NM-27.0 RELEASE NOTES

Edition: 1.0
Edition Validity Date: 17/03/2022

SUPPORTING EUROPEAN AVIATION

Important Notifications

DOCUMENT CHARACTERISTICS

Document Title	Document Subtitle (optional)	Edition Number	Edition Validity Date
NM-27.0 RELEASE NOTES	Use pop-up to enter value.	1.0	17/03/2022

Abstract

This document describes the new and modified functions delivered by NM as part of the NM-27.0 software release.

This document is available at:

https://www.eurocontrol.int/publication/network-manager-release-notes-nm-27

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STATUS AND ACCESSIBILITY			
Status		**Accessible via**	
Working Draft	☐	Intranet	☐
Draft	☐	Extranet	☐
Proposed Issue	☐	Internet (www.eurocontrol.int)	☒
Released Issue	☒		

TLP STATUS		
Intended for		**Detail**
Red	☐	Highly sensitive, non-disclosable information
Amber	☐	Sensitive information with limited disclosure
Green	☐	Normal business information
White	☒	Public information

Edition History

The following table records the complete history of the successive editions of the present document.

Edition No.	Edition Validity Date	Reason
0.1	13/07/2021	Initial edition of the NM-27.0 Pre-release Notes, for NETSYS
1.0	17/03/2022	Initial edition of the NM-27.0 Release Notes, after approval by Director NM (31/01/2022) of the NM-27.0 Release scope

Table of Contents

1 Introduction

NM releases include many changes arising from different sources and coordinated via various fora. They allow the development and deployment of new functionalities, which implement the NM business plans.

The NM release notes are designed as a rolling document, moving progressively from pre-release notes (probable contents) to actual release notes, to provide NM service users with an early view of changes, being refined as the release software is developed. This rolling view is aimed at helping NM users to anticipate and assess the impact and opportunities on their operational procedures and/or systems.

With that purpose, this document describes all changes of the NM system delivered by NM as part of the **NM-27.0** software release, limited to those changes deemed to potentially affect operations of external NM service users.

NM deploys:

- One major release per year, called xx.0, e.g. 26.0, through which most functional developments of the year are delivered
- One or more minor releases, called xx.y (where y > 0), e.g. 26.1, 26.2, etc., in which corrections and tuning are provided, and possibly some functional improvements of the NM HMI – in particular, the NM B2B interfaces should not be changed in a minor release

For a major release:

- The first edition of the NM pre-release notes is published around 18 months before the corresponding major release deployment, and is published to NETSYS only
- The first edition of the NM release notes is published around 12 months before the corresponding major release deployment, and the last one around the deployment of the major release

The publication of the release notes for a minor release usually takes place a few months before deployment.

Users who wish to automatically receive by email the new editions of the NM Release Notes (and other communications related to the NM releases) are invited to register at:

http://www.eurocontrol.int/network-operations/self-registration-form

(Choose "Subscribe to receive e-mail notifications when the NM Release Notes are updated" in the field “Purpose of the request”).

Questions or comments related to this document should be sent to:

nm.releases@eurocontrol.int

2 User's Guide of the NM Release Notes

2.1 Versioning

The NM Release Note versions are called "editions".

The NM Release Note editions are published independently of each other, with changes from the previous edition emphasised in **bold green**.

The editions are published with their edition number clearly indicated in their title and body.

2.2 Document Structure

Chapter 3, named Network Development Programmes, reminds the reader about the programmes currently under development, which may bring changes to the NM systems in every NM release.

The context being set, the document provides all available schedule information and notifications regarding the NM release deployment in chapter 4, and the release contents in chapter 5.

Useful references are provided in chapter 6, and abbreviations used across this document in chapter 7.

2.3 Focus on NM B2B

Given the high and rising importance of NM B2B for many NM stakeholders, specific sections dedicated to NM B2B are developed within section 5.6.

2.4 Description of Changes

The definition of a "Change" in this document is any feature that is changed or added as part of a release, and susceptible to impact the operations of the external NM service user.

Changes are described in a structured table, using the fields described below.

When the change is embodied as an FB (Functional Block), its description is often refined via CRs (Change Requests), for example because the impacted users or applications are not the same – in that case, the pattern below is used to describe CRs of the FB.

FB/CR…: Number and name of the change	
Objective	Operational objectives of the change
Description	Description of the main features of the change
Users potentially impacted and/or interested	Specifies the categories of NM users potentially (directly) impacted by the change, and/or potentially interested in the change
NM applications and services changed	Lists the NM applications and services that are changed by the change
Impact category on external users	Specifies whether the change has a direct impact on external users, and if that is the case, the impact category
Impact description	Description of the impact on the external users, according to the impact category provided above

Impact on NM Service Specifications	Specifies whether the change has an impact on the NM Service Specifications or not, or if an assessment is to be or being performed
Operational deployment plan	Specifies the way the change will be deployed
Users' testing	Specifies how external users will be able to test the change
Related documentation	List of links to the documents updated or to be updated following the deployment of the change, or simply in relation with the change

3 Network Development Programmes

This chapter provides a short description of the NM programmes that the NM developments are implementing.

The majority of these programmes are strategic developments, aiming to achieve the strategic objectives of the NSP (Network Strategy Plan), and are fully aligned with the ATM functionalities defined in the CP1 (Common Projects One) implementing regulation and the corresponding SESAR Deployment Programme.

Airport-Network Integration Strategic Project

The project addresses the full integration of airports and its operations as a component of the ATM network. The project contributes directly to the NSP Strategic Objective 4 (SO4) “Optimise Network Operations” and 5 (SO5) “Develop European connectivity and airport services”.

The project aims at minimising airport disruptions and delays, in particular during adverse conditions, and at setting up the collaborative processes and tools improving airport and TMA integration with ATM operations, thereby positively affecting the overall network, as well as local performance.

The project includes the following main areas:

- Improve flight plan/airport slot consistency
- Improve the airport related operational partnership, starting with the integration of AOPs into the Network Operations Plan (including Target Times)
- Implement the Advanced ATC Tower, Airport CDM and AOP/NOP integration concepts

Airspace Management and Advanced FUA Strategic Project

The project addresses the coordinated airspace management improvements required to achieve the flight efficiency – and indirectly the capacity – RP3 and RP4 targets, both at network and local/FAB level. The project contributes directly to the NSP Strategic Objective 3 (SO3) “Optimise Network Design”.

The project focuses on the implementation of improved ASM/ATFCM processes and on the Advanced Flexible Use of Airspace concept, combining operational procedures and technical systems support.

The project aims at:

- Introducing performance-driven operations based on the management of airspace configurations in fixed route network and FRA environments
- Providing processes that support the use of more dynamic and flexible elements
- Describing a seamless, CDM-based process with an advanced real time management of airspace configurations as well as a continuous sharing of information among all ATM partners

The project includes the following main areas:

- ASM solutions to improve network performance
- Dynamic Airspace Configuration and CDM process
- Rolling process ASM/ATFCM process
- ASM operations in FRA environments
- ASM performance monitoring

Cooperative Traffic Management Strategic Project (CTM)

The project addresses the collaborative process of determining and implementing optimal solutions for network operations through continuous information sharing of individual and local preferences, by cooperation between actors in the planning and execution phases of ATM. The project contributes directly to the NSP Strategic Objective 4 (SO4) “Optimise Network Operations”.

The project aims at optimising traffic delivery through a transparent cooperative approach involving all operational stakeholders in the ATM network: ATC, Airport, AU and NM operations. It is the interface between local and network operations and aims at improving tactical coordination processes, reducing the gap between planning and execution phases, and enabling the application of flight and flow-specific targeted ATFCM measures, including Target Time measures.

The project includes the following main areas:
- Flight Plan Predictability
- Short Term ATFCM Measures (STAM), including Scenario Management
- Target Times Operations
- Support to (extended) Arrival Sequencing
- Initial User Driven Prioritisation

European ATM Information Management System Strategic Project (EAIMS)

The project addresses the provision of a reference source of aeronautical and airspace data for use in ATM systems and operations, including flight operations and airport operations. The project contributes directly to the NSP Strategic Objective 2 (SO2) “Deploy and integrate interoperable and secure information management systems”.

