



SUPPORTING
EUROPEAN
AVIATION



FF-ICE Regulatory Requirements

FF-ICE Day 20th March, Brussels



FF-ICE and ICAO

ICAO Doc 9965 Manual on FF-ICE

Volume II FF-ICE/R1 Implementation Guidance Manual

FF-ICE Service

2nd Edition 2025

<p>Planning Service (Optional)</p> <ul style="list-style-type: none"> - Allows operators to submit flight plans for early ATFM planning and to obtain feedback regarding restrictions/constraints affecting the flight. 	<p>Filing Service (Mandatory)</p> <ul style="list-style-type: none"> - Alternative to filing an FPL over AFTN. - Instead, an eFPL is submitted with richer content. - Richer feedback about the submitted eFPL
<p>Trial Service (Optional)</p> <ul style="list-style-type: none"> - Enables operators to evaluate route/trajectories or test the effect of an eFPL change, prior to committing to that change 	<p>Flight Data Request Service (Mandatory)</p> <ul style="list-style-type: none"> - Replaces the use of RQP and RQS messages
<p>Publication Service (Optional)</p> <ul style="list-style-type: none"> - Enables dissemination of flight data to subscribers. 	<p>Notification Service (Optional)</p> <ul style="list-style-type: none"> - Replaces the use of DEP and ARR messages

new capabilities

enhanced capabilities



ICAO FF ICE State Letter

Tel.: +1 514-954-8219 ext. 6710
 Ref: AN 13/1.8, AN 7/63 1.2, AN 13/2.5, AN 2/33 1-22/108 28 December 2022

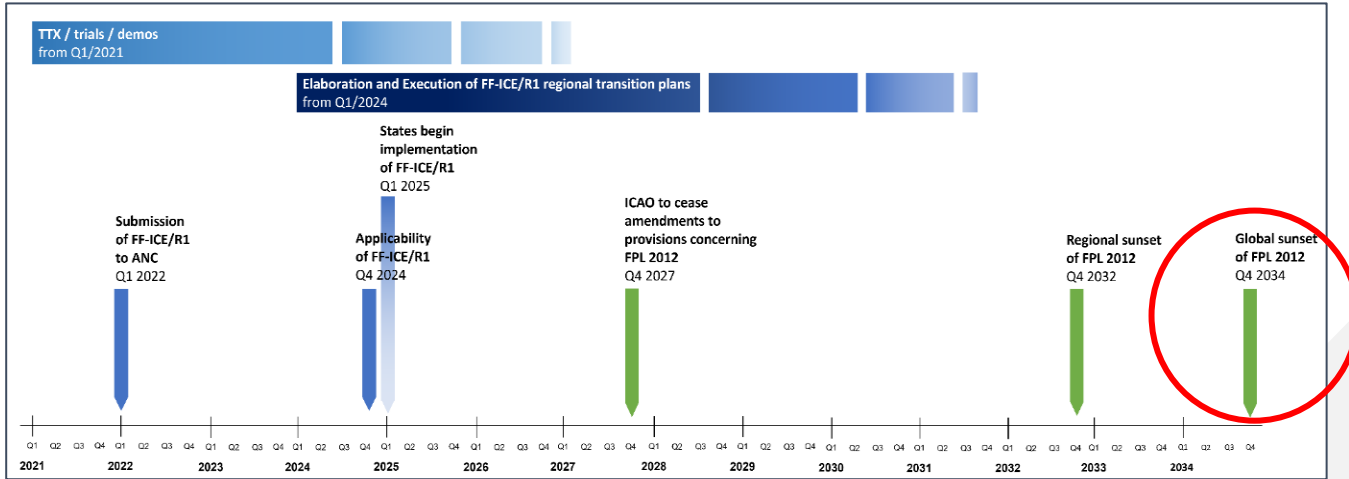
Subject: Proposals for the amendment of Annexes 2, 10, Volume II, PANS-ATM (Doc 4444), PANS-ATM (Doc 10066) and consequential amendments to Annexes 1, 6, Parts I, II and III, 9, 11, 16, Volume IV, PANS-OPS, Volume III (Doc 8168), and PANS-ABC (Doc 8400) concerning the initial implementation of the flight and flow — information for a collaborative environment (FF-ICE) services

