SAFE SKIES.
SUSTAINABLE FUTURE.

ICAO APAC/MID ATFM-FF-ICE Seminar 2025
Dubai, UAE, 23 – 26 February 2025

—

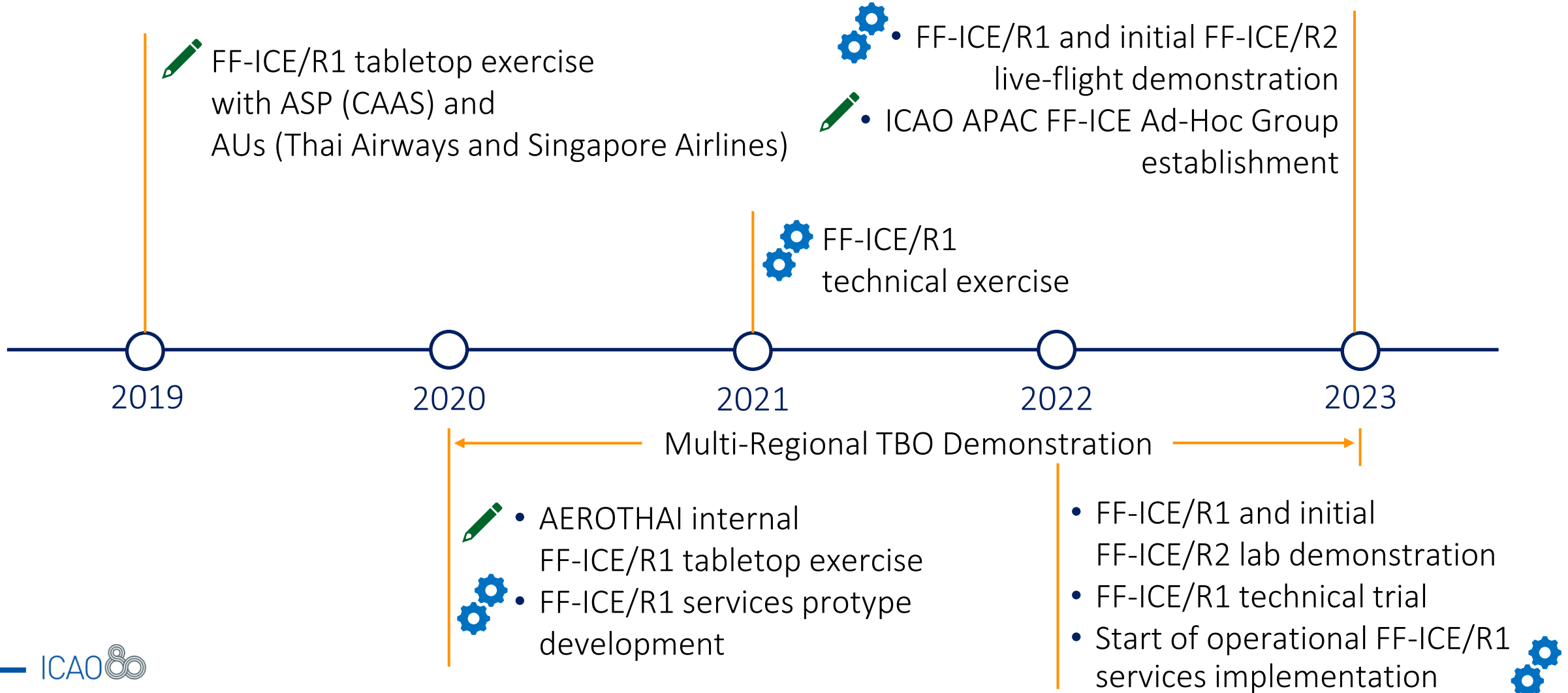# Application of ICAO concept and provisions (AEROTHAI's FF-ICE Experience)