The project aims at providing a shared ATM Network Information Reference that allows planning of all stakeholders to be based on the same data and assumptions, that is the reference for any measure with network impact, and that supports any network-wide activity.

The project includes the following main areas:
- Airspace model evolutions of CACD for compliance with EAD
- Semi-automatic download of EAD data into CACD and associated processes and procedures
- Semi-automatic download of other context information to CACD (such as BADA)
- Improvements of airspace data management CDM processes

Flight Plan and Flight Data Evolution Strategic Project (FPFDE)

The project addresses the processes and systems required to elaborate and to share the 4D trajectory information for planning purposes, enabling improved quality ATM planning across the European ATM Network. The project contributes directly to the NSP Strategic Objective 5 – Facilitate business trajectories and cooperative traffic management (SO5).

The project aims at ensuring and coordinating a gradual implementation in a harmonised way of the ICAO Flight and Flow Information for a Collaborative Environment (FF-ICE), key enabler for the ICAO concept of Trajectory-Based Operations, while supporting all stakeholders in the transition.

The project includes the following main areas:
- FF-ICE/Release 1 Services, in support of pre-departure operations
- FF-ICE/Release 2 Services, in support of post-departure operations
- OAT flight plan integration
- VFR flight planning support
- Integration of ADS-C (EPP) data

Free Route Airspace Strategic Project (FRA)

The project addresses the required NM system changes and undertakes airspace design, simulation and validation activities required for FRA implementation, as well as monitoring and reporting on implementation progress. The project contributes directly to the NSP Strategic Objective 3 (SO3) “Optimise Network Design”.

The project aims to support the implementation of the FRA concept, as described in the European Route Network Improvement Plan (ERNIP) Part 1 across the NM area.

The project includes the following main areas:
- Network performance and implementation scenarios
- Operations Support (modelling, design, simulations, trials, etc.)
- ATM systems and architecture in support of FRA
- Concept, procedures and change

NM OPS Service Platform Strategic Project (n-CONECT)

The project addresses the provision of a platform supporting improved NM service interfaces, being the main focus put on the convergence to a single, redesigned HMI for all users, fit for purpose and flexible enough to meet the needs of the different user roles (both internal to NMOC and external). The project contributes directly to the NSP Strategic Objective 2 (SO2) “Deploy and integrate interoperable and secure information management systems”.

The project aims at setting up a new NM operational collaboration platform and related processes.

The project includes the following main areas:
- Platform development
- Service management
- Single HMI for internal and external users
- NM B2B Services migration and evolutions

Performance Strategic Project

The NM and Performance IRs stress the need for Monitoring and Reporting (M&R) of performance. The aim of this programme is to provide the data and reporting (including data warehouse and NMIR) that address the M&R needs.

The programme includes a wide variety of activities such as: the adaptation of algorithms or databases, creation of new data sets, modification of interfaces graphical identity, and new reports following users’ requests. The changes allow NM to fulfil its commitment on M&R, support other stakeholders with their M&R responsibilities and prepare NM for the next SES reference period.

Operations Improvements

Domain Improvements

Each release delivers new functionalities and enhancements to current capabilities into operations in line with NM strategic programmes and stakeholder requirements. These cover flight, flow and airspace domains and are facilitated by advances in NM B2B and other data exchanges.

TCF (Transponder Code Function)

In accordance with the NM mandate for the TCF, CCAMS is operated on behalf of states as one of the possible technological solutions supporting the unambiguous and continuous identification of aircraft.

The final goal is to have the use of the downlinked aircraft identification (e.g. through Mode S) operational in the whole area with CCAMS as a back-up technology. Therefore CCAMS is implemented currently in 19 states and the number of users is expected to increase in the coming years.

4 Schedule

The following dates are tentative; they are meant to provide the user with an idea of the main events that take place all along the release development, up to deployment.

These dates are mostly stabilised around 4 to 5 months before migration, but can still slightly fluctuate, in which case notifications are provided via a new edition of these NM Release Notes (see 4.1).

4.1 Important Notifications for Release Schedule

<None>

4.2 Deployment

Deployment Steps	2023											
	J	F	M	A	M	J	J	A	S	O	N	D
Release webinar		x	x									
Network Operations Handbook publication			x									
OPT Instruction Guide publication	x											
Start of PREOPS		x										
Start of OPT			x									
End of OPT				x								
Start of migration				x								
End of migration					x							

4.2.1 Release Webinar

The release webinar is a Q&A session answering user's questions, based on the NM Release Notes, which takes place around two months before migration.

Questions and answers are then published.

4.2.2 Network Operations Handbook

The various documents forming the Network Operations Handbook will be made available one month before the NM Release migration at:

- The NM Network Operations library: https://www.eurocontrol.int/library?f%5B0%5D=activity%3A774
- The NOP Portal ("Network Operations Handbook" portlet) is another way to access it:
  - Public NOP Portal
  - Protected NOP Portal

4.2.3 Operational Testing

The Operational Testing (OPT) enables users to assess the potential impact of the release against their systems or procedures before the release migration.

The OPT period starts one to two months before the operational release migration.

Users are able to:

- Download and test the upgraded CHMI
- Test the upgraded NOP Portal
- Test some functionalities (operational scenario provided)

No registration is required.

Questions related to OPT must be sent to nm.opt@eurocontrol.int. Clients may also apply for OPT testing via this address.

4.2.4 Migration Details

Migration details will be provided around three months before migration.

5 Contents

5.1 Important Notifications for Release Contents

<None>

5.2 Naming Conventions

Naming conventions have been introduced to make the document easier to read:

- **AIXM: Means AIXM 5.1.1**

5.3 Supported Browsers and Operating Systems

For its web applications, NM recommends the following browsers:

- Mozilla Firefox
- Google Chrome

For these recommended browser brands, NM undertakes to investigate and attempt to resolve problems that can be reproduced on the latest stable version of that brand – for any other browser brand or version, issues will be analysed and resolution attempted on a best effort basis.

For all its client applications (web applications and CHMI), NM recommends the following operating system (OS): Microsoft Windows 10 64-bit.

For this recommended OS, NM undertakes to investigate and attempt to resolve problems – for any other OS or OS version, issues will be analysed and resolution attempted on a best effort basis.

5.4 NM Service Specifications

NMD has created specifications that define the following services provided by the Network Manager:

- Airspace data
- Flight planning
- Flow and capacity management
- Central Code Allocation Management (CCAMS)

In addition, NMD has created a specification for the Radio Frequency Function (RFF).

These NM Service Specifications cover at a high-level the functionality, performance and interfaces with the environment as well as the definition of the degraded modes of the service delivery.

They support the agreements between the NM as service provider and other organisations and aviation undertakings as users of the services listed above.

The NM Service Specifications will be in due time available upon request to nm.sqs@eurocontrol.int.

5.5 Declaration of Suitability for Use (DSU)

The DSU is a formal document published by the NM that provides evidence that a defined constituent meets the applicable baseline.

The NM system in operations is represented by two constituents:

- The NM Business Systems
- The NM Client Layer

The applicable baseline consists of:

- The regulatory baseline, which defines the mandatory requirements specified in relevant EC regulations

- The Means of Compliance (MoC) baseline, which consists of voluntary standards and specifications that the NM uses to ensure compliance with the regulatory baseline

The DSUs contain traceability to the requirements and referenced documents that were used for conformity assessment.

NM will create in due time the DSUs for the two constituents of the NM system in operations for all releases, and will make them available upon request to nm.sqs@eurocontrol.int.

5.6 NM B2B Focus

This section provides an overview of the NM B2B delivered functional contents, and of technical evolutions that NM considers most relevant for the stakeholders using or considering to use NM B2B.

5.6.1 Contacts

Most NM B2B resources can be found from links in central NM B2B web page: https://www.eurocontrol.int/service/network-manager-business-business-b2b-web-services, including the NM B2B access request form.

