



GLOBAL AIR NAVIGATION DEVELOPMENTS





Outline

- CDM-ATM Simplified procedure
- CDM/ATFM
- FF-ICE and COMS





Simplified Procedure for Air Traffic Management Collaborative Decision Making and Sharing of Information



The simplified CDM-ATM procedure provides for:

Effective collaborative platform for ANSPs in order to carry out cross-border coordination taking into consideration the circumstances that would have impact on traffic flows. This includes going into or recovering from contingency situations.



Lockdown is **ENDING** and these folks should be accommodated again safely and efficiently when back to normal operations.



CDM-ATM Levels of Implementation

National level

where no ATFM system is in place, a **National Collaborative Decision Making (CDM) Committee** should be **established** to coordinate the ATM issues (en-route and terminal).

Cross-border Coordination

Communication and **exchange** of operational information in real-time basis forms the backbone of CDM. It might be accomplished via **telephone calls, web conferences**, e-mail messages, or automated data exchange system.

Multi States Conference Calls

Instead of having one-to-one daily conferences, several States may decide to organize joint teleconferences

CDM-ATM Levels of Implementation

Regional Level

ICAO Regional Offices consolidate the inputs received from their relevant States or Group of States as well as those provided by the airspace users and share it as required for regional/inter-regional consideration through the CCT framework or any other mechanism for discussion and agreement on necessary ATM measures to mitigate the identified challenges.

Regional Offices organize periodic teleconferences, as deemed necessary, (preferably on weekly or bi-weekly basis) with States and Organizations concerned. During these regional discussions, the relevant ICAO State Letters as well as the matters reported by States and the challenges reported by airspace users should be addressed.



Air Traffic Flow Management (ATFM)

ATFM is demand/capacity
balancing



PANS-ATM: ATFM service shall be implemented for airspace where traffic demand at times exceeds the defined ATC capacity.



New Standard: In order to support the ATFM service, the appropriate ATS authority shall **determine, disseminate and periodically review** the **declared** capacity for control areas, control sectors within a control area, and for controlled international aerodromes as determined by the State.

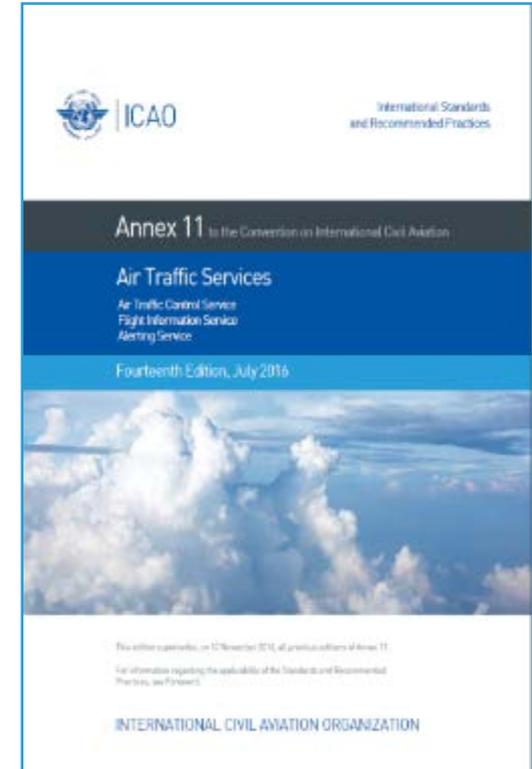
Operational Capacity, which is an update to the declared capacity based on prevailing circumstances will be covered in PANS-ATM



CDM/ATFM what's new?

New Standard in Annex 11: States shall ensure that an **ATFM service** is established with the objective of **contributing** to a safe, orderly and expeditious flow of air traffic and to support **cross-border collaboration**.

New Recommendation: ATFM services should be implemented on the basis of multilateral agreements that should make provision for common procedures, common methods of capacity determination and common methods of information exchange.



Doc 9971: Manual on...

