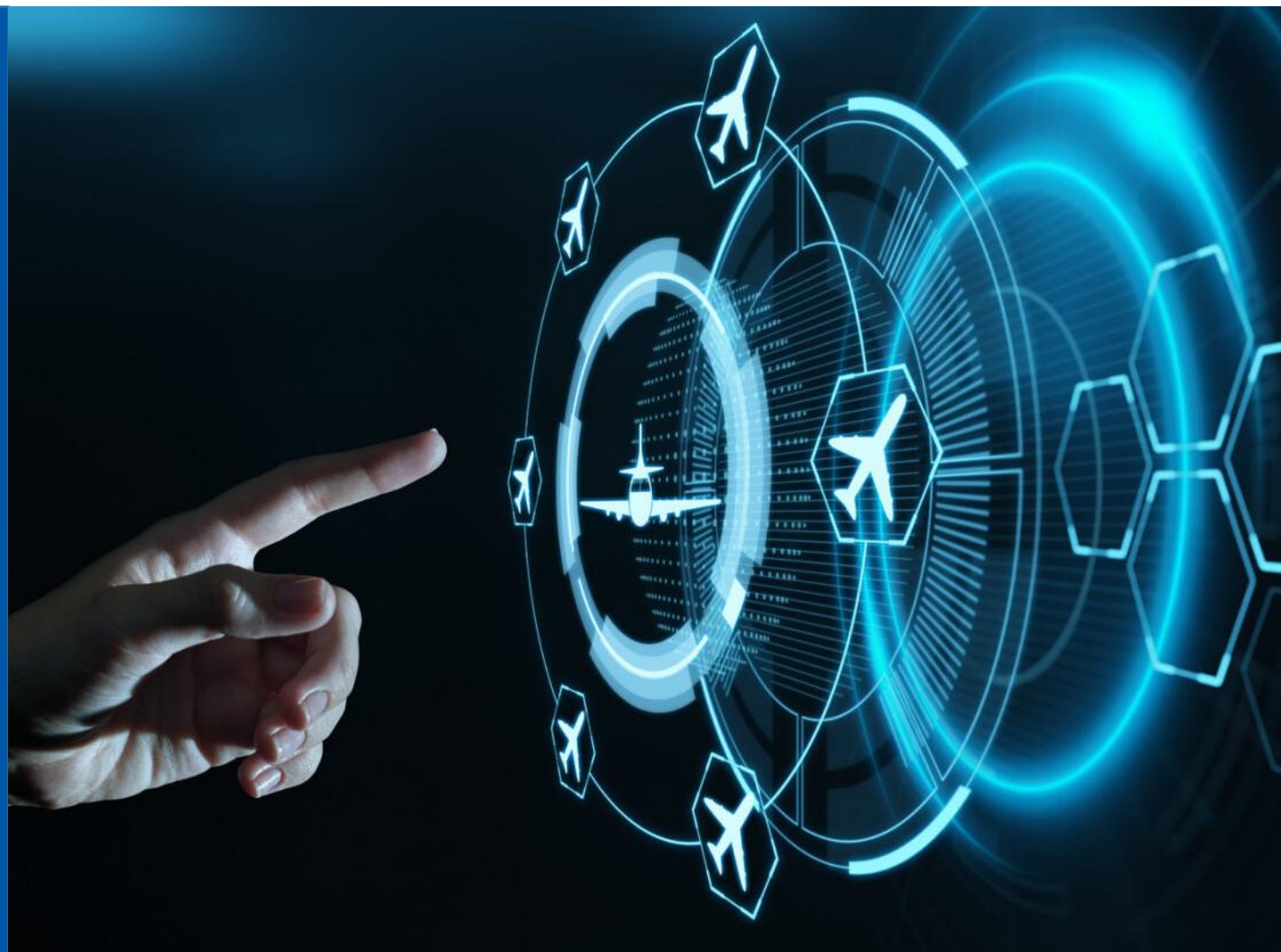
**02** SWIM TF/10 Discussion  
Outcomes of SWIM TF/10

**03** Work done in 2025-26  
SWIM TF Task Leads Meeting Outcomes

**04** SWIM Indicators  
Proposed indicators

**05** Way Forward

01  
Why SWIM  
Indicators?





## 2<sup>nd</sup> ASIA PACIFIC MINISTERIAL

### Key Reasons

The Second Asia Pacific Ministerial Conference on Civil Aviation, held from 11 to 12 September 2024 in New Delhi, India, endorsed the Second Asia and Pacific Ministerial Declaration on Civil Aviation (Delhi), also known as the **Delhi Declaration**.

