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**FF-ICE Awareness webinar for AFI States**  
**Virtual 25<sup>th</sup> March 2025**



# FF-ICE AWARENESS WEBINAR FOR AFI STATES

**FF-ICE Requirements / new services**

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AFI FF-ICE PROJECT TEAM  
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- ❑ FF-ICE Phased approach by ATMRPP
- ❑ FF-ICE/Release1 Services
- ❑ FF-ICE: Majors changes
- ❑ Mix mode operations
- ❑ FF-ICE dependencies
- ❑ ICAO provisions for FF-ICE

# FF-ICE phased approach by ATMRPP

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The ATMRPP is created to :

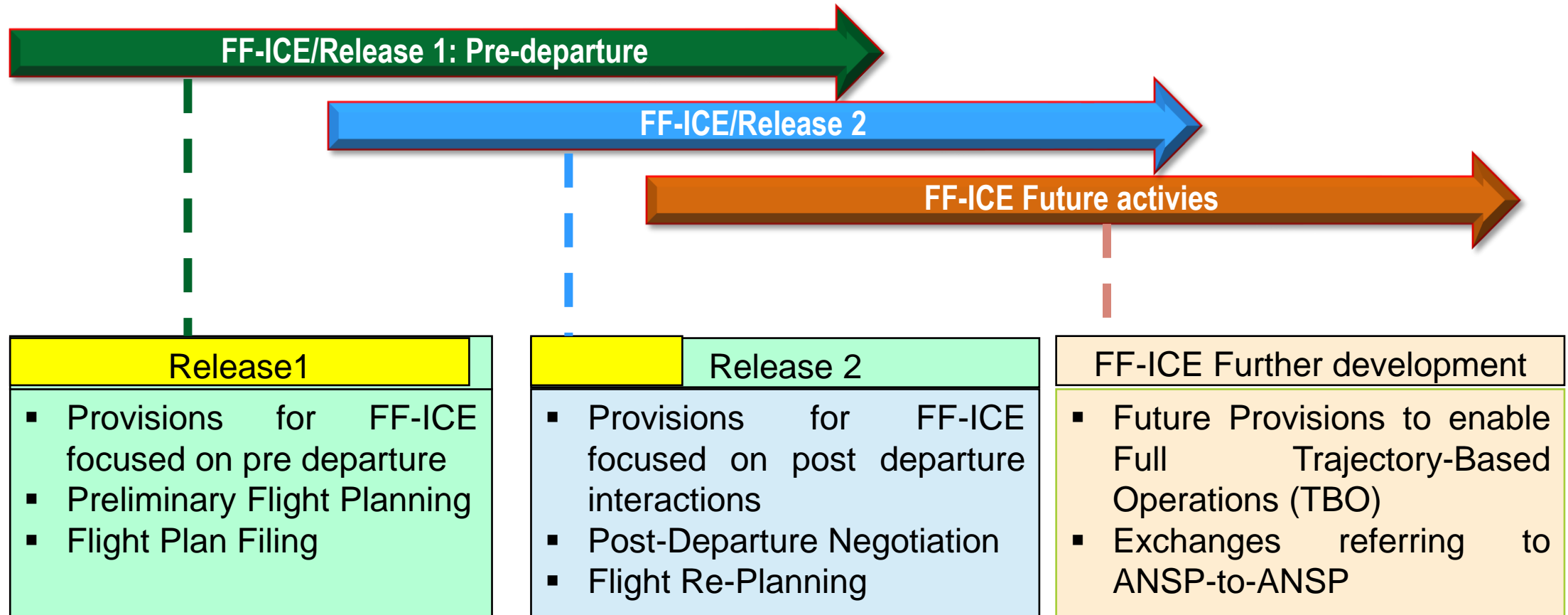
- ❑ Conduct specific studies and develop technical concepts to support the integration of the Global Air Navigation Plan (GANP)
- ❑ Contribute to the achievement of the vision established by the Global ATM Operational Concept

The current activities of the ATMRPP focus on:

- ❑ Flight and Flow Information for a Collaborative Environment (FF-ICE)
- ❑ Connected aircraft (through SWIM); and
- ❑ Trajectory-based Operations (TBO)