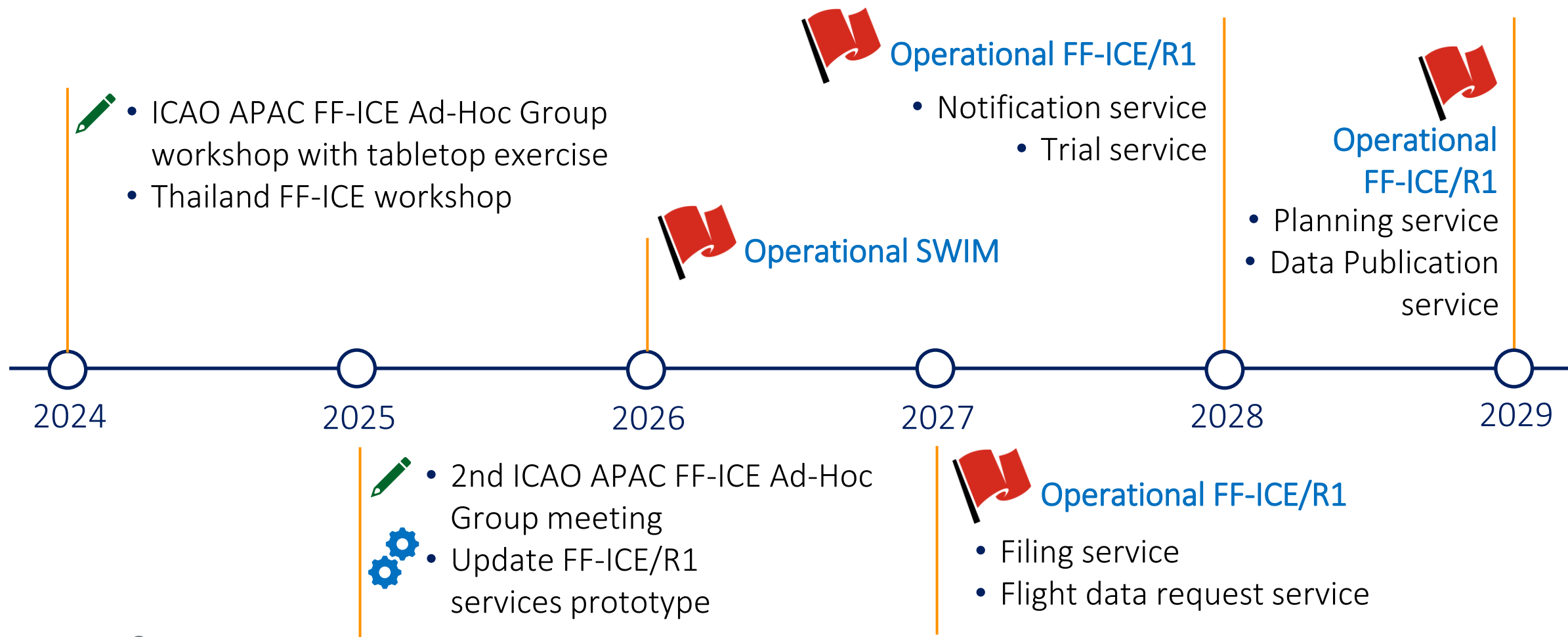## Amornrat Jirattigalachote, PhD

Expert (Director Level)

Corporate Strategy and Sustainability Office
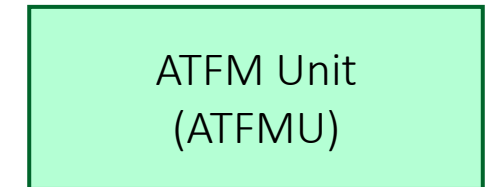
AEROTHAI

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AEROTHAI FF-ICE Journey

FF-ICE/R1 tabletop exercise
with ASP (CAAS) and
AUs (Thai Airways and Singapore Airlines)

- FF-ICE/R1 and initial FF-ICE/R2 live-flight demonstration
- ICAO APAC FF-ICE Ad-Hoc Group establishment

FF-ICE/R1
technical exercise

2019   **2020**   **2021**   **2022**   **2023**

Multi-Regional TBO Demonstration

- AEROTHAI internal FF-ICE/R1 tabletop exercise
- FF-ICE/R1 services protype development

- FF-ICE/R1 and initial FF-ICE/R2 lab demonstration
- FF-ICE/R1 technical trial
- Start of operational FF-ICE/R1 services implementation

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AEROTHAI FF-ICE Journey

2024
- ICAO APAC FF-ICE Ad-Hoc Group workshop with tabletop exercise
- Thailand FF-ICE workshop

