



SAFE SKIES.  
**SUSTAINABLE  
FUTURE.**

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

Topic 1: Why FF-ICE?



# FF-ICE AWARENESS WEBINAR FOR AFI STATES

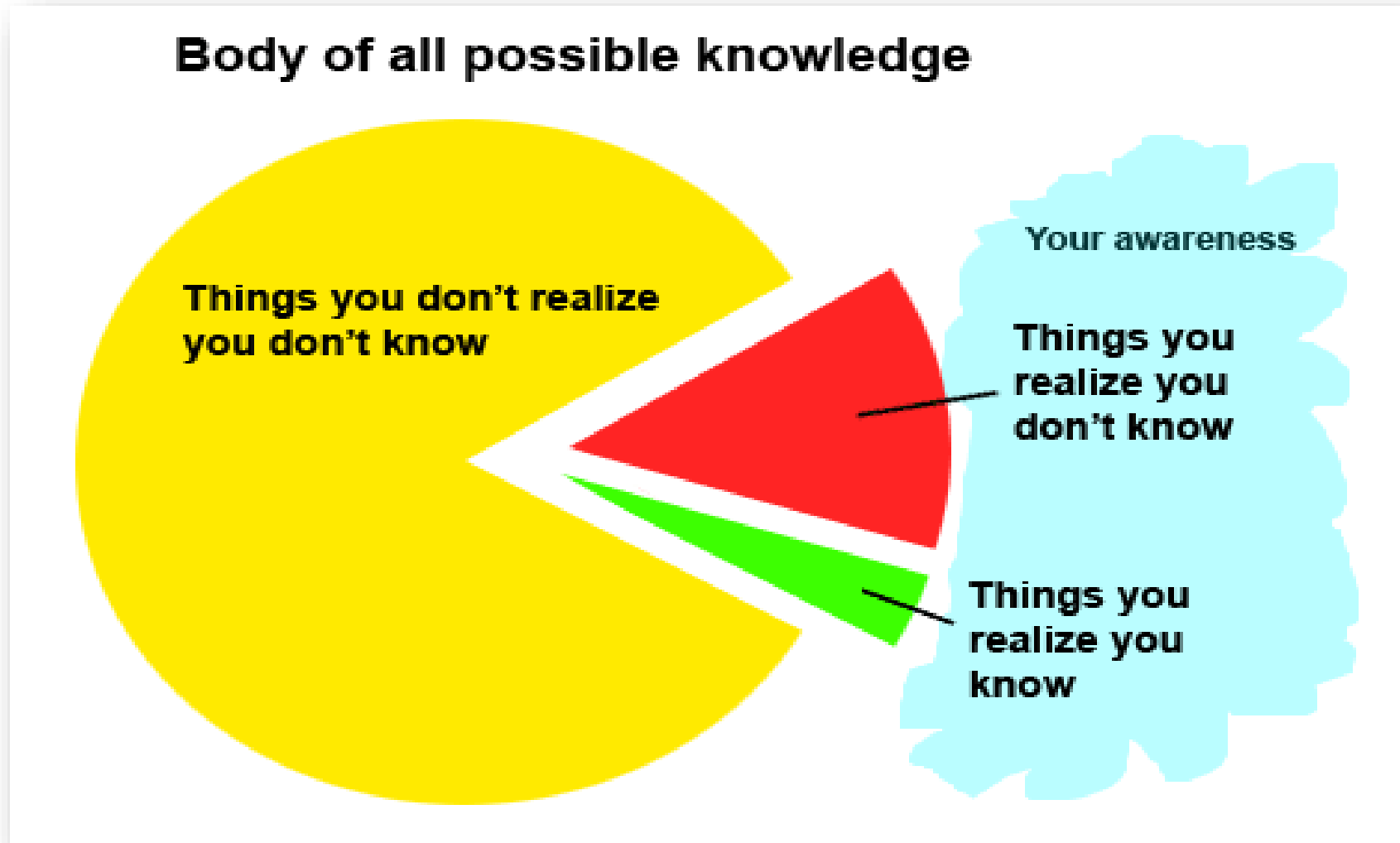
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## WHY FF-ICE?