Action required: Comments to reach Montréal by 28 June 2023

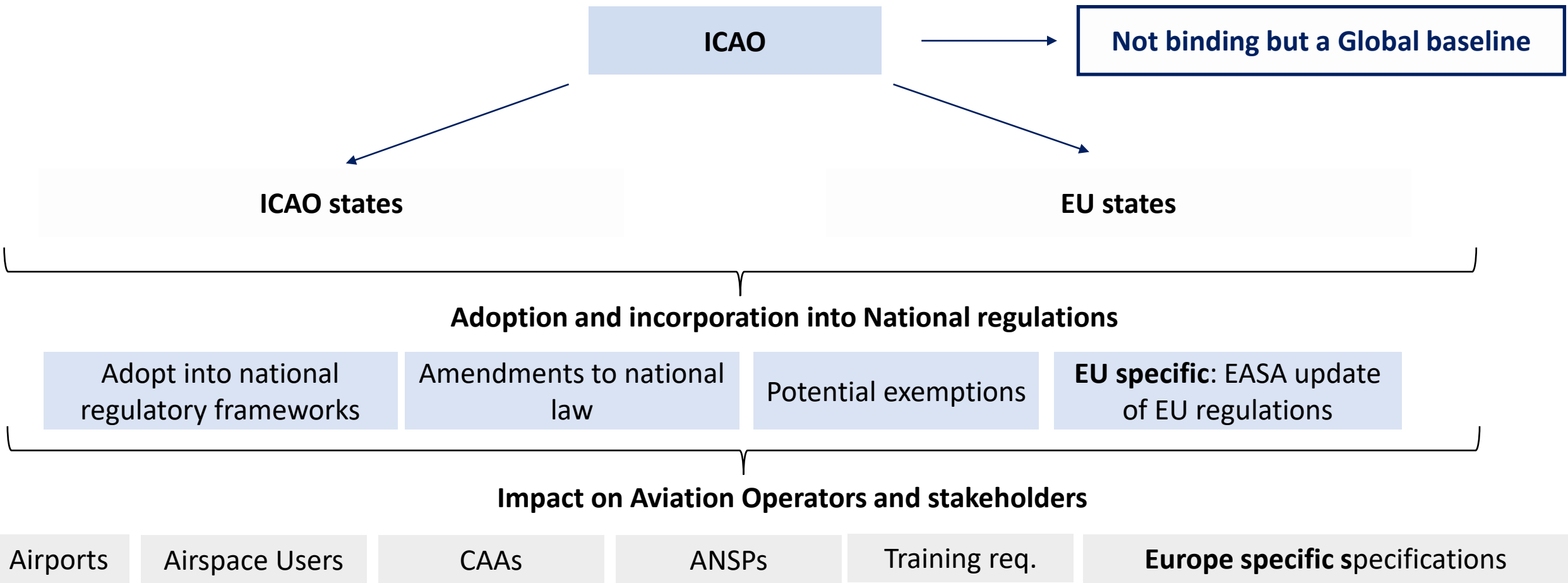
Sir/Madam,

I have the honour to inform you that the Air Navigation Commission (ANC), at the sixth meeting of its 221st Session held on 29 November 2022, considered proposals developed by the fourth meeting of the Air Traffic Management Requirements and Performance Panel (ATMRPP/4) to amend Annex 2 — Rules of the Air, Annex 10 — Aeronautical Telecommunications, Volume II — Communication Procedures including those with PANS status, the Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444), the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066) and consequential amendments to Annex 1 — Personnel Licensing, Annex 6 — Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, Part II — International General Aviation — Aeroplanes and Part III — International Operations — Helicopters, Annex 9 — Facilitation, Annex 11 — Air Traffic Services, Annex 16 — Environmental Protection, Volume IV — Carbon offsetting and Reduction Scheme for International Aviation (CORSLA), the Procedures for Air Navigation Services — Aircraft Operations, Volume III — Aircraft Operating Procedures (PANS-OPS, Doc 8168) and the Procedures for Air Navigation Services — ICAO Abbreviations and Codes (PANS-ABC, Doc 8400) concerning the initial implementation of the flight and flow — information for a collaborative environment (FF-ICE) services. The Commission authorized their transmission to Contracting States and appropriate international organizations for comments.

Background information on the aforementioned amendment proposals is provided in Attachment A. The proposed amendment to Annex 2, Annex 10, Volume II, PANS-ATM (Doc 4444) and PANS-AIM (Doc 10066) are contained in Attachments B, C, D and E, respectively. The consequential amendments proposed to Annexes 1, 6, Parts I, II and III, 9, 11, 16, Volume IV, PANS-OPS, Volume III