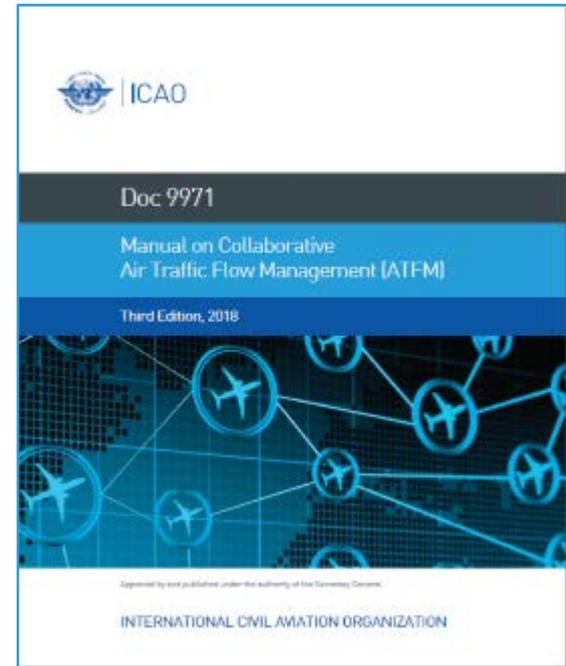
Doc 9971 was published in 2012 (3rd Edition in 2018)

Part 1 – Collaborative Decision Making (CDM)

Part 2 – Air Traffic Flow Management (ATFM)

Part 3 – Airport CDM (A-CDM)

New Part 4: Operational Handbook



The ICAO 11th Global ATFM Symposium is planned for Q3/Q4 2023 (Venue and dates TBD)



What is FF-ICE ?

Flight and **F**low – **I**nformation for a **C**ollaborative **E**nvironment

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

RECONNECTING THE WORLD



ASBU-FICE & COMS Elements

FICE

FICE-B01	Automated basic inter facility data exchange (AIDC)	Information	  
FICE-B21	Planning Service	Information	  
FICE-B22	Filing Service	Information	  
FICE-B23	Trial Service	Information	  
FICE-B24	Flight Data Request Service	Information	  
FICE-B25	Notification Service	Information	  
FICE-B26	Publication Service	Information	  
FICE-B27	Flight information management service for higher airspace operations	Information	  
FICE-B28	Flight information management service for low altitude operations	Information	  
FICE-B29	Flight information management support for inflight re-planning	Information	  
FICE-B31	Flight information management services for enhanced trajectory operations	Information	  
FICE-B41	Integrated flight information management system for end-to-end global flight planning	Information	  
FICE-B42	Real-Time Participation of operators in flight information	Information	  

COMS

COMS-B01	CPDLC (FANS (A & ATN B)) for domestic and procedural airspace	Technology	  
COMS-B02	ADS-C (FANS (A)) for procedural airspace	Technology	  
COMS-B11	PBCS approved CPDLC (FANS (A+)) for domestic and procedural airspace	Technology	  
COMS-B12	PBCS approved ADS-C (FANS (A)) for procedural airspace	Technology	  
COMS-B13	SATVOICE (incl. routine communications) for procedural airspace	Technology	  
COMS-B21	PBCS approved CPDLC (B2) for domestic and procedural airspace	Technology	  
COMS-B22	PBCS Approved ADS-C (B2) for domestic and procedural airspace	Technology	  
COMS-B23	PBCS approved SATVOICE (incl. routine communications) for procedural airspace	Technology	  
COMS-B31	Extended CPDLC (B2 incl. Adv-IM and dynamic RNP) for dense and complex airspace	Technology	  
COMS-B32	Extended ADS-C (B2 incl. Adv-IM and dynamic RNP) for dense and complex airspace	Technology	  



Why FF-ICE ?