# FF-ICE phased approach by ATMRPP

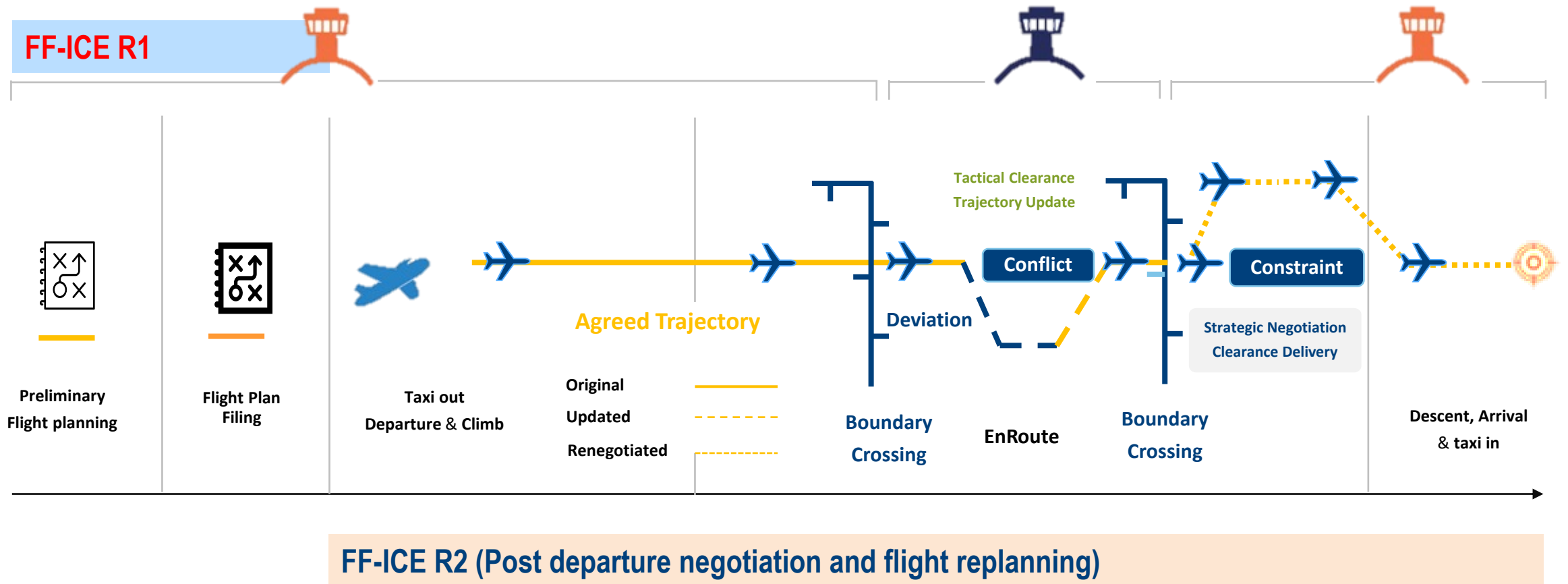
FF-ICE Releases : 02 releases



# FF-ICE phased approach by ATMRPP

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## FF-ICE Releases :



# FF-ICE/R1 services

- ❑ Service oriented architecture which enables scalability or maintainability
- ❑ 06 services for FF-ICE/ Release1:

## Planning Service (Optional)

### Related Messages:

- Preliminary Flight Plan Message
- Flight Plan Update Message
- Flight Cancellation Message
- Submission Response Message
- Planning Status Message

## Filing Service (Mandatory)

### Related Messages:

- Filed Flight Plan Message
- Flight Plan Update Message
- Flight Cancellation Message
- Submission Response Message
- Filing Status Message

## Trial Service (Optional)

### Related Messages:

- Trial Request Message
- Submission Response Message
- Trial Response Message

## Flight Data request Service (Mandatory)

### Related Messages:

- Flight Data Request Message
- Submission Response Message
- Flight Data Response Message

## Publication Service (Optional)

### Related Messages:

- No specific messages defined. Information on flights that match a set of criteria are transmitted to registered subscribers in response to certain events and/or criteria to which a subscriber can subscribe.

## Notification Service (optional now but will be Mandatory)

### Related Messages:

- Flight Departure Message
- Flight Arrival Message
- Submission Response Message

## Planning Service (FICE B2/1):

- ☐ Planning service permits the operators to submit earlier the information concerning the intention to operate a flight through the Preliminary Flight plan(PFP) for evaluation by ASP
- ☐ Service providers indicate the acceptability of the flight plan to the operator, and provide feedback regarding constraints that will be applicable to the flight
- ☐ Recommended for ASP whose airspace is complex and/or regularly constrained
- ☐ Benefit for resource planning



## Filling Service (FICE B2/2):

- ❑ The flight plan filing service is a **mandatory service** provided by an eASP which enables an operator to submit the necessary information, and any subsequent updates, in order to obtain air traffic services
- ❑ Filing service provide feedback to operators about flight plan processing and acceptability
- ❑ The filling service will replace: **FPL, CHG, DLA and CNL**
- ❑ More additional information : 4D trajectory, performance