5.6.2 NM B2B Documentation

NM B2B Documents	
NM B2B Technical Resources	Folder of various technical documents related to the NM B2B, most importantly the NM B2B Reference Manuals and Release Notes, for the currently supported NM B2B versions
NM B2B Write Access Criteria	Contains the criteria specified for each NM B2B WRITE Service to be fulfilled and followed during the operational validation, prior to enabling an NM B2B client to use that NM B2B WRITE service in NM operations

Draft NM B2B Reference Manuals are published around 4 months before operational deployment.

5.6.3 External Testing and Validation of NM B2B – PREOPS

NM offers a pre-operational (PREOPS) platform that NM B2B users can use for testing purposes.

The software to be released in the new NM release is deployed on the PREOPS platform around two months before its deployment in operations, so that users can start working on the new API prior to operational deployment. PREOPS services remain available after the operational release.

The PREOPS platform is not the operational platform. The quality of the PREOPS services may be lower than the quality of the operational services. In particular, availability is not guaranteed 24/7, as support is only available during office hours. Additionally, the quality of the data on the PREOPS platform depends on the specific service groups (please see the NM B2B Reference Manuals for further details).

5.6.4 Main Functional Evolutions

Will be provided in a future edition of the NM Release Notes.

5.6.5 Main Technical Evolutions

Will be provided in a future edition of the NM Release Notes.

5.6.5.1 NM B2B Lifecycle

Essentially:

- There is exactly one major NM release per year, in which NM B2B services may be changed, added or decommissioned
- Minor NM releases should not impact NM B2B, apart from very exceptional circumstances, depending on the nature of the change, in which case exceptional communication would take place
- Details about the NM B2B lifecycle can be found in the NM B2B Reference Manuals

5.6.5.2 Decommissioning in NM-27.0

With the deployment of NM-27.0, the NM B2B version 25.0 will be decommissioned.

Hence, as part of the NM-27.0 release deployment, two NM B2B versions will co-exist during the lifetime of the NM-27.0 software release: NM B2B versions 26.0 and 27.0.

5.6.5.3 NM B2B over NewPENS

The operational use of the NM B2B over NewPENS has been approved in September 2020 by EASA, and is available. More information can be found in slides 20 and 21 of the EUROCONTROL NM B2B Tech Forum October 2020 presentation: https://www.eurocontrol.int/event/eurocontrol-nm-b2b-technical-forum-limited-edition.

5.6.5.4 NM B2B on SWIM Registry

After being a pioneer in the implementation of SWIM, with SWIM services in operations since 2009, EUROCONTROL NM has completed in 2021 the formal processes of assessing the conformance of the NM B2B Services against the EUROCONTROL Specifications for SWIM. The operational NM B2B Services are since then available in the European SWIM Registry as SWIM Compliant Services, in compliance with the CP1 implementing regulation.

As stated on the EUROCONTROL web site, “Hundreds of organisations such as air navigation services providers or aircraft operators that daily use the business to business (B2B) services of the EUROCONTROL Network Manager (NM) are now automatically CP1/SWIM compliant in all information exchanges with NM, following NM’s successful completion of the compliance assessment process of its B2B services.” Read more at: https://www.eurocontrol.int/news/early-compliance-eurocontrol-nm-b2b-services-cp1swim-offers-major-benefit-operational

Currently, the European SWIM Registry contains the OPS NM-25.0 B2B version, and will soon contain the OPS NM-26.0 B2B version. With the deployment of the NM-27.0 release, the European SWIM Registry will contain the NM B2B versions that the release supports in operations following the NM-27.0 release deployment, namely NM-26.0 and NM-27.0 B2B versions.

In general, new NM B2B versions will be uploaded/refreshed in the European SWIM Registry around the release migration time.

5.7 Airport-Network Integration Strategic Project

5.7.1 FB1125 – A-CDM alerts reception and dissemination

Objective	**The A-CDM alerts are available to A-CDM partners through the local A-CDM information sharing platform. Most of these alerts are intended for AOs and ground handlers to take action either locally or remotely. Airlines, through their IATA representation, have asked the Network Manager to centrally receive these alerts and to disseminate them so that airlines can access the A-CDM alerts for their flights from a single one-stop application. This development would bring a significant improvement to the current way of working, where airlines need to log in to individual local airport systems to check the alerts or they receive them via e-mail upon subscription.** **An NM B2B service is required that allows A-CDM airports to share the pre-defined set of their A-CDM alerts with the NM. The alerts that are shared with the NM will then be displayed on the NM systems HMI(s) and be output via NM B2B.**

CR_049109 – A-CDM alerts reception

A-CDM alerts are generated at individual A-CDM airports whenever inconsistencies are detected based on pre-defined parameters and thresholds.

The NM B2B interface will be enhanced to allow A-CDM airports to share their A-CDM alerts with NM. This development will ensure standardization as the alerts will all be provided according to a common format.

Hereunder is a list of the A-CDM alerts concerned:

Alert code	Description
CDM01	No Airport Slot Available, or Slot already correlated
CDM02	SOBT vs. EOBT discrepancy
CDM03	Aircraft Type discrepancy
CDM04	Aircraft Registration discrepancy
CDM05	First Destination discrepancy
CDM06	Non-Airborne Alert
CDM07	EIBT + MTTT discrepancy with EOBT
CDM07a	EIBT + MTTT discrepancy with TOBT
CDM08	EOBT Compliance Alert
CDM09	Boarding Not Started
CDM10	TOBT Rejected or Deleted
CDM11	Flight not Compliant with TOBT/TSAT
CDM11a	Flight not Compliant with EEZT
CDM12	TSAT not respected by ATC
CDM13	No ATC Flight Plan Available
CDM14	Automatic TOBT Generation not Possible
CDM15	TOBT within night flying restriction
CDM16	TSAT within night flying restriction
CDM17	TTOT possibly subject to night flying restriction
CDM18	SID congestion
CDM19	*Not allocated yet*
CDM20	Inbound diversion alert
CDM21	Provide new estimate landing time
CDM22	Prepare for diversion (indefinite holding)
CDM23-29	*Not allocated yet*
CDM30	Updated outdated In-Block Time
CDM31	Solve gate conflict
CDM32	No stand assigned

Description

	CDM33	Remote Hold Notification
	CDM34	Return to Stand Notification
	CDM35-39	*Not allocated yet*
	CDM40	Aircraft not ready for de-icing
	CDM41	De-icing Confirmation needed
	CDM42	De-icing not confirmed
	CDM43	De-icing cancelled and TOBT deleted
	CDM44-49	*Not allocated yet*
	CDM50	Alternate Diversion Alert
	CDM51	Aircraft Not Ready
	CDM52-58	*Not allocated yet*
	CDM59	Boarding Not Ready
Users potentially impacted and/or interested	• A-CDM Airports	
NM applications and services changed	• NM B2B	
Impact category on external users	• Impact on users' systems	
Impact description	Airports willing to send their A-CDM alerts to NM via NM B2B need to adapt their system to do so. However, this CR does not impact existing NM B2B services.	
Impact on NM Service Specifications	None	
Operational deployment plan	Deployed in operation along with the release migration	
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.	
Related documentation	TBD	

Description	**CR_049122 – A-CDM alerts dissemination** NM will display the A-CDM alerts received from airports in NMP Flight. The A-CDM alerts will also be available via NM B2B (R/R and P/S).
Users potentially impacted and/or interested	• AO or CFSP • Airports
NM applications and services changed	• NM B2B • NMP Flight
Impact category on external users	• Impact on procedures • Impact on Human-Machine Interfaces • Impact on users' systems
Impact description	The CR will greatly simplify the AU procedures to receive A-CDM alerts. AUs willing to receive A-CDM alerts via NM B2B will have to adapt their systems to do so. However, this CR does not impact existing NM B2B services. In addition, A-CDM alerts will be displayed via the NMP Flight application.

Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

5.7.2 FB1194 – AOP/NOP Integration – Phase VII

Objective	**Improve DPI-related services, progressing with AOP/NOP integration.** **Improve the way the Target Take Off Time (TTOT) information is displayed on NM systems HMI.**
Description	**CR_048209 – Show TTOT values from Extended DPI on Flight List** Currently, the corresponding TTOT is not shown in the Flight list when provided in a Predicted-DPI. The CDM Status "PREDICTED" is not displayed either. The user is informed that predicted departure planning information is available for a flight only by consulting the Flight details. Airports can provide two types of TTOT in a P-DPI (turnaroundTTOT and earliestTTOT). The change consists in displaying the highest ranking TTOT along with the CDM Status in the Flight list when a P-DPI is received. Note that earliestTTOT has priority over turnaroundTTOT as it consolidates the ATC view alongside the AO and ground handler view. The concerned HMIs are: NMP Flight, CHMI, NOP Portal and ETFMS HMI.
Users potentially impacted and/or interested	• AO or CFSP • FMP • Airports • NMOC
NM applications and services changed	• CHMI • NOP Portal • NMP Flight
Impact category on external users	• Impact on Human-Machine Interfaces
Impact description	The first A-CDM airports will start providing P-DPI by end 2021. The TTOT information from P-DPI will not be visible until this change is implemented in NM-27.0.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD

5.8 Airspace Management and Advanced FUA Strategic Project

5.8.1 FB1191 – ASM-AFUA Process Improvements

Objective	**Following the request from several Member States for more flexibility and new capabilities to better apply the AFUA process, the objective of this FB, as part of the ASM-AFUA programme, is to increase system flexibility for further optimisation of airspace usage.**

Description	**CR_048723 – Restriction Group via AUP/UUP – Future Evolutions** NM will extend the application of restriction grouping function (provided in NM-25.0) to Composed RSA (CRSA). These restrictions groups will be managed via AUP/UUP. In addition, NM will allow restrictions with no link to RSA allocations that need for some specific reason to be treated all together, to be groupable and activatable all together. These restrictions groups will not be managed via AUP/UUP (TBD).
Users potentially impacted and/or interested	• Airspace Manager (AMC) • AO or CFSP
NM applications and services changed	• CIAM (for input) • Exposed via CHMI, NOP, NMP RAD and NM B2B
Impact category on external users	• Impact on procedures • Impact on Human-Machine Interface • Impact on users' systems
Impact description	CHMI will be able to process: • FUA/RAD restrictions linked to Composed RSA (CRSA) as single and/or belonging to a FUA restriction group, and • Restrictions with no link to RSA allocations that need some specific reason to be treated all together When activating the FUA/RAD restriction group, all restrictions belonging to the group will be activated. NOP Portal: EAUP: no change, all activated restrictions are listed. B2B: TBD
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	FUA – AMC/CADF Operations Manual CHMI ASM Function Reference Guide NM B2B Technical Resources NOP Portal User Manual

Description	**CR_050020 – Single CDR Category** States are to implement the Single CDR Category (SCC), where only CDR1 will be used and CDR2 and CDR3 will be disbanded. NM systems and ASM Support Tools will

	support the conversion and re-classification of all conditional routes into SCC of CDR1 category.
Users potentially impacted and/or interested	• Airspace Manager (AMC) • AO or CFSP
NM applications and services changed	• CIAM • NM B2B
Impact category on external users	• Impact on procedures • Impact on Human-Machine Interface • Impact on users' systems
Impact description	ASM tools need to be adapted to allow management of a Single CDR Category. For AOs/CFSPs, the «CDR Type 2 Availability» list will disappear from the EAUP/EUUP. All the information will be retrievable from the «ATS Route and CDR Type 1 Closure» list (in the future «SCC» to replace « CDR Type1 »).
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration.
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	FUA – AMC/CADF Operations Manual CHMI ASM Function Reference Guide NM B2B Technical Resources NOP Portal User Manual

Description	**CR_050021 – RAD management via AUP/UUP** This improvement is subject to further development of the dynamic RAD concept, confirming the feasibility of managing dynamic RAD measures via AUP/UUP. This will imply the outcomes of the past and future live trials that could highlight the possible need of additional technical developments.
Users potentially impacted and/or interested	• Airspace Manager (AMC) • AO or CFSP
NM applications and services changed	• CIAM • NM B2B
Impact category on external users	• Impact on procedures • Impact on Human-Machine Interface • Impact on users' systems
Impact description	RAD restrictions will be dynamically manageable (activation / deactivation) at pre-tactical level via AUP/UUP process.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration.
Users' testing	Will be part of the release OPT (Operational Testing).

	NM B2B will be available on the PREOPS platform.
Related documentation	FUA – AMC/CADF Operations Manual CHMI ASM Function Reference Guide NM B2B Technical Resources NOP Portal User Manual

Description	**CR_050624 – ASM Scenarios – Restriction Group** All default associated restrictions with Dependent Applicability on the RSAs belonging to the ASM Scenario and Restriction Groups with Dependent Applicability on RSAs belonging to the ASM Scenario shall be managed through the AUP/UUP process. Restriction Groups is indeed an option for the positive management if we want to allow as well the management of dedicated restrictions. The NM system shall support specific Restriction Groups, linked to an ASM Scenario. The Restrictions in the group have dependent applicability on the RSAs of the Scenario: • If the Scenario RestrictionGroup is activated, all contained Restrictions are activated, • Else, if no Scenario RestrictionGroup is activated, the Restrictions will be managed through the associated RSAs.
Users potentially impacted and/or interested	• Airspace Manager (AMC) • AO or CFSP
NM applications and services changed	• CIAM • NM B2B
Impact category on external users	• Impact on procedures • Impact on Human-Machine Interface • Impact on users' systems
Impact description	CHMI will be able to process restrictions as single and/or belonging to a Scenario Restriction Group. When activating the Scenario Restriction Group, all restrictions belonging to the group will be activated. NOP Portal: EAUP: no change, all activated restrictions are listed. NM B2B: Support Scenario Restriction Group in the AUP/UUP B2B services.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration.
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	FUA – AMC/CADF Operations Manual CHMI ASM Function Reference Guide NM B2B Technical Resources NOP Portal User Manual

Description	**CR_050625 – ASM Scenarios – Cross-border activations and CDM** Airspace Scenarios shall be National, Cross-Border or Network-Wide. The final decision to activate a pre-defined airspace scenarios/areas allocation shall remain a responsibility of the AMC (Scenario Leader AMC if Cross-Border). Exchange of proposals shall be automated for an improved CDM.

Users potentially impacted and/or interested	• Airspace Manager (AMC) • AO or CFSP
NM applications and services changed	• CIAM • NM B2B
Impact category on external users	• Impact on procedures • Impact on Human-Machine Interface • Impact on users' systems
Impact description	The CDM process among the different partners will facilitate their analysis and support the final decision of the relevant AMCs.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration.
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	FUA – AMC/CADF Operations Manual CHMI ASM Function Reference Guide NM B2B Technical Resources NOP Portal User Manual

5.9 Cooperative Traffic Management Strategic Project (CTM)

5.9.1 FB1158 – Predictability improvements (yoyo/turn)

Objective	**Improve the flow predictability by improving STA/YY and intruder functions**
Description	**CR_050215 – STA/YY enhancement** This change will improve YY/TURN tool and related messages, based on the Users/YYDG feedback.
Users potentially impacted and/or interested	• FMP • Airspace User (Civil) • AO or CFSP • NMOC
NM applications and services changed	• FLOW system • CHMI: CIFLO, CIAO • NOP Portal • NM B2B
Impact category on external users	• Impact on Human-Machine interfaces • Impact on users' systems
Impact description	Detailed impact is under analysis and will be shared in the next publication of these Release Notes
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	Network Operations Library Yo-Yo and sharp-turn angle flight plans identification - Guidelines CHMI ATFCM Reference Guide NOP Portal User's Manual NM B2B Technical Resources

5.9.2 FB1186 – Flight Efficiency – Enhanced GRRT (improved algorithm)

Objective	**The main objectives of this FB are to improve the NM rerouting tools algorithm, to provide additional information to users to better assess available routes and allow the distribution of enhanced information about the opportunities for AOs after each run of the group rerouting tool (GRRT) by the NM system.** **An additional main objective is to enhance NM B2B access to NM rerouting tools.**
Description	Changes in this FB will consist in: • Enhancing rerouting algorithms (vertical, horizontal, time) • Improving RRPs for the purposes of FEI (Flight Efficiency Initiative) • Introducing user's response to OPP/RRP • Local rerouting features and parameters • Improving GRRT Template management and advanced traffic selection • Structured OPLOG (part 2)