2025
- 2nd ICAO APAC FF-ICE Ad-Hoc Group meeting
- Update FF-ICE/R1 services prototype

2026 — Operational SWIM

2027 — Operational FF-ICE/R1
- Filing service
- Flight data request service

Operational FF-ICE/R1
- Notification service
- Trial service

2028 — Operational FF-ICE/R1
- Planning service
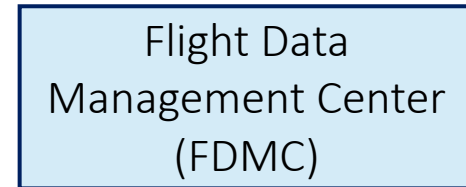- Data Publication service

2029

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FF-ICE Unit

17.2 GENERAL PROVISIONS

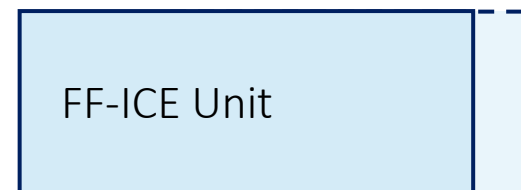17.2.1 When it has been determined that FF-ICE services will be provided, the appropriate ATS authority shall:

a) designate at least one FF-ICE services unit;

b) arrange for, as a minimum, the provision of the filing service and flight data request service;

c) ensure that the ~~with operator~~ ~~provisions in~~

d) arrange for th~~e~~ procedures an~~d~~

Flight and flow — information for a collaborative environment (FF-ICE) services unit. A unit designated by the appropriate ATS authority for the provision of **FF-ICE services**.

Note.— The appropriate ATS authority may designate an existing unit, such as an air traffic services unit, or a local or regional air traffic flow management unit as an FF-ICE services unit.

Flight Data Management Center (FDMC)

ATFM Unit (ATFMU)

FDMC · ATFMU

Ultimate Plan
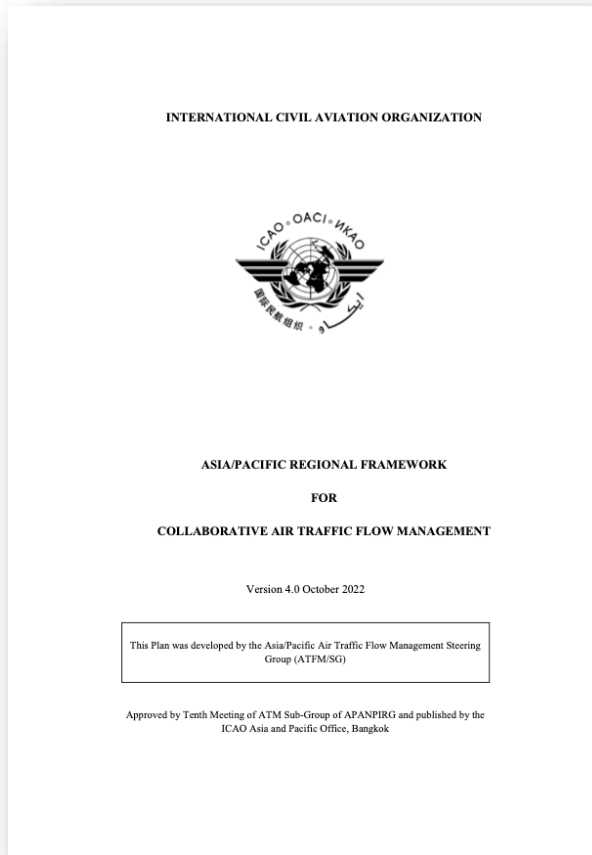
FF-ICE Unit

Mixed-Mode FF-ICE/R1

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FF-ICE Services Implementation

17.2   GENERAL PROVISIONS

17.2.1   When it has been determined that FF-ICE services will be provided, the appropriate ATS authority shall:

a)   designate at least one FF-ICE services unit;

b)   arrange for, as a minimum, the provision of the filing service and flight data request service;

c)   ensure that the FF-ICE services unit(s) maintains the ability necessary to exchange ATS messages with operators and ATS units that have not implemented FF-ICE services, in accordance with provisions in Chapter 11; and

d)   arrange for the promulgation of information on the availability of FF-ICE services, associated procedures and conditions in the Aeronautical Information Publications (AIP).