AFI FF-ICE PROJECT TEAM

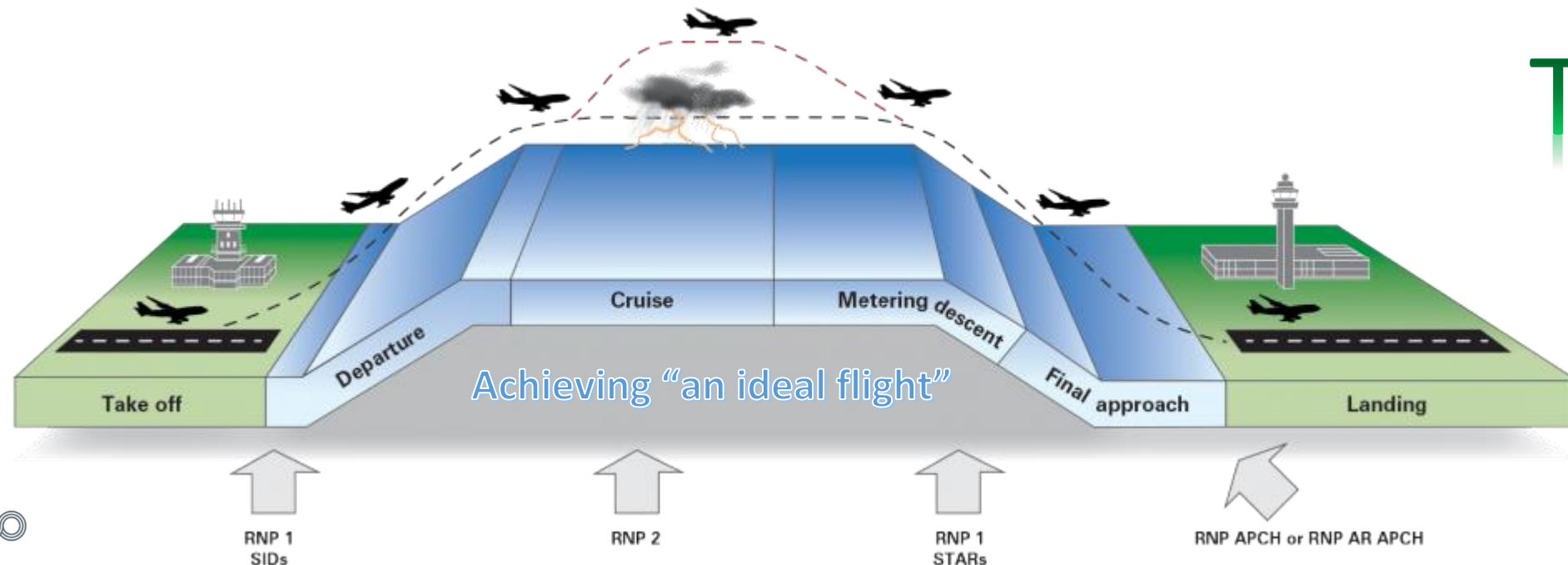
Raoul Bester

- \* Why FF-ICE?
- \* Guidance documents
- \* Limitations of current flight planning system
- \* Operational needs driving change
- \* FF-ICE Core Capabilities
- \* Changes – What's New?
- \* FF-ICE/Release 1
- \* Roles & responsibilities
- \* Timelines
- \* Deployment Considerations
- \* Risks & Mitigations
- \* AFI FF-ICE Project
- \* Conclusion