Address limitations and constraints of the current flight planning mechanism

Short Term

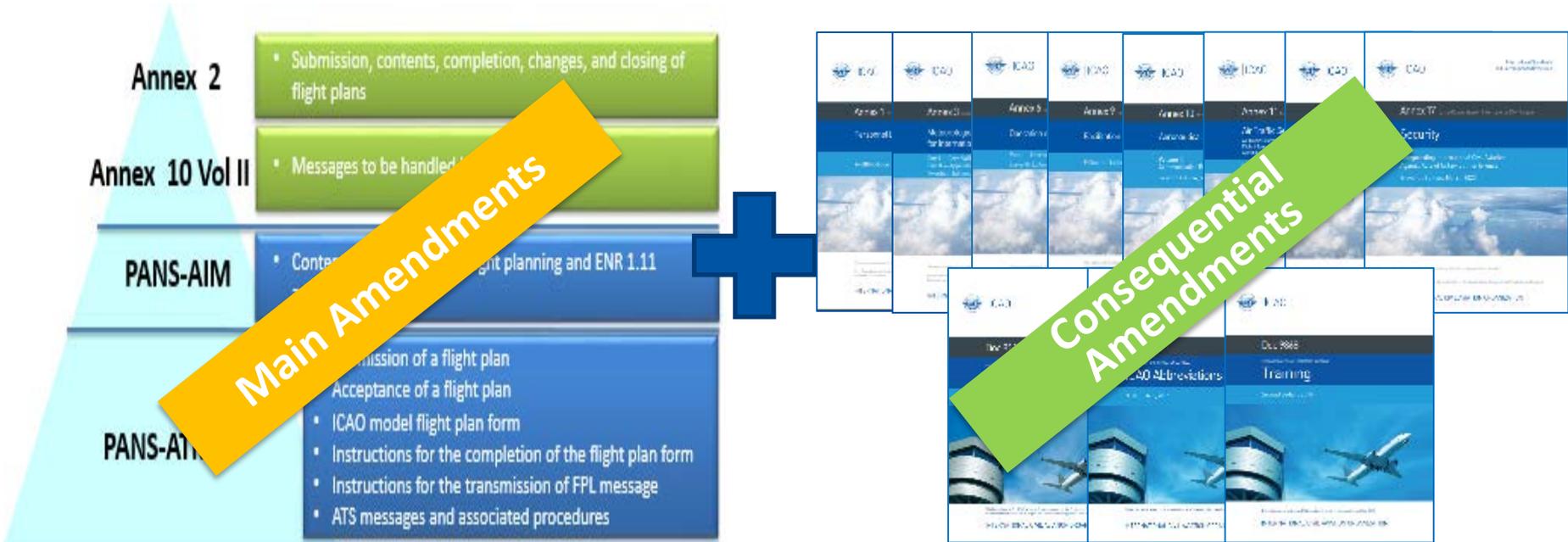
Long Term

Enable transitioning to a fully collaborative environment where a flight trajectory is shared and optimized during all phases of a flight

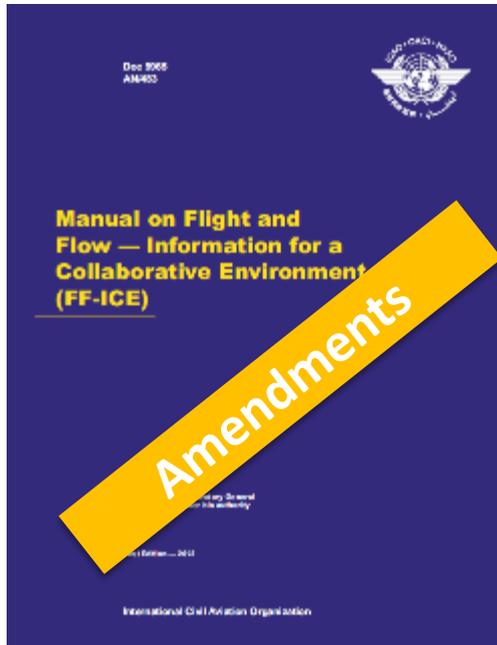


Amendment of ICAO provisions

Among all provisions concerning “flight plan” or “flight planning”



Doc 9965 Amendments



➤ **Volume I Concept (Updated)**

➤ **Volume II Implementation Guidance (New)**

- Implementation considerations including transition strategy
- Air traffic flow and capacity management
- Information management and technology
- Mixed-mode and transition
- State publications, training,
- GUFi and flight plan association
- Recommended means & procedures and for each FF-ICE service
- Route and trajectory as well as other new data items
- Information and data exchange model
- Content of FF-ICE messages
- Logic rules, association checks, GUFi constructions, translation guidance

COMS		
COMS-001	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-002	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-003	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-004	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-005	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-006	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-007	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-008	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-009	ICAO's Global Operations Manual for the International Air Transport System	Information
COMS-010	ICAO's Global Operations Manual for the International Air Transport System	Information
FFICE		
FFICE-001	Automated basic interface by data exchange (AIDC)	Information
FFICE-002	Planning Service	Information
FFICE-003	Flighting Service	Information
FFICE-004	Trail Service	Information
FFICE-005	Flight Data Request Service	Information
FFICE-006	Notification Service	Information
FFICE-007	Publication Service	Information

a) 2nd Edition of the *Global Operational Data Link (GOLD) Manual* will be published in 2022/2023

b) Doc 9694 *Manual on ATS Data Link Applications* will be superseded by a new ICAO Manual to be published in 2022/2023

c) Proposed amendments to relevant Annexes, PANS and guidance are under development and subject to State consultation in 2022

d) A notional sunset date for FPL2012 is being considered together with a transition strategy

States are encouraged to:

- a) consider the benefits of implementing FF-ICE services
- b) commence discussions to transition to implementing minimum capabilities of FF-ICE



ICAO

UNITING AVIATION



THANK YOU!