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FF-ICE Services Implementation

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASIA/PACIFIC REGIONAL FRAMEWORK

FOR

COLLABORATIVE AIR TRAFFIC FLOW MANAGEMENT

Version 4.0 October 2022

This Plan was developed by the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG)

Approved by Tenth Meeting of ATM Sub-Group of APANPIRG and published by the ICAO Asia and Pacific Office, Bangkok

ATFM systems

7.19 Operational FPL and ATS message distribution systems and processes should be analyzed and, where necessary, modified to ensure that FPL, CHG, DEP, DLA and CNL messages are originated, distributed and processed in accordance with the requirements specified in ICAO Doc.4444 PANS-ATM.
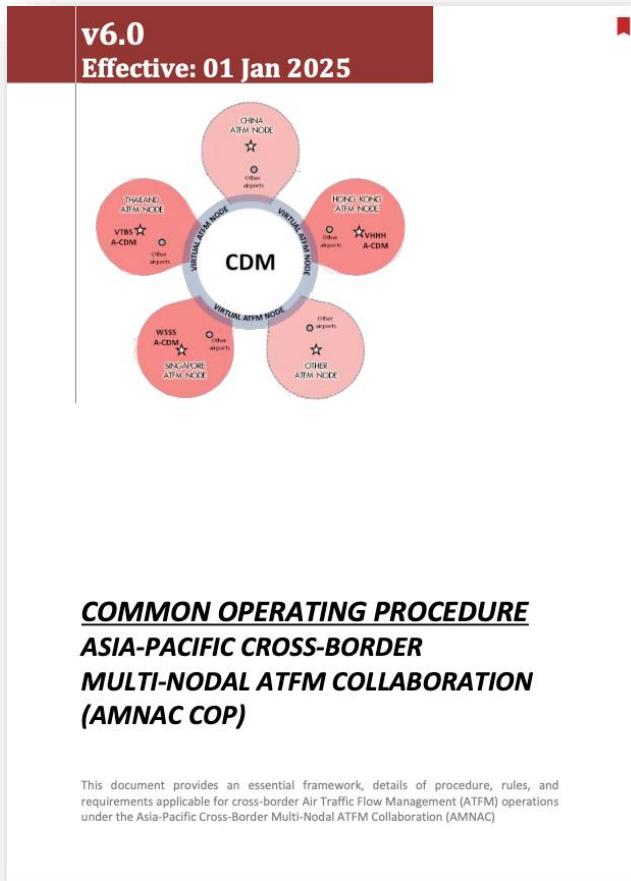
Tactical ATFM execution

7.44 Ground Delay Programs utilizing CTOT should be applied when appropriate to:

    i. aircraft destined for constrained ATFM Program Airports, that have not yet departed;

Appendix C Demand-capacity balancing

Establishment of an accurate prediction for traffic demand

FF-ICE Services Implementation

v6.0
Effective: 01 Jan 2025

COMMON OPERATING PROCEDURE
ASIA-PACIFIC CROSS-BORDER
MULTI-NODAL ATFM COLLABORATION
(AMNAC COP)

This document provides an essential framework, details of procedure, rules, and requirements applicable for cross-border Air Traffic Flow Management (ATFM) operations under the Asia-Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC).

Flight Plan and ATS Messages

4.17 The submission of timely flight plans together with ATS messages such as DLA, CNL, CHG and DEP helps ensure accuracy in demand prediction. This also allows ATFM units to derive an effective ATFM measure when required. The transmission of DEP messages provides ATFM operations with accurate updates of the predicted demand and facilitates the verification of ATFM measure adherence for the Initiating ATFM unit, as well as allowing statistical analysis for post operations review.

4.18 In view of the above, Airspace Users should adhere to the following:
(d) DEP messages are to be transmitted in accordance with the provision of ICAO Doc 4444 Procedures for Air Navigation Services (PANS-ATM) 11.4.2.2.