Users potentially impacted and/or interested	• Airspace User (Civil) • AO or CFSP • ANSP/FMP • NMOC
NM applications and services changed	• FLOW system • CHMI: CIFLO, CIAO • NOP Portal • NMP Flight • NM B2B
Impact category on external users	• Impact on Human-Machine interfaces • Impact on users' systems • Impact on procedures
Impact description	Detailed impact is under analysis and will be shared in the next publication of these Release Notes
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	Network Operations Library Network Operations Flight Efficiency User's Manual CHMI ATFCM Reference Guide NOP Portal User's Manual NM B2B Technical Resources

5.9.3 FB1209 – Network Impact Assessment

Objective	**During releases NM-25.0 and NM-26.0, Network Impact Assessment (NIA) has been improved for providing more relevant information to both internal and external stakeholders (via NM B2B).** **This FB has the objective of continuing the developments in this area, focusing now on reducing user's workload by grouping all the NIA information in one single NM B2B service.**
Description	**CR_050315 – NIA NM B2B macro-service** The information provided by the current NIA via NM B2B service is not sufficient for external users to build a meaningful impact assessment display in their client tools. In addition to this service they have to request: • Counts for period gaps • Capacity values • Regulation details This CR aims at updating the NIA via NM B2B service so that all the information needed for the high-level impact assessment is possible by querying this service only.
Users potentially impacted and/or interested	• FMP

NM applications and services changed	• NM B2B
Impact category on external users	• Impact on users' systems
Impact description	Detailed impact is under analysis and will be shared in the next publication of these Release Notes
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	NM B2B Technical Resources

5.9.4 FB1198 – Full STAM NM B2B (part 2)

Objective	**As from NM-26.0 and to solve a local peak in demand during D without applying a regulation, FMPs are able to offer rerouting proposals to aircraft operators based on pre-defined and agreed scenarios. ANSPs are now asking for more flexibility and dynamicity to be able to offer such reroutings without relying on scenarios.** **Additionally, today there are many rerouting proposals being offered by different initiators, reasons and times for one flight or aircraft operator, which are now transparent to the Network. Aircraft operators are now asking the NM to harmonise, centralise and reconcile them, which goes in line with the future implementation of FF-ICE enabling trajectory negotiations between NM and AOs. In this case, STAM RRPs are seen as input from FMPs that NM will be using in such negotiations.** **The objectives of this FB are:** **1. Respond to feedback from 2022 operations with changes and improvements** **2. Enhance system support for NMOC to be able to reconcile FMP and NM rerouting measures in order to provide added value to aircraft operators** **3. Make STAM RRP operations more flexible for ANSPs in order to encourage them to use more proactive measures (instead of reactive)** **4. Remove unnecessary workload in STAM RRP operations through automation and a more efficient process** **5. Harmonise STAM RRP operations with other targeted measures and AOs' response to rerouting proposals**

Description	**CR_050310 – C&T STAM RRP** This CR will implement STAM improvements responding to feedback from operations (available as from Q3 2022), correction and tuning from NM-26.0.
Users potentially impacted and/or interested	• FMP • ANSP • AO or CFSP

	• NMOC
NM applications and services changed	• FLOW system • CHMI, NOP • NMP Flight • NM B2B
Impact category on external users	• Impact on Human-Machine interfaces • Impact on users' systems
Impact description	This CR only impacts FMPs that operate STAM RRP procedures and have their own B2B tool certified and connected to the relevant NM B2B services. More detailed impact will be provided in Q3-Q4 2022.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

Description	**CR_050312 – Enable full process of ad hoc rerouting measures** Enable creation of ad-hoc rerouting measures by an FMP via NM B2B (i.e. unlink ReroutingCreation NM B2B service to scenarios). It should be easy for an NM B2B user to create and submit to NMOC an ad-hoc rerouting measure request. I.e. all the complexity of the GRRT (manage of cost criteria and RAD constraints etc.), which is the tool that is used to generate rerouting proposals via NM B2B by externals, shall not be pushed to the external user. For STAM RRPs, the user shall be able to just provide the time period where their problem appears, the constraints the rerouting shall satisfy and the cherry picked flights/number of flights. FMPs will be able to request NMOC to approve a rerouting measure per flight (instead of measure as done in NM26.0) if they want to. A new rerouting tag named WEATHER will be made available to FMPs in order to create and submit rerouting measure requests of this type via NM B2B as well. Therefore, AOs might receive a RRP of this type in their systems or via the NM HMIs.
Users potentially impacted and/or interested	• FMP • ANSP • AO or CFSP • NMOC
NM applications and services changed	• FLOW system • CHMI, NOP • NMP Flight/Flow • NM B2B
Impact category on external users	• Impact on Human-Machine interfaces • Impact on users' systems

Impact description	This CR impacts FMPs that operate or are preparing to operate STAM RRP procedures and have their own B2B tool certified and connected to the relevant NM B2B services. This CR also impacts AOs who are willing to receive STAM RRPs and the tools they use to receive the STAM RRP information. More detailed impact will be provided in Q3-Q4 2022
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

Description	**CR_050313 – Automation and harmonisation of STAM RRP measures** NM-26.0 enabled a feasible STAM RRP process but still heavy in terms of coordination for FMPs to offer STAM RRPs. The aim of this CR is to deliver the necessary software changes to speed up and facilitate such coordination with automated steps, e.g., by using a "on behalf of" functionality.
Users potentially impacted and/or interested	• FMP • ANSP • AO or CFSP • NMOC
NM applications and services changed	• FLOW system • CHMI • NMP Flight/Flow • NM B2B
Impact category on external users	• Impact on Human-Machine interfaces • Impact on users' systems
Impact description	This CR is addressed to FMPs that operate or are preparing to operate STAM RRP procedures and have their own B2B tool certified and connected to the relevant NM B2B services. More detailed impact will be provided in Q3-Q4 2022.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

Description	**CR_050314 – Facilitate AO's role in the STAM RRP process**

	A macro-service will be provided for AOs to easily retrieve rerouting proposals via NM B2B Publish/Subscribe together with all the necessary information available by the NM systems for their decision making (e.g. who is offering the RRP, if the proposal is linked to an scenario or not, which are the airspace constraints the AO should comply with, if there is any MCDM information attached to the proposal, initial flight plan details, deltas and absolute values regarding differences in CTOT and costs…) In order to improve the digital communication (and remove any local chat box silos) between AOs and the initiators of the RRPs, AOs will be able to counter propose a STAM RRP with another flight or send in advance their preferences regarding candidate flights to STAM RRPs.
Users potentially impacted and/or interested	• FMP • ANSP • AO or CFSP • NMOC
NM applications and services changed	• FLOW system • CHMI, NOP • NMP Flight/Flow • NM B2B
Impact category on external users	• Impact on Human-Machine interfaces • Impact on users' systems
Impact description	Airspace users willing to receive and manage STAM RRPs with this upgraded service shall have their own B2B tool or make use of the NMP Flight. No potential NM B2B backward incompatibilities are envisaged. Receiving and managing STAM RRPs will be still possible via traditional means (AFTN, NOP, CHMI).
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

5.9.5 FB1199 – Best regulations/measures (part 2)

Objective	**During NM-26.0, developments have been made to facilitate the choice of the most efficient ATFCM measures. This FB follows the same direction, aiming to provide easier comparison tools (measure KPIs).**
Description	**CR_048813 – KPIs for Measure Efficiency** New network KPIs will be studied for helping NMOC's decision making process. The KPIs will focus on: • Network KPIs: network complexity, network delay, regulation global delay, effectiveness of the regulation... • Flows: delays, flights impacted... • Flights: individual flight delay... Additionally, these indicators should be included in the NIA via B2B service.