## Trial services (FICE B2/3):

- ❑ Similar to planning service to assess the impact of a potential change to a Filed or Preliminary Flight Plan before committing to the change
- ❑ It permits to test out alternative trajectories without impacting the flights plan currently used

## Flight data requesting service (FICE B2/4):

- ❑ This service allows operators or ASP to request information about a specific flight such as :
  - ▶ Flight plan (equivalent **RQP**)
  - ▶ Supplementary flight plan (equivalent **RQS**)
  - ▶ Flight status

## Publishing service (FICE B2/5):

- ❑ Publication Service enables authorized subscribers to obtain information about flights that are relevant to their operations
- ❑ Subscribers: AU, ASP and aerodrome service providers such as ground/gate service providers, other groups such as Customs and Immigration

## Notification service (FICE B2/6):

- ❑ Notification service is intended to notify relevant ASP or AU of significant events in the life cycle of the flight
- ❑ Two events currently defined to be notified via the Notification service: the departure and arrival notifications

## FF-ICE is developed to :

- ☐ Eliminate or reduce the limitations of the FPL 2012
- ☐ Achieve the vision outlined in the Global Air Traffic Management Operational Concept (Doc 9854)
- ☐ Meet the requirements outlined in the Manual on Air Traffic Management System Requirements (Doc 9882).

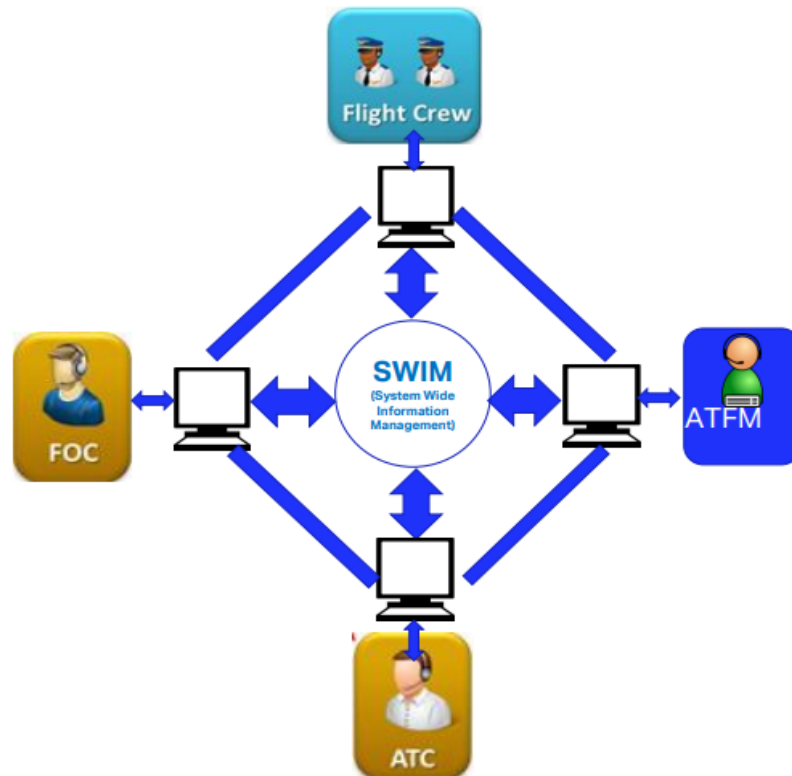
## FF-ICE addresses two fundamental requirements:

- ❑ The ability to exchange, between the operator and ATM, **more flight and flow related information** in a systematic manner which is both robust and expandable facilitating future requirements for both operator and ATM
- ❑ The provision of a systematic **collaboration or negotiation procedure between** the operator and ATM which facilitates the determination of an optimal route and trajectory