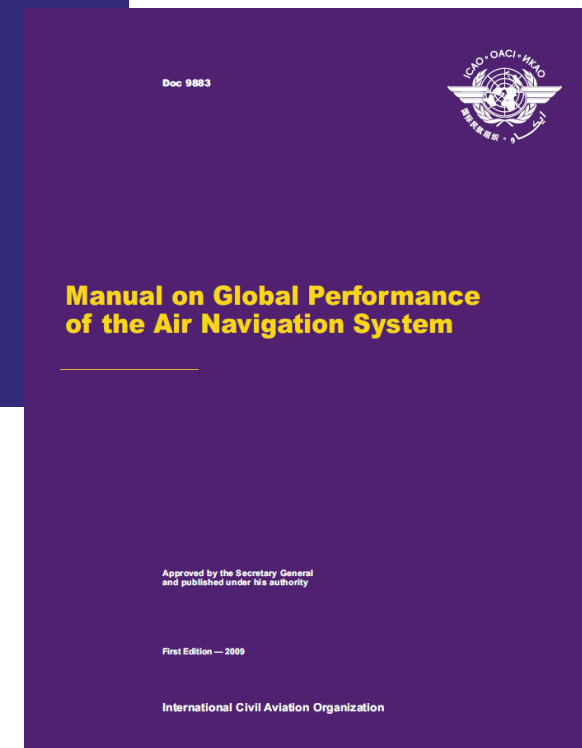
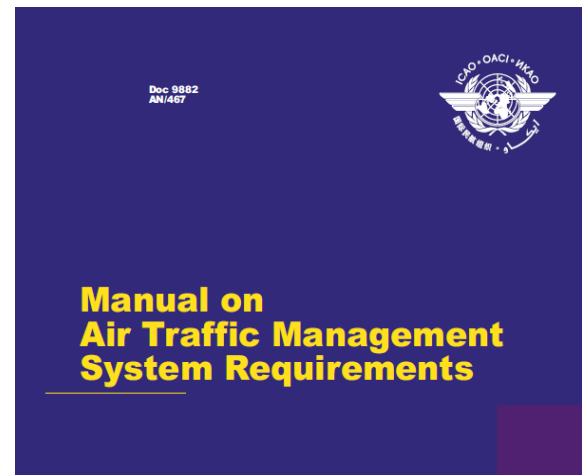
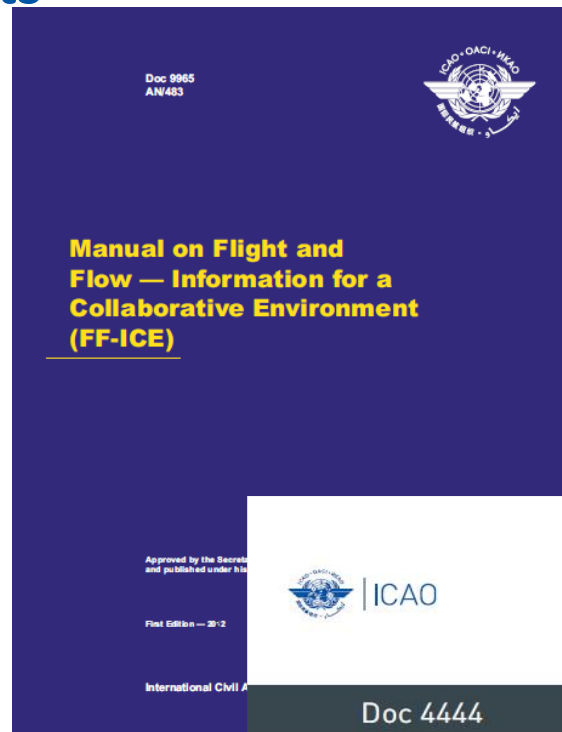
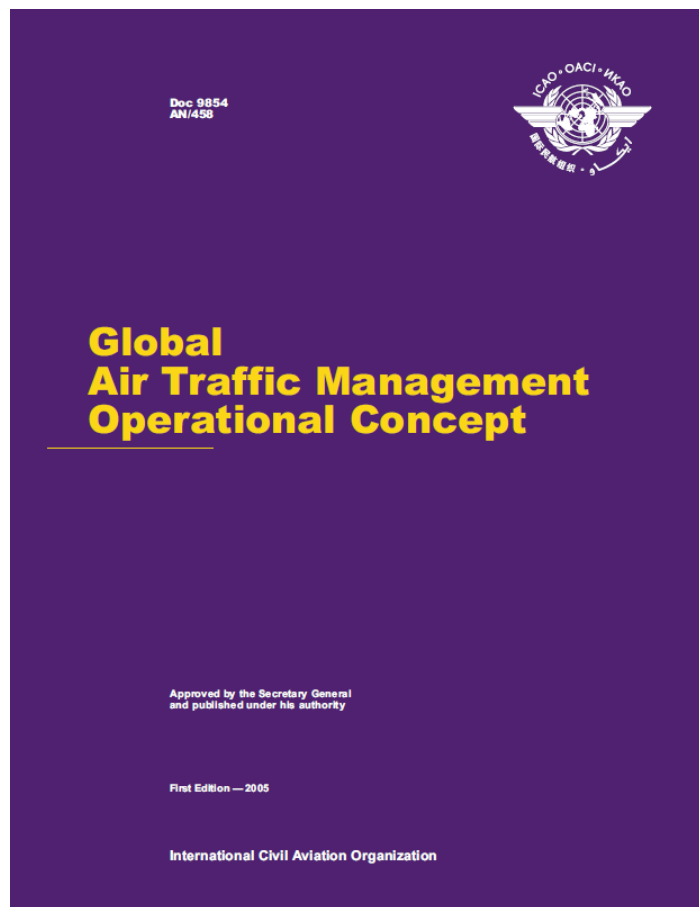
**Information** necessary for planning, coordination, and notification of flights **exchanged** in a **standardized format between members of the ATM community**, including those involved in flight operations and aerodrome operations

- Address limitations and constraints of the current flight planning Mechanism
- Enables transition to fully collaborative environment where a flight trajectory is shared and optimized during all phases of flight



# Guidance documents

6



This edition supersedes, on 10 November 2016, all previous editions of Doc 4444.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

The existing ATS messaging system operates via the Aeronautical Fixed Telecommunication Network (AFTN) with significant constraints:

- Limited message size preventing inclusion of additional flight information
- Inadequate extensibility for evolving ATM needs
- Insufficient data granularity for trajectory-based operations
- Limited support for collaborative planning between operators and service providers
- High implementation costs for incremental changes