Users potentially impacted and/or interested	• FMP • NMOC
NM applications and services changed	• NOP Portal (to be confirmed) • NMP Flow • NM B2B
Impact category on external users	• Impact on Human-Machine interfaces • Impact on users' systems
Impact description	Detailed impact is under analysis and will be shared in the next publication of these Release Notes
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	NM B2B Technical Resources

5.9.6 FB996 – Occupancy CASA prototype

Objective	**In the course of NM-26.0 developments, a prototype for regulating in terms of Occupancy Counts (Occupancy CASA) will be introduced in ETFMS baseline for validating the concept and the benefits of this type of regulation in an operational environment.** **In order to proceed with live trials and a possible deployment in operations, the prototype has to be enhanced with further capabilities, already available for conventional entry regulations.** **Please note that Occupancy CASA will NOT be available yet for operational use in NM-27.0, but for trial purposes.**

Description	**CR_050318 – Occupancy CASA – Slot manipulation** Occupancy CASA prototype should be enhanced for allowing the flight actions available for conventional CASA regulations, such as: • Force CTO(T) • Slot improvement request • Slot extension • Slot Exclusion • Slot Swap
Users potentially impacted and/or interested	• FMP • NMOC
NM applications and services changed	• NM B2B (to be confirmed)

Impact category on external users	• Impact on Human-Machine interfaces • Impact on users' systems (to be confirmed)
Impact description	Detailed impact is under analysis and will be shared in the next publication of these Release Notes
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing) (to be confirmed). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

Description	**CR_050319, CR_050320, CR_050321 – Occupancy CASA – NMOC tooling** Implementation of a slot list for occupancy-based regulation, allowing NMOC to monitor and optimise it by modifying slots when needed. A regulation editor for Occupancy CASA is needed for NMOC to create or modify Occupancy CASA Regulations. Other EHMI components should be adapted to Occupancy CASA, like the Network Impact Display, the regulation list, flight data, etc. Some additional functionalities may be developed in order to align Occupancy CASA with conventional CASA regulations and expand Occupancy CASA capabilities, like XCD, pending capacity…
Users potentially impacted and/or interested	• NMOC
NM applications and services changed	No external interface or service impacted
Impact category on external users	None
Impact description	None
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD

Description	**CR_050322 – Occupancy CASA – System interfaces**

	System interfaces shall be developed for using and taking into account impact of the new Occupancy CASA functionality: • Creation of an NM B2B service for implementing an Occupancy CASA regulation • Adaptation of existing NM B2B services affected by the existence of Occupancy CASA: retrieve NIA, regulation list, etc. • Other System interfaces: DWH, post-ops reports, etc.
Users potentially impacted and/or interested	• FMP • NMOC
NM applications and services changed	• NM B2B
Impact category on external users	• Impact on users' systems • Impact on operational procedures
Impact description	Detailed impact is under analysis and will be shared in the next publication of these Release Notes
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

5.10 European ATM Information Management System Strategic Project (EAIMS)

TBD

5.11 Flight Plan and Flight Data Evolution Strategic Project (FPFDE)

5.11.1 FB1078 – iOAT Flight Plan Implementation – Phase I

Objective	**The objective of this FB is to initiate the implementation of improved Operational Air Traffic (iOAT) flight plan in NM systems.** **iOAT flight plan operational scope is strictly limited to IFPZ and addresses only OAT flights conducted in controlled airspace under IFR.** **The overall implementation will be performed in a stepped manner, comprising several phases spread over several NM Releases.** **This FB addresses the Phase I of the implementation and will focus on the flight planning aspects.**
Description	With this FB the NM systems will be able to receive, process and distribute iOAT flight plans. The initial area of application for iOAT flight plans will be an "iOAT flight plan Region" composed of voluntary participating States, not the entire IFPZ. This initial implementation focuses on: • Round Robin (or navigational) kind of OAT flights, not containing any STAY (RSA, HOLDING or AERODROME) along the route in Item 15 • Semantic and syntax check • Use of EUR/OAT indicator in Item 18 to indicate iOAT flight plans • Correct reception and processing • Distribution based on the civil and military (both ATS and Air Defence units) operational stakeholders part of the "iOAT flight plan Region" and declared ready for receiving and processing the iOAT flight plans • Transmission and reception of iOAT flight plans and the associated flight plan messages using legacy systems.
Users potentially impacted and/or interested	• Airspace User (Military) • ANSP
NM applications and services changed	• FPL (IFPS) • CACD
Impact category on external users	• Impact on users' systems • Impact on users' procedures
Impact description	Users of iOAT flight plan will need to adapt their systems and procedures to use the new features
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	EUROCONTROL Guidelines for a harmonised and improved OAT FPL implementation iOAT flight plan implementation – Phase I Extended Release Notes IFPS User's Manual

5.11.2 FB1192 – FF-ICE/R1 Services and Tuning

Objective	**With the NM-26.0 release, the implementation of the FF-ICE/R1 Filing Service, Trial Service and Notification Service brought a better alignment of the NM implementation with the ICAO Specification for the FF-ICE/R1 and FIXM4.2.**

	The overall scope of this FB caters for items that could not be delivered during NM-26.0 and possible corrections identified during the ongoing validation activities with external partners.
Description	NM will improve the FF-ICE Trial service by providing a valid Negotiating trajectory in its Trial Response. The eFPL content and processing improvements: • eFPL will contain Weight and FSPD (Flight Specific Performance Data) information (available to ANSP users only) • NM will support eFPL providing the EET information in the Route/Trajectory group • In the re-evaluation, NM will provide a proposed trajectory as a Negotiating trajectory when the Filing Status becomes “NOT_ACCEPTABLE” (to assist users in solving the issue), whenever possible
Users potentially impacted and/or interested	• Airspace User (Civil) • AO or CFSP • ANSP
NM applications and services changed	• FPL (IFPS) • NM B2B
Impact category on external users	• Impact on users’ systems
Impact description	Users of FF-ICE eFPL will need to adapt their systems to use the new features. Detailed impact is under analysis and will be shared in the next publication of these Release Notes.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users’ testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	NM B2B Technical Resources IFPS User’s Manual

5.11.3 SB069 – FF-ICE/R1: Initial Consolidated Feedback (NM/ANSP collaboration)

The description of this Study Block will be provided in the next edition of the NM-27.0 Release Notes.

5.12 Free Route Airspace Strategic Project (FRA)

5.12.1 FB1193 – FRA Improvements

Objective	Developments to improve NMOC efficiency in support to FRA
Description	**CR_049315 – Allow definition of route segments that are available/not-defined** Currently when an ATS Route is published as being available in one direction, when that route is defined in CACD, the opposite direction has to be defined as being either available or unavailable. This CACD definition is wrong, because the opposite direction does not exist and it is not allowed to file the route designator in the FPL, but it is allowed to file DCT on the segment. The common practice in NMOC is to define the opposite direction as being unavailable, thereby having the DCT filed in a FPL rejected by IFPS. With this CR, it shall be possible to define an ATS Route in CACD as being available in one direction while being not-existing in the other direction.
Users potentially impacted and/or interested	• Airspace Users (Civil) • Airspace Users (Military) • AO or CFSP • ARO • ANSP
NM applications and services changed	• CACD • FPL (IFPS) • FLOW (ETFMS) • NM B2B
Impact category on external users	• Impact on users' procedures • Impact on users' systems
Impact description	Systems that receive and process NM B2B Airspace data may be impacted by the changes in the AIXM data. The IFPS validation outcome of flight plan messages may change.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD

5.12.2 SB074 – FRA FLOS (Flight Level Orientation Scheme)

Background

In the past and where ATS routes continue to exist today, the route description includes a FLOS rule i.e. an ODD or EVEN FL to be flown, for the appropriate route segment described in the appropriate States AIP document. This information is also stored in the Central Airspace and Capacity Data (CACD) of NM. Following the implementation of FRA across Europe, where the use of ATS routes has reduced and in some cases have been completely withdrawn in an FRA volume, the correct flight level to filed has become more difficult to determine by airspace users when flight planning. Although

the FLOS applicable within FRA shall be promulgated through the relevant national AIS publications. Currently NM systems, notably IFPS are not conducting a hard check in relation to the FLOS and there are no plans to do so in the future.