# FF-ICE Majors changes

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## Technical environment



### Information Management

**System Wide Information Environment (SWIM)** enables seamless information access

### Exchange model

**FIXM** provides a set of XML schemas that fully support the data exchange requirements

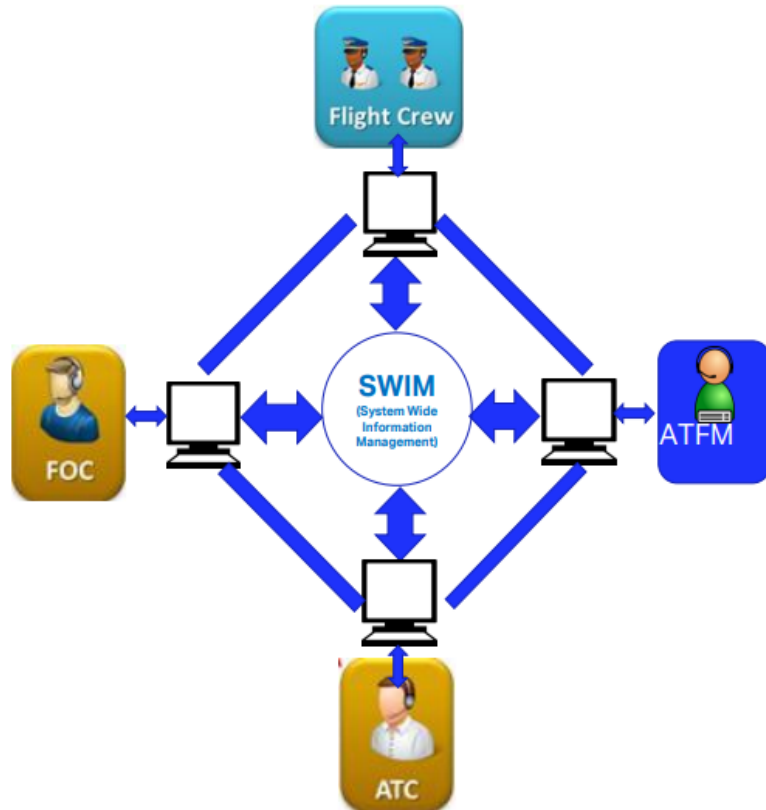
### Communication infrastructure

Through **SWIM**, FF-ICE leverages **IP-based communication infrastructures**

# FF-ICE Majors changes

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## Technical environment



### FF-ICE FPL: eFPL (Extended Flight Plan)

#### eFPL Content

- ☐ FPL 2012 content
- ☐ EOBT (Estimated Off-Block Time)
- ☐ 4 DT (Dimensional Trajectory)
- ☐ GUFID (Global Unique Flight Identifier)
- ☐ Aircraft performances and limitations
- ☐ Take-off slot, Arrival slot

### Advance notification (1 Year)

## Technical environment (GUFI)

- ❑ The Global Unique Flight Identifier (GUFI) provide a unique reference to a specific flight. The GUFI purpose is to assist in:
  - ▶ associating a message to the correct flight
  - ▶ and to help in distinguishing between similar flights
- ❑ Most ATM systems today rely upon a comparison of various “key fields”, to identify a flight and to distinguish one flight from another:
  - ▶ Aircraft Identification,
  - ▶ Aerodrome of Departure, EOBT, etc.
- ❑ This method can however give an unreliable result particularly