FF-ICE Services Implementation

17.2 GENERAL PROVISIONS

17.2.1 When it has been determined that FF-ICE services will be provided, the appropriate ATS authority shall:

a) designate at least one FF-ICE services unit;

b) arrange for, as a minimum, the provision of the filing service and flight data request service; **+ Notification Service**

c) ensure that the FF-ICE services unit(s) maintains the ability necessary to exchange ATS messages with operators and ATS units that have not implemented FF-ICE services, in accordance with provisions in Chapter 11; and

d) arrange for the promulgation of information on the availability of FF-ICE services, associated procedures and conditions in the Aeronautical Information Publications (AIP).

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FF-ICE Filing Service

17.4.3 Filed flight plan (eFPL)

17.4.3.1 The FF-ICE filing service shall be effected by the submission of a Filed Flight Plan (eFPL) message by an operator or designated representative.

17.4.3.2 Unless otherwise prescribed by the appropriate ATS authority, an operator or its designated representative electing to use FF-ICE services shall submit:

a) an eFPL to each FF-ICE services unit concerned along the route of a flight; and

b) an FPL to each ATS unit unable to process an eFPL, as directed by the AIP relevant to each airspace the flight is expected to traverse.

Note 1.— When so prescribed, the FF-ICE service unit may optionally offer related functionality, for example: an operator or its designated representative may submit an eFPL only to an FF-ICE services unit serving the departure aerodrome. The FF-ICE services unit may assume responsibility for the provision of the flight plan information and changes thereto in an appropriate format to all relevant units concerned along the route of flight, and for provision of appropriate responses back to an operator or its designated representative.

Note 2.— Acceptable methods for translating eFPL to FPL can be found in the Manual on Flight and Flow — Information for a Collaborative Environment (*Doc 9965*).

- eFPL/FPL translation & delivery
- eFPL forwarding

*Recommend that eAU takes on responsibility to submit eFPL and subsequent updates and changes to all relevant eASPs

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Mixed-Mode Flight Plan Management

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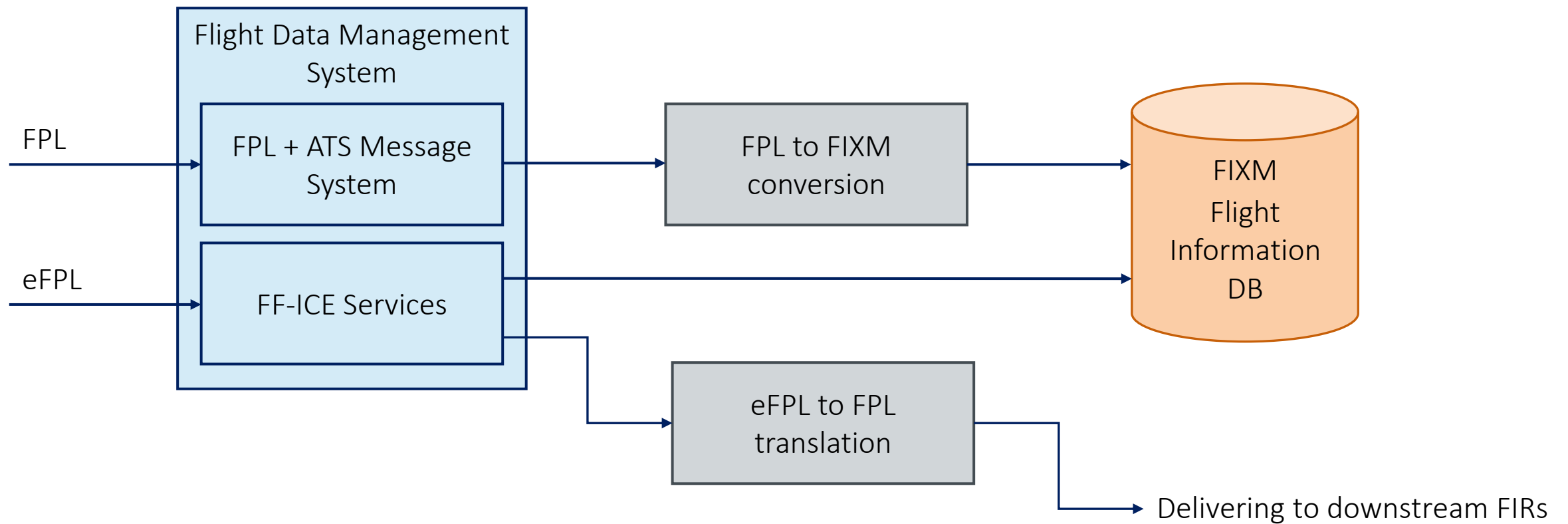
FF-ICE Flight Data Request Service