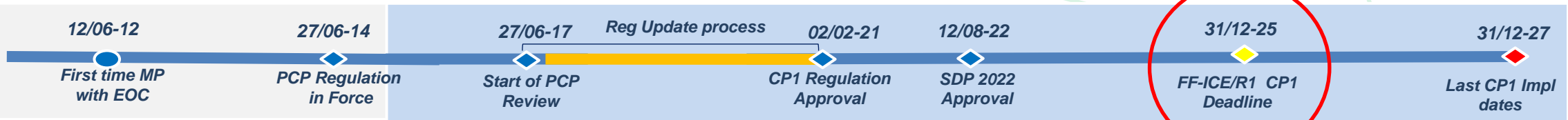


ICAO provisions linked to EU

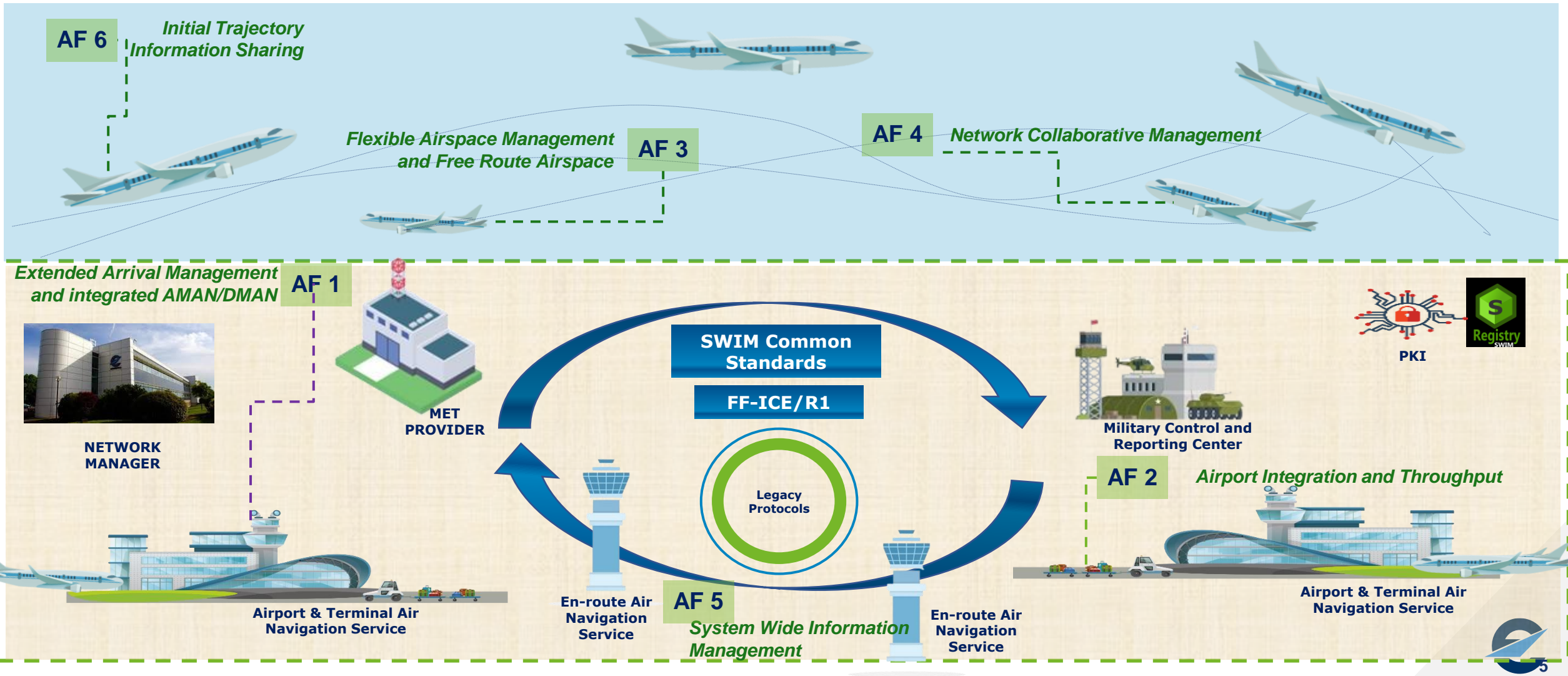


Regulatory framework

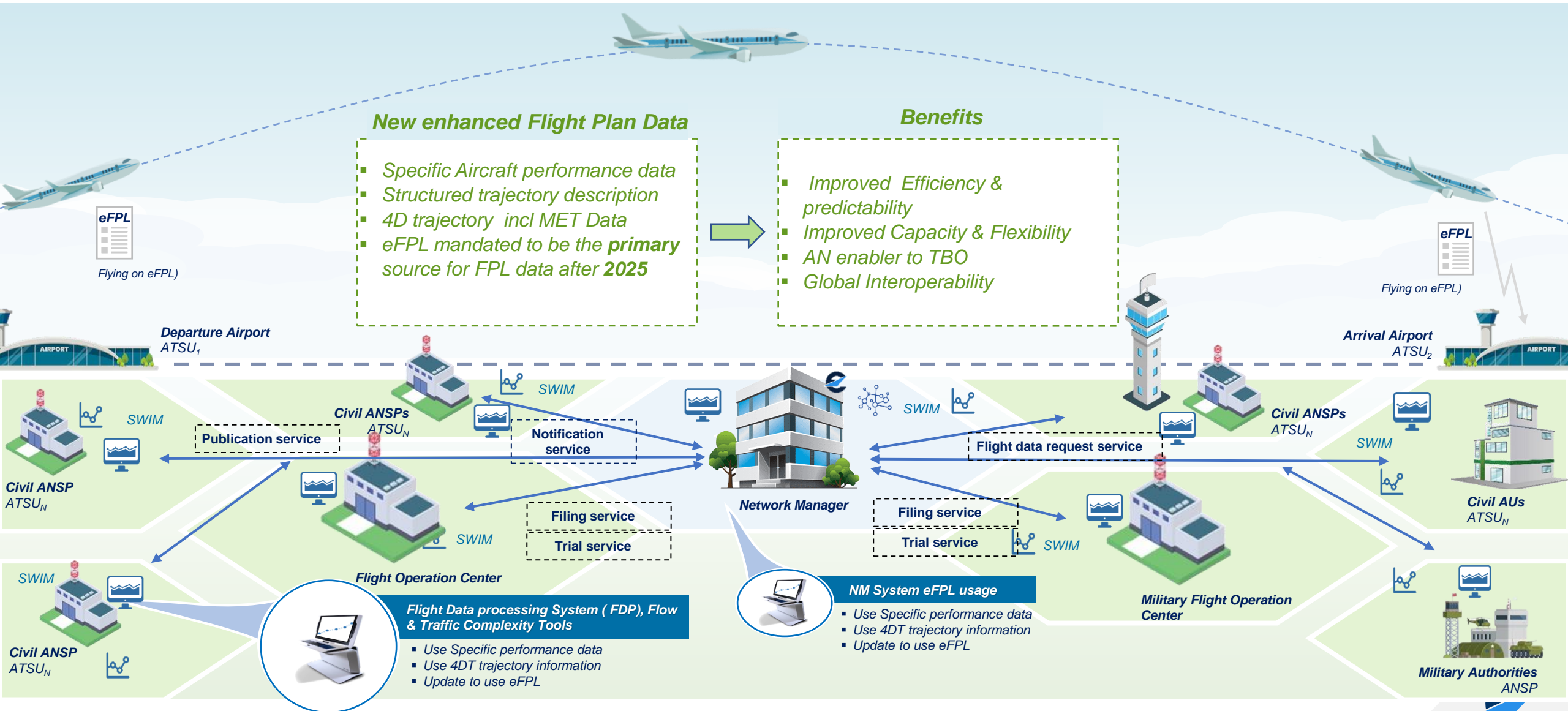
Developed and consulted by all stakeholders



The 6 ATM functionalities of CP1



FF-ICE/R1 mandated implementation in EU



CP1 - FF-ICE/R1 mandate in Europe

Geographical Scope

Airspace mandate

All **IFR GAT** AUs **operating** in the **EATMN Airspace** are **mandated** by the **CP1** regulation



Ground mandate

“ANSPs must **upgrade** their **ground systems** to process and receive the eFPL, but also to make **operational use** of it.

All Area control and Approach (Systems)

- ✓ ANSPs in 27 EU Member states
- ✓ incl. MUAC + Switzerland and Norway.