- b. Improved Airspace Safety and Capacity through the implementation of more efficient Air Traffic Control (ATC) separation minima;
- c. Performance Based Navigation (PBN) implementation in accordance with ICAO Assembly Resolution A37-11 on Global PBN Goals;
- d. Common Ground/Ground Telecommunication Infrastructure to support ANS applications;
- e. Expediting the implementation of ICAO provisions related to System Wide Information Management (SWIM);
- f. Enhanced civil/military cooperation;
- g. Enhanced Surveillance capability for improved Safety and Efficiency;
- h. Air Traffic Flow Management (ATFM) and Airport Collaborative Decision Making (A-CDM) implementation;
- i. Air Traffic Management (ATM) contingency planning, in coordination with neighbouring States/Administrations;

# Key Reasons

## Delhi Declaration

- The Meeting was invited to collaborate towards achieving the targets of the Delhi Declaration and to share the latest implementation status of commitments with the ICAO APAC Office for accurate progress tracking
- Standard Practice: Progress updates on all Delhi Declaration Commitments in every Subgroups/APANPIRG/DGCA Conference/Ministerial Conference Meetings



02

## SWIM TF/10 Discussion on SWIM Indicators



**The ICAO Asia/Pacific (APAC) System Wide Information Management (SWIM) Seminar  
ICAO Asia and Pacific Regional Office, Bangkok, Thailand, 19 May 2025**



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## SWIM Implementation Indicators for APAC – Recap of SWIM TF/10

- The Meeting discussed **various potential indicators** to assess the progress of SWIM implementation within the APAC region
- Suggestions included measuring the **level of involvement of APAC States / Administrations in SWIM-related demonstrations or trials**, the existence of national SWIM activities, plans, or policies, as well as enhancements in ANS infrastructure aimed at meeting SWIM requirements.
- Additionally, the Meeting discussed **a simplified categorization approach** to classify **States' SWIM implementation progress** into three levels, i.e., “In Preparation/Planning”, “Under Development/Implementation” and “In Operation”.

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## SWIM Implementation Indicators for APAC – Recap of SWIM TF/10

### Action Item 10-31

- ICAO Secretariat will inform the DGCA/60 Conference that indicators to measure SWIM implementation in the APAC region are under development, and the latest status of APAC States/Administrations' readiness for SWIM implementation will be shared with the DGCA/61 Conference – **Completed**



### Action Item 10-32

- SWIM TF Co-Chair and ICAO Secretariat will define the first draft of indicators by the end of 2025, and share with SWIM TF Task Leads for review.
- A survey will then be conducted in Q1 2026 to finalize the preferred indicators for the APAC region.

03

## Work done in 2025-2026



## SWIM TF Task Leads Meeting – 21 August 2025

Delhi's Declaration		
Expediting the implementation of ICAO provisions related to System Wide Information Management (SWIM)		
<b>Indicators for the progress of SWIM implementation within the APAC region</b>		
Level of involvement of APAC States/Administrations in SWIM-related demonstrations or trials	The existence of national SWIM activities, SWIM sections, plans or policies, enhancements in ANS infrastructure aimed at meeting SWIM requirements	Detailed indicators at the component level (e.g., IP Network, EMS, Registry, IWXXM/FIXM/AIXM,.....)

## Approach:

1. Formulate a list of all potential indicators.
2. Categorize them into similar types
3. Survey to decide potential indicators for APAC

## Some Examples:

1. The State/Administration is participating in one or more regional/bilateral SWIM events as observer/contributor.
2. SWIM is added in the State National Air Navigation Plan or ANS strategic documents, incorporating SWIM or a separate SWIM implementation plan/roadmap document.

## Value of Indicators:

1. Preparation/Planning
2. Under Development/Implementation
3. In Operation

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## SWIM TF Task Leads Meeting – 17 November 2025

### Proposed Indicators

- ✓ The preparation of SWIM indicators was in progress.
- ✓ It was agreed to be circulated to Task Leads by the end of 2025.

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# SWIM TF Task Leads Meeting – 3 February 2026

## Proposed Indicators

### (Draft) SWIM Implementation Indicators for APAC

#### 1. In preparation/planning

- Readiness of implementation plan
  - > Gap analysis: Determine required data transformation/preparation to standardized information exchange models
  - > Stakeholder mapping: Identify information providers and consumers
  - > Service identification: Decide on and prioritize information services to be implemented
  - > TI design: Decide on SWIM TI architecture
  - > Governance framework design: Draft SWIM governance and policy framework

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# SWIM TF Task Leads Meeting – 3 February 2026

## Proposed Indicators

### (Draft) SWIM Implementation Indicators for APAC

2. Under development/implementation
  - Engineering buildup and testing
    - > Data preparation: Transforming/preparing data in standardised information exchange models
    - > Information services buildup:
      - >> Developing and implementing information services
      - >> Building (initial) service registry, if deemed necessary
    - > TI buildup: Developing and implementing SWIM TI
    - > Testing & validation
    - > Governance establishment

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# SWIM TF Task Leads Meeting – 3 February 2026

## Proposed Indicators

### (Draft) SWIM Implementation Indicators for APAC

#### 3. In operation

- Live SWIM operation

- > Live data exchange: Real-time information exchange in standardized information exchange models through information services
- > Service discovery: Information services discoverable
- > Governance execution
  - >> Tracking Service Level Agreement(s)
  - >> Monitoring performance through Quality of Service (QoS) metrics
  - >> Information service lifecycle management