17.4.7 Flight data request

...ation about a flight that is deemed useful, but as ...en applicable, upon request:

8.1 TYPES OF INFORMATION REQUESTS

8.1.1 In the FF-ICE environment, a Flight Data Request message can be used to obtain information about a flight. The message is designed to allow customized flight data queries (see Appendix C-10), but the following should be a minimum set for implementation:

a) Flight Plan — request a copy of the flight plan, analogous to the use of the RQP ATS message.

b) Supplementary Plan — request a copy of the supplementary data filed for the flight, equivalent to use of the RQS ATS message.

c) Flight Status — request a copy of the latest Planning or Filing status for the flight.

8.3 EXTENSIONS OF FLIGHT DATA REQUEST

8.3.1 If there is additional information about the flight that the eASP wishes to make available, it can publish the indicator to be used in the Requested Flight Data item.

➡ Custom query

Flight Information Exchange Model (FIXM)

17.5.2 The providers and users of the FF-ICE services shall adopt an information exchange model that:

a) provides the structure and format of the required flight and flow data elements, including their properties, associations and data types, and data value constraints;

b) enables the construction and exchange of the standard FF-ICE messages in Table 17-1; and

c) provides a mechanism by which additional flight and flow data and/or FF-ICE messages can be used without affecting global interoperability.
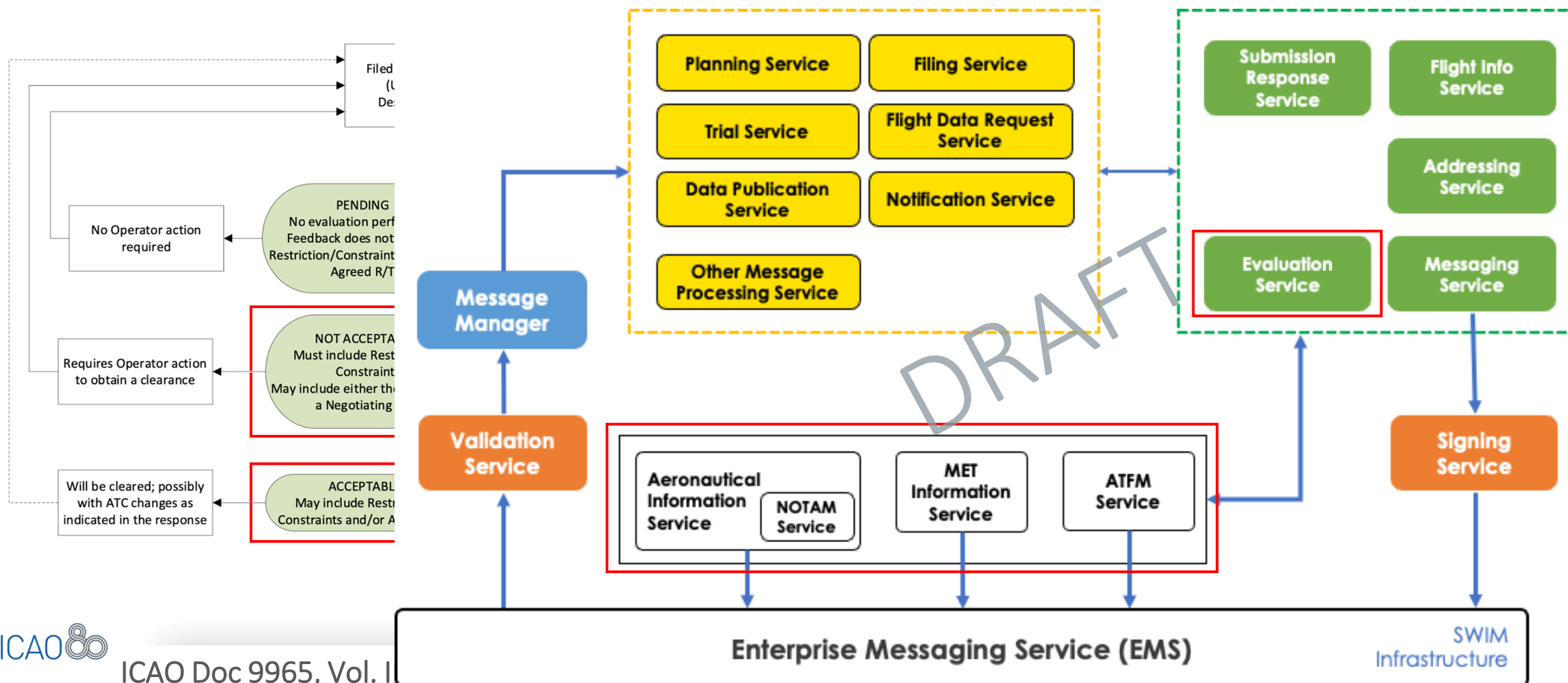
Note. — Details on the structure and format of the flight and flow data elements in the Manual on Flight and Flow — Information for a Collaborative Environment (I