All systems using FPL2012 today are mandated and must be updated

TWR (systems) mandated

Madrid –Barajas, Amsterdam, Barcelona, Berlin Brandenburg, Brussels, Copenhagen, Dublin, Dusseldorf, Frankfurt. Milan-Malpensa, Munich, Nice, Palma, Paris CDG, Paris Orly, Rome-FCO, Stockholm ARN, Vienna

Mandated content of an eFPL in EU



Route

An expanded route with selected trajectory points

Trajectory

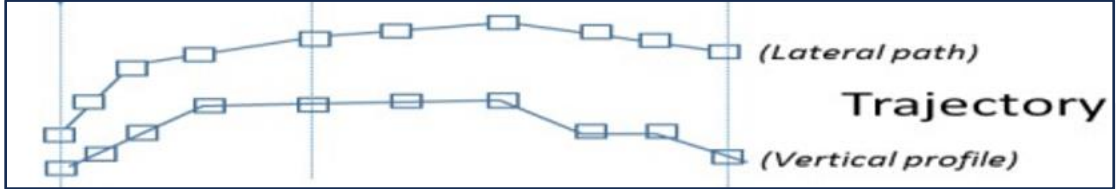
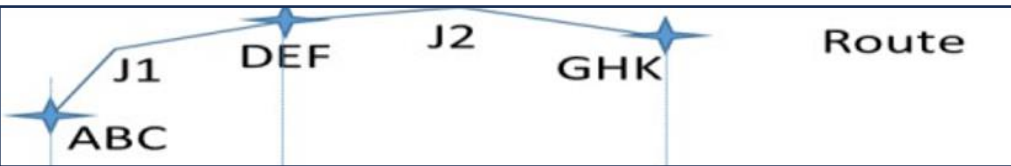
Contain trajectory information with at least:

- One initial Prediction point (Departure aerodrome)
- One end prediction point (Destination aerodrome)
- Top of climb (TOC) points for the initial cruising level & every subsequent requested cruising level change after a climb
- One top of Descent (TOD) point where the trajectory begins a descent from the final (last) cruising level.
- Trajectory Change point – vertical (TCP-V) points where a level segment (intermediate or cruise) is initiated or terminated.

Route/Trajectory specific performance data

- Aircraft take-off mass
- Performance climb & Descent profile
- Climb & Descent speed schedules

Global unique identifier (GUFID)



FF-ICE/R1 Applicability

	GAT			Mixed OAT/GAT	OAT
	IFR	Mixed IFR/VFR	VFR		
All movements of State Aircraft (including military, customs and police aircraft)	SHALL submit "light" eFPL	SHALL submit "light" eFPL	Not mandated to submit eFPL	Not mandated to submit eFPL	Not mandated to submit eFPL
All movements of civil aircraft	SHALL submit "full" eFPL	SHALL submit "light" eFPL	Not mandated to submit eFPL	N/A	N/A

Impacted by ICAO
Sunset date 2034

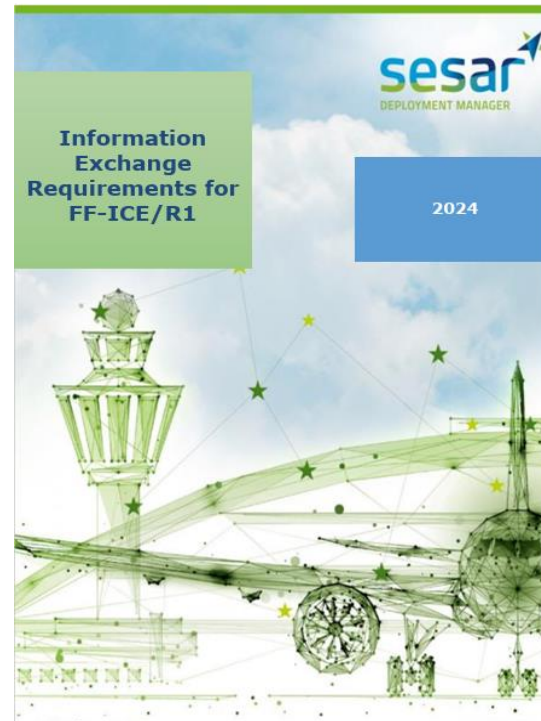
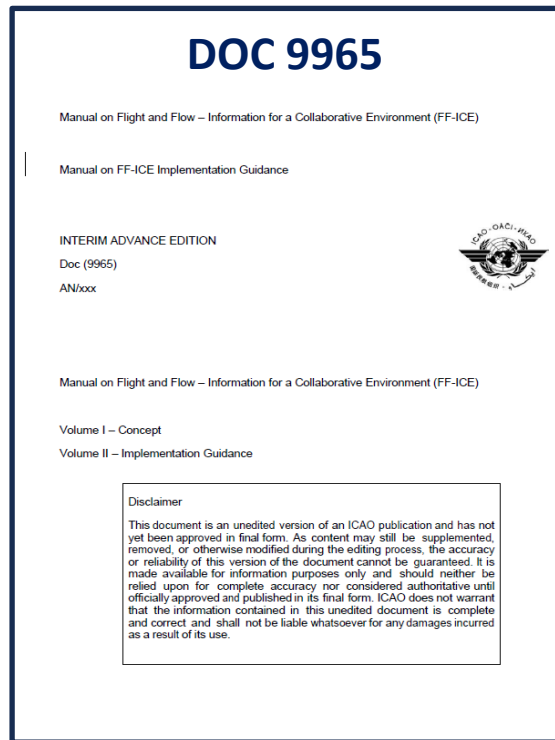


"light" eFPL = provision of Flight Performance Data, of Expanded Route information and of Trajectory information is OPTIONAL.
 "full" eFPL = provision of Flight Performance Data, of Expanded Route information and of Trajectory information is MANDATORY.