Additionally reports from three ANSPs have also stated that airspace users are filing unnecessary level changes, according to them, when a flights magnetic track when flying according to the FRA concept between two FRA points is just a few degrees into the adjacent semi-circle. Previously this would be mitigated in the route network by the same route segment specifying an ODD or EVEN level to be flown. The level changes are seen by the ANSPs as unnecessary leading to controller workload and in one case from an ATFCM perspective, causing traffic to appear in the wrong sector giving a false sector counts. One ANSP has mitigated the issue through procedural changes to LOAs.

Next Steps

Therefore, SB074 has been created in Release 27.0, after a number of year's delay, to identify the problems in detail, identify requirements and find a solution where necessary. However, before the study commences more consultation is required with stakeholders to request more examples of issues concerning FLOS and FRA. This consultation will be conducted at the CFSP sub group in April 2022 and once again with AOs and ANSPs at the RNDSG and if required NETSYS future meetings.

5.13 NM OPS Service Platform Strategic Project (n-CONECT)

5.13.1 FB1208 – Corrections & Tuning of NMP Flight

Description	This is a correction and tuning functional block for the NMP Flight - minor additions, defect corrections, usability improvements of the HMI based, derived from user feedback, as well as unfinished features from previous releases
Users potentially impacted and/or interested	• Airspace Users • AO or CFSP • NMOC
NM applications and services changed	• NMP Flight
Impact category on external users	• Impact on Human-Machine Interface
Impact description	Quality improvements of the NMP Flight
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	User guide and new video tutorials for the most common use cases

5.13.2 FB1172 – NMP Flow Phase 2

Objective	**To bring to all FMPs an equivalent of the CHMI with DCB capabilities required to meet CP1 functionalities.** **In addition, NMP Flow will be adapted to include iDAP functions.**
Description	The FLOW application will provide FMPs with an equivalent of the CIFLO on the NMP, with modern interfaces, providing the existing CIFLO functionalities as well as the new functionalities supporting CP1. This FB continues the FB1140 of NM-26.0, and will provide a standalone application to the FMPs, Towers and interested Airspace Users. As from this release, the CIFLO and the CITO will not be updated anymore. Amongst many other new features, NMP will provide a new monitoring function, sector view, flight list, counts, query display and integrated e-helpdesk. With regard to DCB features, it will integrate enhanced STAM with simulation capabilities (hotspots, MCP, regulation and rerouting proposals). It will also have an automated traffic complexity capability.
Users potentially impacted and/or interested	• FMP • Tower • Airport • AO or CFSP • NMOC
NM applications and services changed	• NMP Flow

Impact category on external users	• Impact on Human-Machine Interface
Impact description	New HMI interfaces of existing Flow functions, and new ones – large scale impact
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	ATFCM Manual changes, NMP User Guide and help FLOW update

5.14 Performance Strategic Project

5.14.1 FB1197 – Performance Work Programme

Objective	**Provide data for operational performance insight – monitoring and analysis**
Description	**CR_049012 – ETFMS Fuel data and route charges in NM B2B P/S** The actual (ETFMS computation based on CPR data) fuel and route charges will be added to the NM B2B Flight data.
Users potentially impacted and/or interested	• Internal NM usage
NM applications and services changed	• NM B2B
Impact category on external users	• Impact on users' systems
Impact description	NM B2B users interested in actual flight fuel and route charges will have to adapt their client software to fetch the information. Other users will not be impacted.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

5.15 Operations Improvements

5.15.1 FB1204 – Flight Planning Improvements

Description	**CR_049115 – Additional comment required for FPL message association rejections** There is a requirement for the IFPS to help improve the understanding of FPL message originators when rejecting an FPL for which an FPL is found to be already existing through message association. With this CR, a new comment shall be included in the rejection. ***- COMMENT FPL ALK504 EGLL2140-VCBI DOF/200921 IS ALREADY EXISTING. TO MODIFY THE EXISTING FPL OR TO FILE A NEW FPL PLEASE REFER TO THE IFPS USERS MANUAL.*** Please note that the Flight Plan Validation service will not return this message, as this service is rendered through a “side” system that does not have access to the flight plan database.
Users potentially impacted and/or interested	• Airspace Users (Civil) • Airspace Users (Military) • AO or CFSP • ARO • ANSP
NM applications and services changed	• FPL (IFPS)
Impact category on external users	• Impact on users’ systems • Impact on users’ procedures
Impact description	The IFPS operational reply message of type REJ may contain a new comment.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users’ testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD

5.15.2 FB1202 – NM B2B Improvements

Objective	**This FB, as in every release, implements the most beneficial NM B2B changes requested by NM B2B users.**

Description	**CR_049908 – Add IATA Flight number to NM B2B Publish/Subscribe Flight Data** When available the IATA Flight number information will be shared through NM B2B services. This data is most relevant for the airports in their process to automate the matching of the aircraft to IATA flight number.

Users potentially impacted and/or interested	• AO or CFSP • ANSP
NM applications and services changed	• NM B2B P/S
Impact category on external users	• Impact on users' systems
Impact description	Since NM B2B P/S users subscribe to a specific version of an NM B2B P/S topic (e.g. flight data for NM-26.0), they receive versioned topic messages. Therefore, the change does not affect past NM B2B versions.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD NM B2B Technical Resources

Description	**CR_041147 – DBE points in NM B2B Publish/Subscribe Flight Data** NM has come to the conclusion that it is impossible to remove all references to DBE points before the iNM programme. Instead, NETSYS is currently looking into the interest (for client applications) of publishing the DBE point ids as part of its NM Airspace Data export – discussion to take place at NETSYS/7 7th April 2022.
Users potentially impacted and/or interested	• AO or CFSP • ANSP
NM applications and services changed	• NM B2B Airspace
Impact category on external users	• Impact on users' systems
Impact description	TBD
Impact on NM Service Specifications	TBD
Operational deployment plan	TBD
Users' testing	TBD
Related documentation	TBD

Description	**CR_049216 – Flight list on ALTN aerodromes for NM B2B clients** Through the NM B2B Publish/Subscribe with the FLIGHT_PLANS topic, the `alternateAerodrome` will be added in the `FlightSetDefinitionElement`. This change will allow the NM B2B clients to easily retrieve the information to which aerodrome the flight could be potentially diverted.

Users potentially impacted and/or interested	• AO or CFSP • ANSP
NM applications and services changed	• NM B2B P/S
Impact category on external users	• Impact on users' systems
Impact description	Since NM B2B P/S users subscribe to a specific version of an NM B2B P/S topic (e.g. flight data for NM-26.0), they receive versioned topic messages. Therefore, the change does not affect past NM B2B versions.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD NM B2B Technical Resources

5.15.3 FB1203 – Correction and tuning of external data processing

Objective	**This FB, as in every NM release, implements the most beneficial changes with the main scope in improving the NM internal processing of the external data received.**

Description	**CR_050919 – New triggering event for the EFDs/PSFDs when MPR is changed** A new EFD/PSFD will be triggered by the change of the MPR (Most Penalising Regulation) (or the list of regulations) which affects a flight but with no effect on the CTOT. EFD – ETFMS Flight Data PSFD – Publish/Subscribe Flight Data
Users potentially impacted and/or interested	• AO or CFSP • ANSP
NM applications and services changed	• ETFMS – FLOW • NM B2B P/S
Impact category on external users	• Impact on users' systems
Impact description	More EFDs/PSFDs will be triggered.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD NM B2B Technical Resources

Description	**CR_051019 – The IOBT and EOBT in ETFMS output on legacy and B2B** Through different information received, the NM system uses IOBT and EOBT fields. When IOBT and EOBT are available, both information will be exposed in the NM output (legacy and NM B2B services). It is already the case of FUM messages.
Users potentially impacted and/or interested	• AO or CFSP • ANSP • Airports
NM applications and services changed	• NM B2B P/S
Impact category on external users	• Impact on users' systems
Impact description	Client systems have to be able to cope with both fields when received from NM
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD NM B2B Technical Resources