# FF-ICE: Mixed mode operations

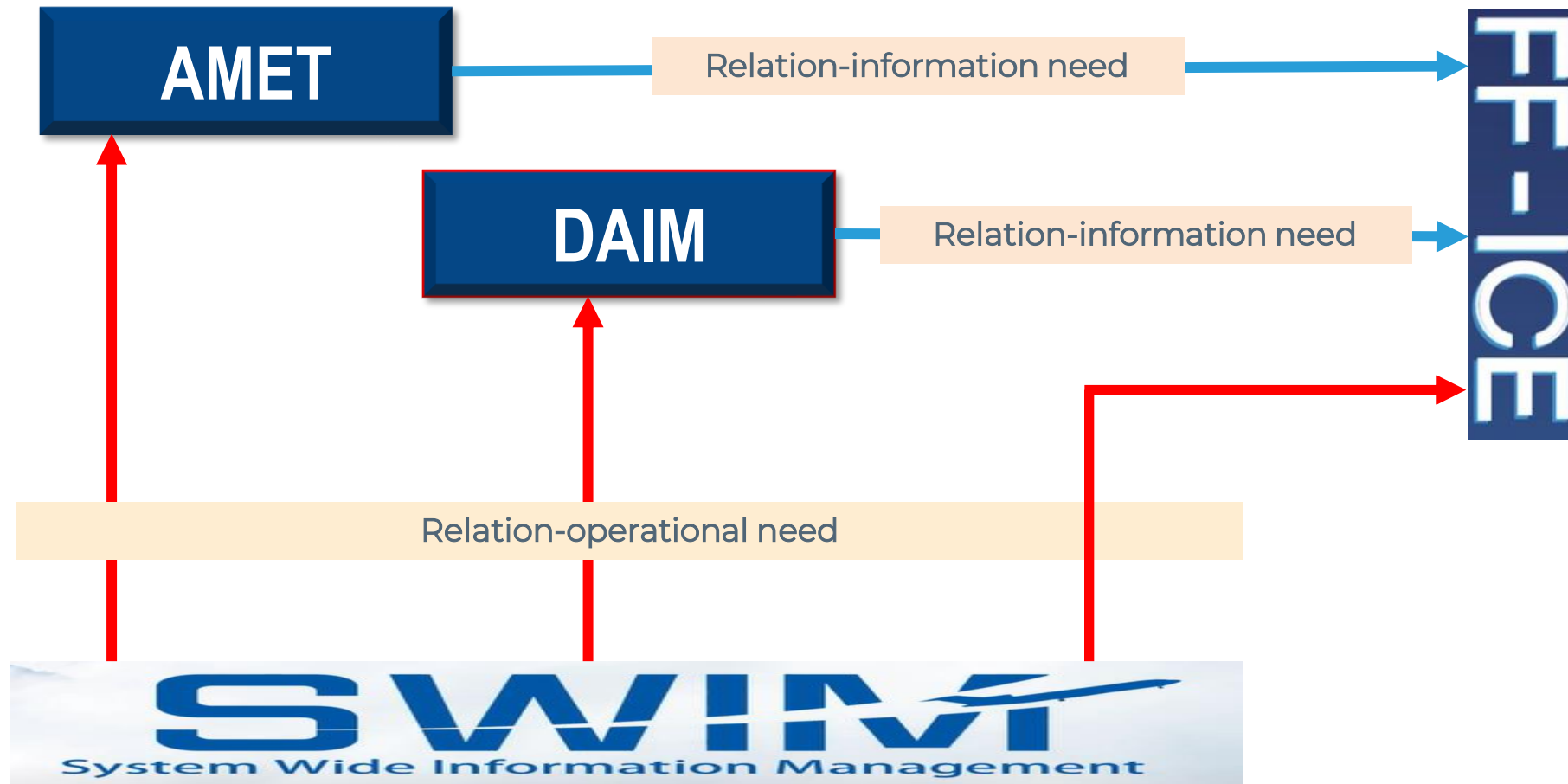
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- ❑ The implementation of FF-ICE before the **sunset of FPL 2012** is a **voluntary based implementation**, subject to the needs and requirements of the individual State or organization
- ❑ During the **transition phase**, some participants utilize **FF-ICE capabilities**, while others adhere to **traditional flight planning methods**
- ❑ The mixed mode operations occurred in the transition phase
- ❑ There is a need to **exchange information** between **AMHS/AFTN users and SWIM users**
- ❑ Solution: Gateway for translation from **AMHS/AFTN format to SWIM format**

# FF-ICE dependencies

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# ICAO provisions supporting FF-ICE

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## Main Amendments

- ❑ Annex 2 (Amendment 48)
  - ▶ Definition of terms
  - ▶ FPL submission
- ❑ Annex 10, Vol II (Amendments 92, 93)
  - ▶ Definition of terms
  - ▶ Introduction of GUF1 & SWIM provisions
- ❑ Annex 11 (Amendment 53)
  - ▶ Definition of terms
- ❑ PANS-AIM (ENR 1.10 and ENR 1.11)
  - ▶ Publication of FF-ICE services available
  - ▶ Associate procedures if applicable



## Main Amendments

- ❑ PANS-ATM (Amendment 12)
  - ▶ Air Traffic Flow Management
  - ▶ Flight plan Form
  - ▶ Submission of flight plan
  - ▶ procedures to support the mixed-mode operations
  - ▶ Procedures for FF-ICE services
- ❑ FF-ICE Manual –Concept (Doc 9965)
- ❑ FF-ICE Manual –Implementation Guidance (new Doc XXXX)



## Other documents and websites

- ❑ Procedures for Air Navigation Services – Information management (PANS-IM) (ICAO Doc 10199)
- ❑ Manual on the System-wide Information Management (SWIM) Concept - ICAO Document 10039
- ❑ Manual on the System-wide Information Management (SWIM) Implementation - ICAO Document 10203
- ❑ FF-ICE ICAO website: [www.icao.int/airnavigation/ffice/Pages/default.aspx](http://www.icao.int/airnavigation/ffice/Pages/default.aspx)
- ❑ FIXM implementation Guidance : [www.fixm.aero](http://www.fixm.aero)

- ❑ FF-ICE Will address FPL 2012 limitations and enables full collaborative environment where a flight trajectory is shared and optimized during all phases of a flight
- ❑ 06 services in R1 but 02 services (**Filling, data request service**), are the minimum set of capabilities to support the sunset of FPL 2012. The **notification service** will be also mandatory very soon
- ❑ FF-ICE is expected to be implemented in SWIM environment
- ❑ FF-ICE implementation strategy will take into considerations the mixed mode operations



Thank You!