- **Military will not share specific performance data**
- **Y & Z flight plans have a VFR portion which is not mandated by this regulation and therefor the light eFPL**



ICAO Doc 9965 and EU FF-ICE/R1 implementation guidance



- **Global Implementation guidelines**
- **Provides all available implementation options**

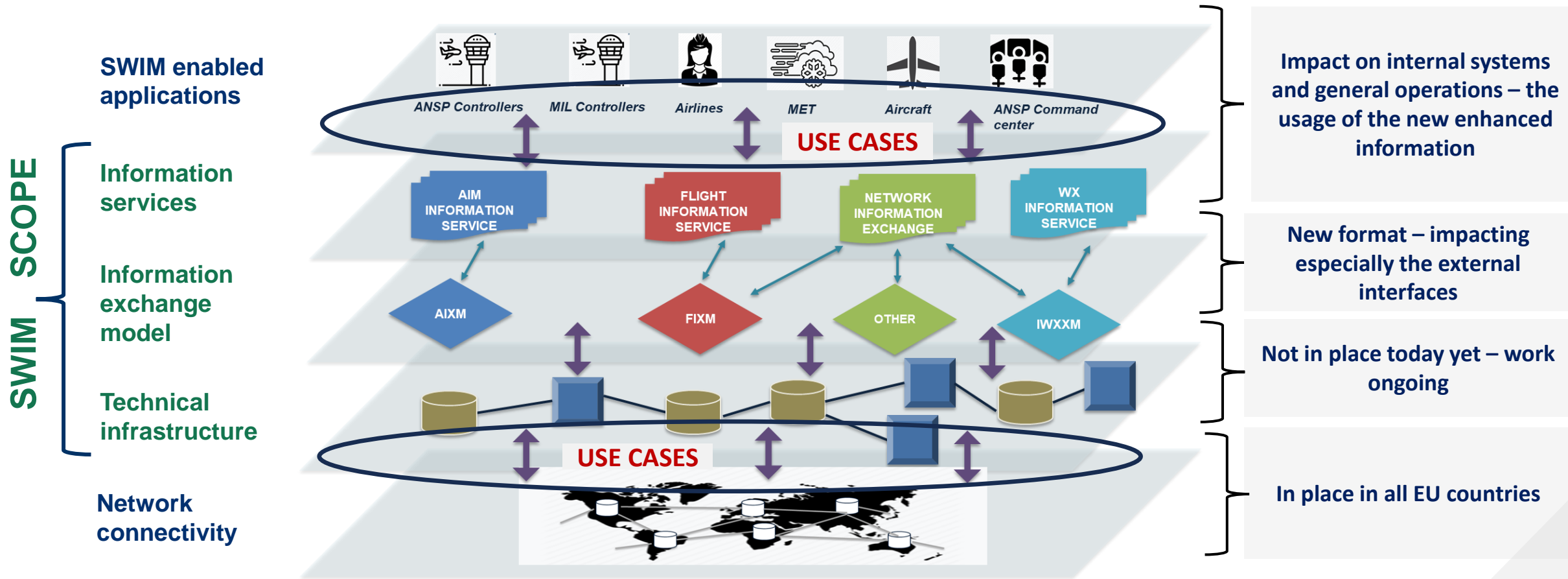
- **Provides EU mandated guidance fully mapped to ICAO docs**
- **Provides detailed explanations and references to other docs**

- **Provides CP1 FF-ICE/R1 requirements**
- **Contains deployment milestones to be fulfilled to be CP1 Compliant**

System wide information management (SWIM)



- New Exchange mechanism, replacing AFTN and AMHS today used to exchange flight plan information
- Will require updates to current systems using AFTN/AMHS
- Enabler for trajectory based operations (TBO), Interoperability and digitalisation

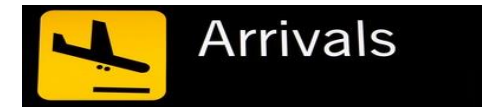


Primarily a technical change

EU Mandatory use cases – Flight Planning Use cases

Eight use cases have been identified to enable for production & distribution of eFPLs

- Submission of an eFPL by an AU to the NM Integrated Initial Flight Plan Processing System (IFPS).
- Preparation of an eFPL by an AU, including use of the trial service provided by NM.
- Update of an eFPL, that has already been submitted to NM, by an AU.
- Cancellation of an eFPL, that has already been submitted to NM, by an AU.
- Notification of arrivals of eFPL flights by an ANSP (or AU).
- Notification of departures of eFPL flights by an ANSP (or AU).
- Request of flight plan and supplementary information by an ANSP or AU.
- Publication and consumption of FF-ICE messages.