The following operational needs are driving the transition to FF-ICE:

- Support for new functionality including Performance-Based Navigation (PBN), Airport CDM, flexible use of airspace, free route airspace, and advanced Air Traffic Flow Management
- Enhanced data exchange capabilities supporting collaborative decision-making
- Improved trajectory prediction accuracy
- Reduced costs associated with manual interventions in flight planning
- Systematic collaboration between operators and ATM service providers

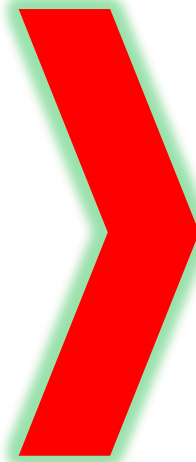
FF-ICE will provide the following core capabilities:

- Enhanced data exchange with expanded flight plan information
- Systematic negotiation procedures between operators and service providers
- Standardized services for flight data submission, retrieval, and notification
- Feedback mechanisms for constraints and restrictions
- Integration with System-Wide Information Management (SWIM)



### FPL 2012

No further intermediary investment related to the existing flight planning system (FPL2012) is recommended.



### FF-ICE

XML eFPL

GUFI

New flight plan definition

FF-ICE Services

SWIM



## FF-ICE/R1 Implementation Guidance

- 6 FF-ICE services – 2 mandatory - Filing and Flight Data request
- ASPs with complex airspace and traffic expected to implement initially
- Minimally implementing - FF-ICE filing service, both ASPs and AUs will be able to share more detailed trajectory information to perform negotiations
- FF-ICE/R1 – Foundation for TBO

### Planning Service

Messages:

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

### Filing Service

Messages:

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

### Trial Service

Messages:

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

### Flight Data Request Service

Messages:

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

### Publication Service

Messages:

Forms part of SWIM

### Notification Service

Messages:

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

- Operators: Implement FF-ICE client capabilities, enhance flight planning systems, train personnel
- enhanced ATM Service Providers (eASPs): Implement FF-ICE services, enhance ATM systems, train personnel
- ICAO: Maintain standards, monitor implementation progress
- System Vendors: Develop compliant solutions, support implementation efforts

# Timelines

13

2004 – FF-ICE Concept Development

2012 – FF-ICE first Edition

2022 – Submission of FF-ICE/R1 to ANC

2024 Q4 – Applicability of FF-ICE/R1

2025 Q1 – States begin Implementation of  
FF-ICE/R1

2027 Q4 – ICAO to cease upgrades to  
non-critical upgrades to FPL 2012

2032 Q4 – Regional Sunset of FPL 2012

2034 Q4 – Global Sunset of FPL 2012



- Early deployment expected in high-traffic, complex airspace environments
- Gradual transition from current flight planning to FF-ICE
- Temporary support for mixed-mode operations during transition
- Prioritization of services based on operational benefits



Risk	Impact	Mitigation
Inconsistent implementation across service providers	Reduced interoperability	Develop detailed implementation guidance, establish testing framework
System performance issues with increased data volume	Processing delays	Design scalable architectures, implement performance testing
Resistance to procedural changes	Delayed benefits realization	Comprehensive training, emphasize benefits, phased implementation
Mixed-mode operations complexity	Increased workload during transition	Careful transition planning, temporary interface solutions
Data security concerns	Potential vulnerabilities	Implement robust security controls within SWIM environment

### APIRG 26 - Decision 26/17: Establishment of the FF-ICE Task Force

The scope of the project is to address the various technical and operational topics for the transition to FF-ICE services with deliverables centered around the 4 key areas namely:

- Systems and infrastructure requirements
- Harmonised regulatory amendments required by the AFI States
- Training requirements for all stakeholders
- Review and amendment of processes and procedures



- Conduct the FF-ICE webinar and awareness workshops
- Define the functional requirements for implementation of FF-ICE within AFI–Region
- Conduct comprehensive GAP analysis to assess the readiness of AFI States to implement provisions.
- Develop AFI FF-ICE transition Roadmap
- Develop CONOPS for AFI FF-ICE Implementation
- Proposed updates to AFI Regional Air Navigation Plan and Regional Supplementary Procedures
- Define Training requirement
- Conduct FF-ICE Testing and validations

The FF-ICE implementation represents a significant evolution in flight planning and ATM collaboration. By enabling enhanced data exchange within a SWIM environment, FF-ICE will facilitate the transition to trajectory-based operations while improving flight efficiency and predictability. This CONOPS provides the foundation for a coordinated implementation approach, ensuring all stakeholders understand their roles and the expected operational benefits.





Thank You!