Conclusion APANPIRG/35/4: Agree on the adoption of FIXM Ver. 4.3.0 in Asia/Pacific Region as the standard format

What: That, from Q3 2026 FIXM ver. 4.3.0 would be adopted to support information exchange for: 1) FF-ICE/R1 services implementation; 2) Cross-border ATFM operations		**Expected impact:** ☐ Political / Global ☒ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To support the FF-ICE/R1 requirements to establish a common FIXM version for cross-border information exchange in the Asia/Pacific Region	**Follow-up:**	☒Required from States
When: 27-Nov-24	**Status:**	Adopted by PIRG
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:		

- Regional FIXM version 4.3 Extension
  - → Development done
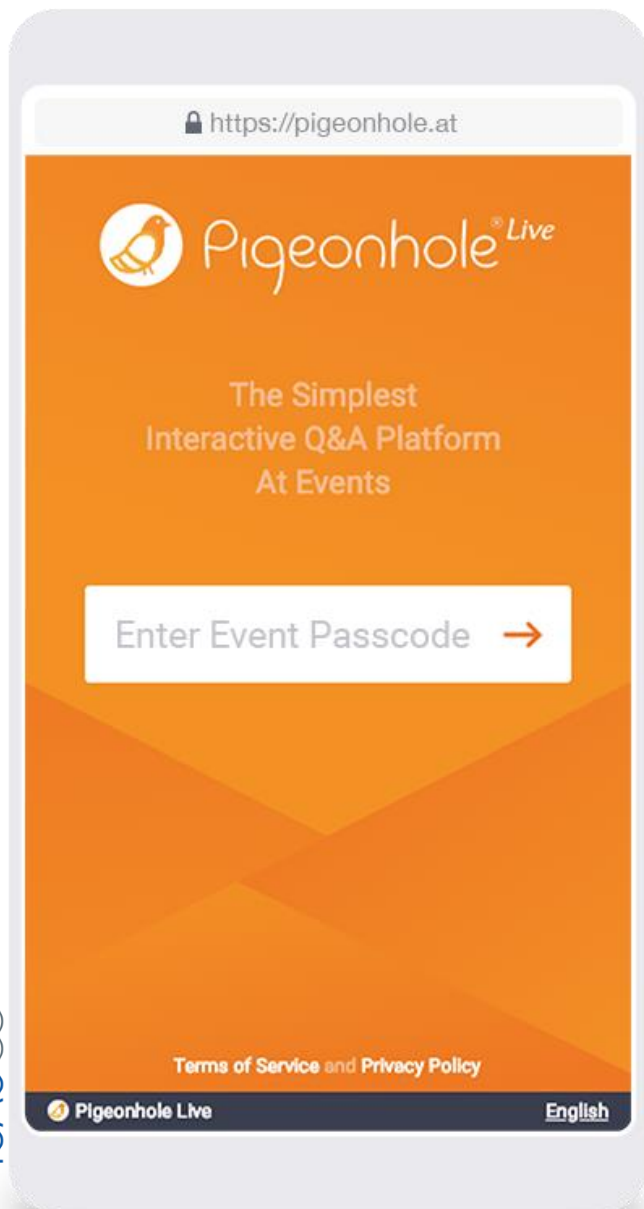 - → Cross-border test in March 2025

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Feedback on Restrictions/Constraints

For Questions

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Thank You

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