~~AFTN-AMHS-SWIM~~ ✓

Replacement of RQP, RQS, DEP; ARR ✓

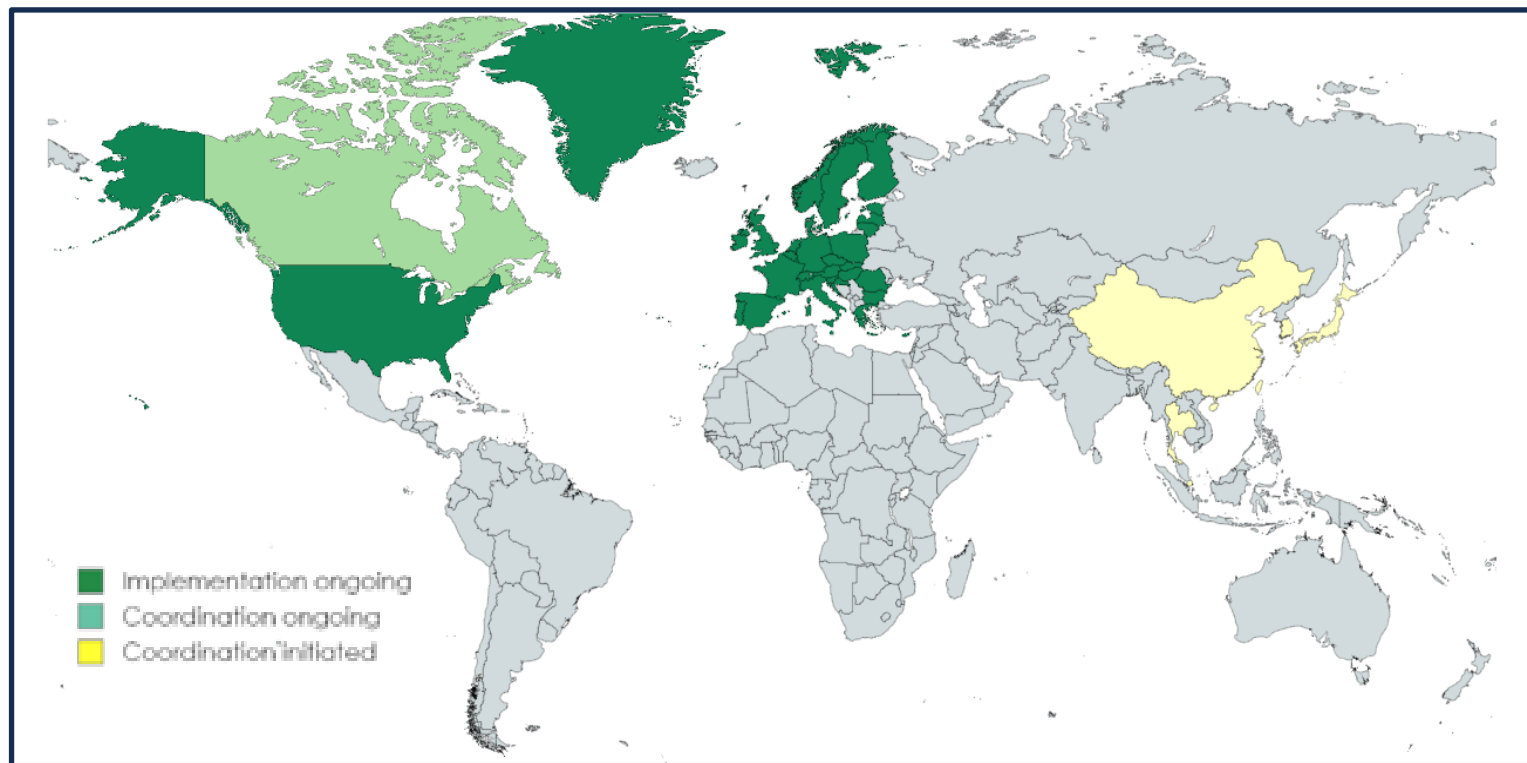
Will impact today's operations...



General FF-ICE Global Harmonization Needs



- **Not** only a flight plan **format change**
- **Various** exchange **mechanisms** in place **now** (AFTN, AMHS, SWIM)
- **FF-ICE** introduces **enhanced** information
- **Alignment** between **US, Canada** and **Europe** not enough
- **Benefits** only **achieved** if implemented **globally**
- **How** do we push forward the rest of the **global FF-ICE implementation?**



Global FF-ICE/R1 implementation

Europe:

- Implementation in progress, except for planning Service
- **Full implementation Provision and usage 2032**

USA:

- Have a plan for implementation – all FF-ICE/R1 services by **2028-2029**

Canada:

- Implementation started – date **2028**

Asia/Pacific:

- Mostly tabletop, no concrete plans – coordination initiated
- ICAO regional office mandates FF-ICE/R1 by **March 2028**

Middle East

- No information or coordination

Africa

- No information or coordination

South America

- No information or coordination

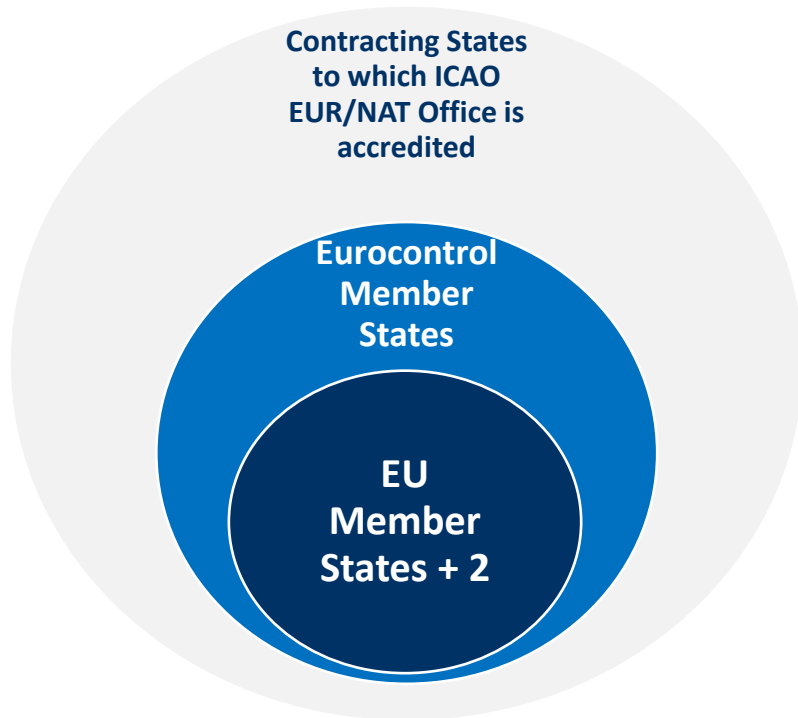
**Multiple providers of
FF-ICE services
globally (eASPs)**



- **Different technical readiness already before FF-ICE**
- **Distributed vs centralised approach depending on the regions**
- **Different awareness globally**



CP1 FF-ICE/R1 and ICAO Paris



EU states + Norway and Switzerland & UK

ECTL additional states: Israel, Iceland, Ukraine, Albania, Morocco, Bosnia, Montenegro, North Macedonia, Georgia, Turkiye, Moldova, Serbia, Armenia

Remaining ICAO Europe states: Algeria, Azerbaijan, Kazakhstan, Kirgizstan, Moldova, Tajikistan, Tunisia, Turkmenistan, Uzbekistan

TBD : Russia & Belarus



ECTL member states

- EUROCONTROL NM is the unique provider of FF-ICE Services
- AUs and ANSPs are consumers of NM's FF-ICE Services

Non ECTL member states

- ANSPs will be providers of FF-ICE Services?
- AUs will be consumers of provided FF-ICE Services