# 04 SWIM Indicators



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## Feedback from Task Leads

Singapore

- Stage 1
  - > Missing use case identification and development stage
  - > Stakeholder identification and information service identification to follow
  - > Then the gap analysis for data and the TI design, followed by governance framework design
- Stage 2
  - > TI buildup before the data transformation and information services buildup
  - > Then testing and validation
  - > In parallel, the governance establishment
  - > For SWIM registry, either States to develop their own or subscribe to a registry service to have their information service published

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## Feedback from Task Leads

Singapore

- Stage 3
  - > Live operation
    - » Does the State need to have live data exchange happening to be considered in operations?
    - » Is it enough that their SWIM TI is completed, and trial information services show that their SWIM has the ability to exchange messages?
  - > Governance execution
    - » Tracking SLA and monitoring the QoS metrics responsibilities belong to the information service providers
    - » Information service lifecycle management is a joint responsibility between State and the information service provider

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## Feedback from Task Leads

Singapore

- Stage 3
  - > Governance execution (con't)  
States are responsible for the following,
    - >> Access control and Identity management
    - >> Information service onboarding/offboarding
    - >> SLA and QoS of the SWIM TI
    - >> Dispute resolution between the information service consumer and the information service provider



# Feedback from Task Leads

## Japan



- **In operation**

- ✓ ~~Live SWIM operation~~
- ✓ Live data ~~exchange~~deliveries: Real-time information ~~exchanged~~deliveries in standardized information exchange models through information services
- ✓ Service discovery: Information services discoverable
- ✓ Governance execution
- ✓ Tracking Service Level Agreement(s)
- ✓ Monitoring performance through Quality of Service (QoS) metrics
- ✓ Information service lifecycle management



 龍 幸信 ... 

Should we delete it since it duplicates the item name?

 龍 幸信 ... 

Since SWIM involves not only information exchange but also one-way delivery, I believe "delivery" is preferable to "exchange."

## Proposed Indications\*

### 1. In preparation/planning

#### – Readiness of implementation plan

> Use case development: Identify and develop use case(s)

Who

> Stakeholder mapping: Identify information providers and consumers

Information

> Gap analysis: Determine required data transformation/preparation to standardized information exchange models

Information Service

> Service identification: Decide on and prioritize information services to be implemented

SWIM TI

> TI design: Decide on SWIM TI architecture

Governance

> Governance framework design: Draft SWIM governance and policy framework

## Proposed Indications\*

### 2. Under development/implementation

#### – Engineering buildup and testing

Information > Data preparation: Transforming/preparing data in standardised information exchange models

Information Service > Information services buildup:

- >> Developing and implementing information services
- >> ~~Building (initial) service registry, if deemed necessary~~
- >> Ensuring service discoverability through service registry

SWIM TI > TI buildup: Developing and implementing SWIM TI

- > Testing & validation

Governance > Governance establishment

\*Indicator to measure progress, not a recommendation for SWIM implementation steps

## Proposed Indications\*

### 3. In operation

#### – Live SWIM operation

Live information exchange vs. SWIM TI + Trial information service(s)

- > ~~Live data exchange~~ Data delivery: Real-time information exchange delivery in standardized information exchange models through trial information services
- > Service discovery: Information services discoverable
- > Governance execution
  - >> Ensuring establishment of Tracking Service Level Agreement(s) tracking
  - >> Ensuring establishment of performance monitoring performance through Quality of Service (QoS) metrics
  - >> Information service lifecycle management

\*Indicator to measure progress, not a recommendation for SWIM implementation steps

## Proposed Indications\*

### 3. In operation

- Live SWIM operation

Live information exchange vs. SWIM TI + Trial information service(s)

Information

Information Service

SWIM TI

Governance

- > ~~Live data exchange~~ Data delivery: Real-time information exchange delivery in standardized information exchange models through trial information services
- > Service discovery: Information services discoverable
- > Governance execution
  - >> Executing mechanism to ensure Tracking Service Level Agreement(s) tracking
  - >> Executing mechanism to monitoring performance through Quality of Service (QoS) metrics
  - >> Executing mechanism to ensure information service lifecycle management

\*Indicator to measure progress, not a recommendation for SWIM implementation steps

## Proposed Indications\*

### 3. In operation

- Live SWIM operation

Governance

> Governance execution (con't)

- >> Executing framework to ensure SLA and QoS of SWIM TI
- >> Executing mechanism/framework for access control and management
- >> Executing framework/guideline for information service onboarding/offboarding
- >> Executing procedures to resolve dispute between information service provider and consumer

Level of details for measurement on Governance Execution ?

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## Proposed Indications\*

- Scoring
  - > Not implemented: 0
  - > Partial implementation: 0.5
  - > Full implementation: 1
- Progress report: Average score

# 05 Way Forward



## Proposed Way Forward

3 July 2026

Open online platform for reporting

- ICAO State Letter Issuance
- E-mail circulate to SWIM TF/11 participants

12 June 2026

SWIM TF feedback, if any

14 August 2026

Reporting deadline

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# Thank You