- DIFFERENT REGULATORY CONTEXTS
- DIFFERENT ROLES
- DIFFERENT DISTRIBUTION OF FF-ICE INFORMATION

- SIMILAR CHALLENGES
- WHEN IT COMES TO USING THE FF-ICE INFORMATION

AU monitoring Achieved progress and expected completion rate

Expected completion rate

Lufthansa City	Brussels
Vueling	Lufthansa Cargo
Volotea	KLM
Virgin	Emirates
Edelweiss	EasyJet
Swiss	DELTA
Turkish	Discover
SAS	Eurowings
Malta Air	Air Dolomiti
Ryanair	Air France
Corendon	Austrian
TUI	Lufthansa



Expected completion rate by CP1 target date (2025)

Represents 3.882.870 Flights or 40,4 % of the Flights*

2025 2026 2027 2028

All Nippon

*Flights from/to/overflying the mandated airspace (EU / Switzerland / Norway)

Airspace Users (AUs) Implementation Planning – Current Status

- Similar response rate to last year (38% of flights).
- Reported AUs **plan to meet the deadline**

Challenges & Concerns

- No AU currently compliant with FF-ICE/R1 mandate.
- Only Lufthansa has an NM B2B OPS certificate, but not filing eFPLs in operations

Compliance & Data Conformance Issues

- Inconsistent adherence to CP1 FF-ICE Information Exchange Requirements.
- Possible misconception that compliance is solely a technical responsibility of CFSPs.

Impact on ANSPs & System Readiness

- ANSPs unable to assess/test performance data due to missing information in filed plans.
- First ANSPs will have FF-ICE operational capability by year-end, but data gaps remain.



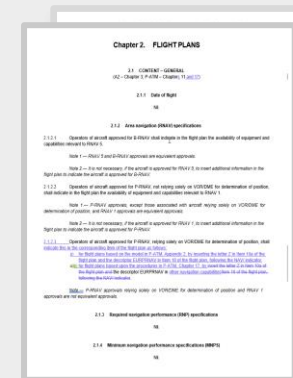
FF-ICE Aeronautical Information circular (AIC)

- To be published by all States in EU+ Norway and Switzerland
- Published in Poland only but expected published in all states end



ICAO DOC 7030 update by adding:

- the requirement for IFR flights to use FF-ICE services
- area of applicability (list of FIRs/UIRs)
- Information regarding translation service provided by NM



EUROCONTROL IFPS:

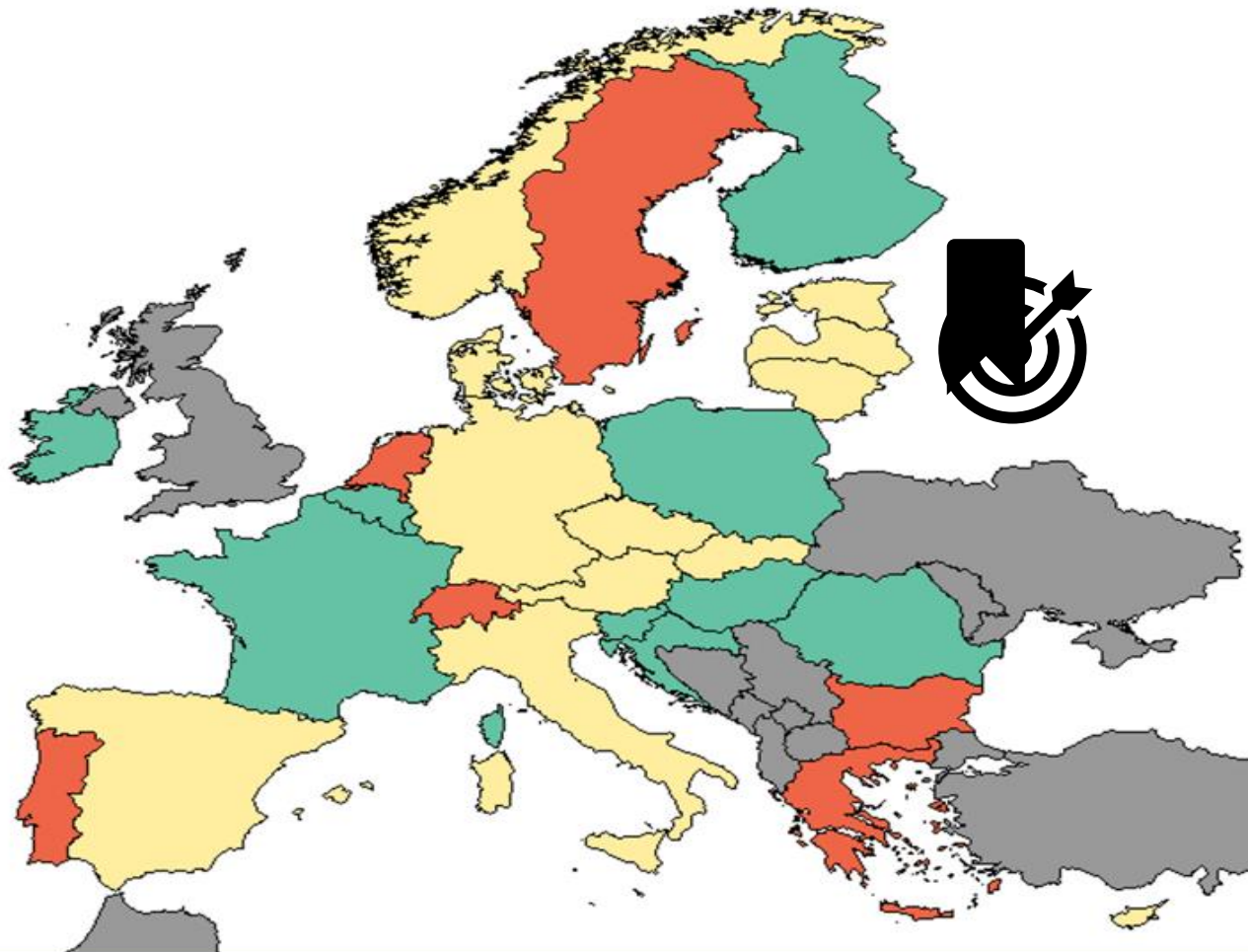


- By Q3 2025 ACK response in filed FPL, will contain a warning to those not submitting an eFPL – that they will not be compliant with EU law as of 31/12-2025
- By Q1 2026 ACK response in filed FPL, will contain a warning to those not submitting an eFPL – that they are not compliant with EU law

AIC publication status

AIC Publication status

■ Planned ■ Published ■ No date yet



- *Global awareness*
- *Inform AU about the AU CP1 Mandate*
- *Provide relevant information to support implementation*
- *Support implementation of EU law*



FF-ICE Airspace User Awareness group



- **143** on the distribution list



- **162** participants at the last meeting on 24th January



- **82** different stakeholders are on the distribution list



- **41** different countries



- Majority are from **Europe** and **North America**, but the **Middle East**, **Asia** and **Africa** are also represented

Next meeting

2025						
MARCH						
Mo	Tu	We	Th	Fr	Sa	Su
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

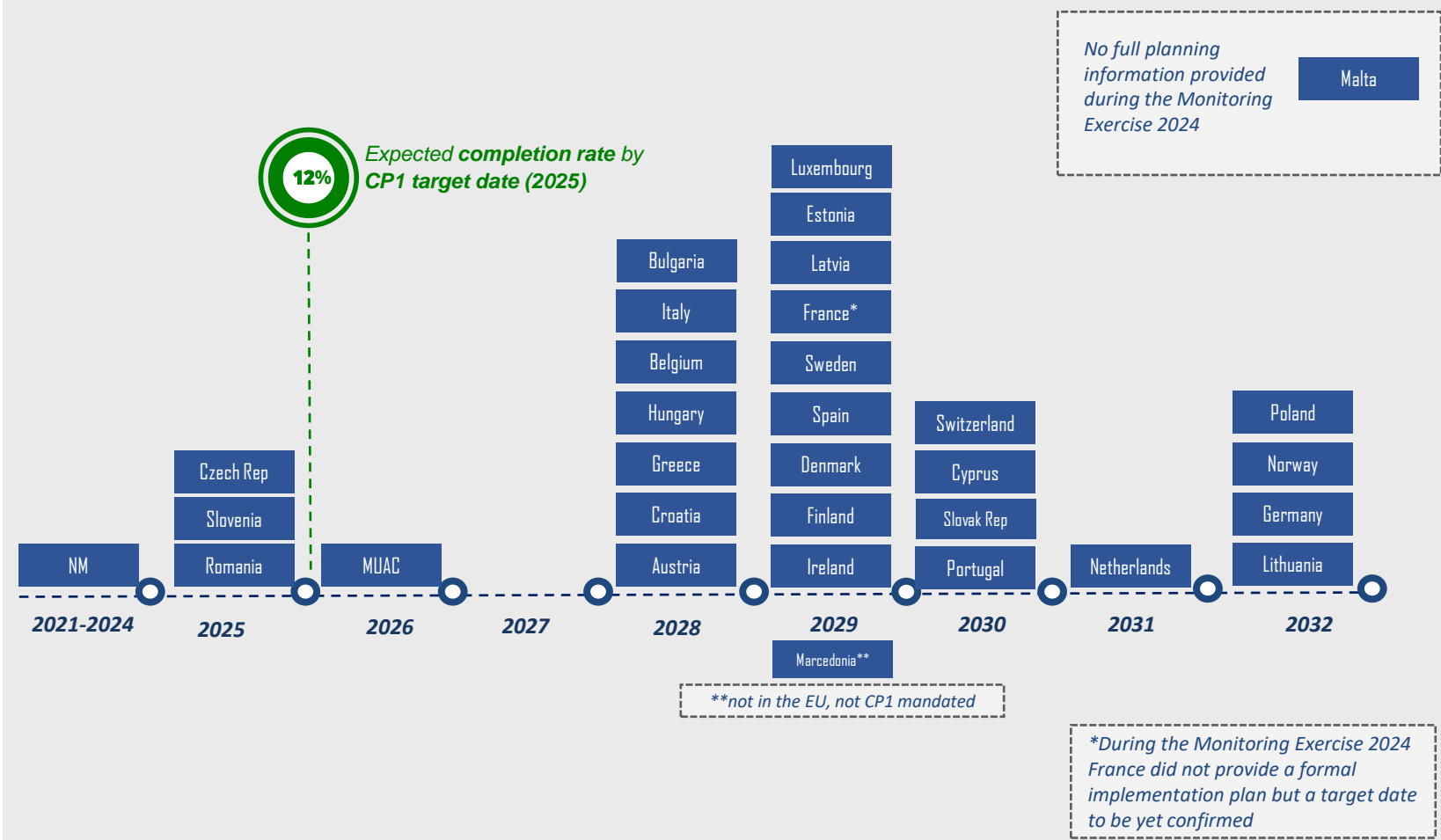


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Ground EU Roadmap



Full Compliance Roadmap – Country level



Benefits observed

- More accurate ToC, ToD etc
- Accurate performance data in stead of using precalculated nominal performance data

Concerns

- Data Quality
- Number of flight plans received by ANSPs, today defined by ANSPs
- Usage of performance data for ground TP updates

Other observations

- Missing SID/STAR in trajectories
- Changes don't include an updated trajectory
- Speed schedules not available

CP1 Compliance monitoring

Since CP1 is EU law monitoring and consequences for non-Compliance is a risk

For Ground stakeholders:

- Non-Compliances will be subject to European Commission (EC) and national enforcement processes



For Airspace Users

- Post filing monitoring of eFPL content will be in place
- NM/Europe will support mixed mode operations for a period (Not yet defined – but not forever)
- Improved service by ground for flights filing full eFPLs due to enhanced data improving ground systems



Mixed Mode

- No rejections of FPLs because of FPL2012 filing are planned
- No rejections of eFPLs with missing content is planned initially





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THANK YOU!



NETWORK
MANAGER