Description	**CR_051412 – Allow diversion change when subsequent information confirms it** The diversion in ETFMS can be triggered by the CPR data received with CPR_ADES different from FPL_ADES. In case the diversion is wrongly triggered by the CPRs any subsequent CPR data could not correct this initial diversion. Through this CR we will identify specific operational cases when the subsequent CPR data should be considered for second diversion or return to initial FPL_ADES.
Users potentially impacted and/or interested	• AO or CFSP • ANSP
NM applications and services changed	None (fine tuning of an existing functionality)
Impact category on external users	TBD
Impact description	TBD
Impact on NM Service Specifications	TBD
Operational deployment plan	TBD
Users' testing	TBD
Related documentation	TBD

5.15.4 FB1205 – ATFCM Domain improvements

Description	**CR_050112 – Protect zero-rate regulations from any profile shift** Zero-rate regulations are implemented to ensure that for a period of time a Traffic Volume (TV) cannot be penetrated by any flight. Today there are a number of reasons, actions and processes that, under conditions, may push flights into a TV that has been regulated with a zero-rate. As there is a clear safety issue associated with this behaviour, zero-rate regulations shall be protected. For the TV that is regulated with a rate of zero, there shall be no CTO allocated to any flight inside the period for which the zero-rate is applied.
Users potentially impacted and/or interested	• FMP • AO or CFSP
NM applications and services changed	• FLOW system
Impact category on external users	None
Impact description	The change is purely behavioral, and will not have any impact on external procedures, HMIs or NM B2B.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	N/A
Related documentation	TBD

Description	**CR_050109 – Assign a complexity factor per TV** When providing capacities today, FMPs are not able to monitor the counts evolution against specific complexity factors and update the allocated capacity inside the different time period, accordingly. The purpose of this CR is to provide the ability for FMPs to set a complexity coefficient per TV which will update the capacity of the said TV according to the expected counts. The process to introduce the new complexity factor is foreseen as follows: • Set a coefficient of 100% (maximum complexity) to the currently allocated capacities (the most pessimistic scenario) • FMPs and NM to analyse the role and importance of specific flows: Routine (low impact) / Level Change Monitoring (Medium to High impact, see EFL/XFL in the Flight List) / Conflict monitoring tasks (High impact) per flow, and define the ones which have significant impact on the complexity of the TV • Assign a complexity coefficient according to the analysis of these flows • In turn, adjust the capacity according to the complexity coefficient (capacity adjustment coefficient)

	The complexity information will be provided by the ENV Coordinator as additional semi dynamic data per TV.
Users potentially impacted and/or interested	• FMP
NM applications and services changed	• Airspace system
Impact category on external users	• Impact on procedures • Impact on Human-Machine interfaces • Impact on users' systems
Impact description	The NM B2B change will be located within the AIXM ADR Extension, which is versioned – therefore, the change will not cause any incompatibility in the past NM B2B versions.
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD

Description	**CR_050110 – Implement regulations with different rates on flow subsets within a TV** When the operational conditions and workload to be managed vary per flow inside a given TV, an ATFM regulation with a global acceptance rate can be penalising to the overall capacity of the TV. E.g.: TMA regulations managing arrival/departure and overflying traffic.
Users potentially impacted and/or interested	• FMP
NM applications and services changed	• FLOW system
Impact category on external users	• Impact on procedures • Impact on Human-Machine interfaces • Impact on users' systems
Impact description	TBD
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing)
Related documentation	TBD

5.15.5 FB1206 – NM Restriction Model Enhancements

Description	**CR_043209 – RAD published conditions related to information present in the RMK/ field of the FPL** NMOC has procedures that require manual intervention in IFPS because the published conditions cannot be encoded in the restrictions model (e.g. RMK/NATO). To reduce the manual workload in IFPS, a new condition should be included in the restriction model for searching the remarks in a FPL (RMK/). Consequently, a new 'Flight Properties' condition shall be available in the restriction model for 'Remark (RMK/)'.
Users potentially impacted and/or interested	• FMP • AO or CFSP
NM applications and services changed	• CACD • FLOW (ETFMS) • FPL (IFPS) • DWH • CHMI • NMP Airspace • NMP RAD • NM B2B (AIXM)
Impact category on external users	TBD
Impact description	Detailed impact is under analysis and will be shared in the next publication of these Release Notes
Impact on NM Service Specifications	None
Operational deployment plan	Deployed in operation along with the release migration
Users' testing	Will be part of the release OPT (Operational Testing). NM B2B will be available on the PREOPS platform.
Related documentation	TBD

6 Documentation

Operational Manuals/Guides	
ATFCM User's Manual	Operational description of the NM ATFCM related actions, information and message exchange
ATFCM Operations Manual	Intended to provide Flow Management Positions (FMPs) and EUROCONTROL's Network Manager (NM) with common understanding of their roles in delivering the most effective Air Traffic Flow and Capacity Management (ATFCM) services to Air Traffic Control (ATC) and Aircraft Operators (AOs)
Yo-Yo and sharp-turn angle flight plans identification - Guidelines	This document describes the NM System tool for the detection of the Yo-Yo and sharp-turn angle flight plans (Turn) by aircraft operators (AOs) and flow management positions (FMPs) using the NM System. It also describes the conditions for rejection of critical Yo-Yo and TURN profiles by IFPS.
CHMI ATFCM Reference Guide	This reference guide is intended for the users of the ATFCM Collaboration Human Machine Interface (CHMI) application
API Implementation Guide	Provides an overview and description of the available API services
DPI Implementation Guide	Provides an overview and description of the available DPI services
IFPS User's Manual	The manual is intended to contain all the necessary procedures and information in order for users to be able to construct, transmit or when necessary to correct, flight plan and associated update messages. Procedures for the distribution of such messages after processing by the IFPS are also described.
Flight Plan Guide and IFPS Errors Guide	The Flight Plan Guide allows users to search for the correct format to be used for the different fields of the ICAO Flight Plan via an on-line database. The IFPS Errors Guide is an electronic version of the error definitions published in the NM IFPS User's Manual.
Flight Progress Messages Document	Contains a description of messages from and to systems external to the NM which have been identified as Flight Progress Messages. It contains both messages from/to the Integrated initial Flight Plan Processing System (IFPS) to/from the Enhanced Tactical Flow Management System (ETFMS) and the Centralised SSR Code Assignment and Management System (CCAMS).
FUA – AMC/CADF Operations Manual	Provides guidance to the Airspace Management Cell (AMC) and the EUROCONTROL/NM Centralised Airspace Data Function (CADF) personnel to help them perform their daily tasks and to prepare and release the consolidated European Airspace Use Plan (EAUP) and European Updated Airspace Use Plan(s) (EUUP(s) daily.
Network Operations Flight Efficiency User's Manual	The purpose of this document is to frame the support of the flight efficiency initiative within the NMOC such as support to flight plan originator to improve their flight planning, support to major airspace design project etc. This document contains also all procedures applicable for Flight Efficiency support. Correct and accurate application of the procedures contained in this document is essential to the achievement of consistent support to the flight plan originators.
CHMI ASM Function Reference Guide	User guide for the ASM users of the CHMI

NOP Portal User's Manual	Reference source for using the NOP Portal
CCAMS User's Manual	Frames the support of the CCAMS operations and explains all procedures applicable for CCAMS operations
NMIR User's Guide	This document contains information for new users, the list of NMIR dashboards, their contents in term of available reports and the mapping between the migrated previous NMIR reports and the NMIR dashboards (Annex 1). The process to access the NMIR is also detailed.

NM B2B Documents	
NM B2B Technical Resources	Folder of various technical documents related to the NM B2B, most importantly the NM B2B Reference Manuals and Release Notes, for the currently supported NM B2B versions.
NM B2B Write Access Criteria	Contains the criteria specified for each NM B2B WRITE Service to be fulfilled and followed during the operational validation, prior to enabling and agreeing that an NM B2B client to use that NM B2B WRITE service in NM operations.

Other Documents	
Network Operations Library	A collection of EUROCONTROL/NM documents related to Network operations and operations planning

7 ABBREVIATIONS

AB	AirBlock
ACC	Approach Control Centre or Area Control Centre
ACC3	Air Cargo or Mail Carrier operating into the Union from a Third Country Airport
A-CDM	Airport-Collaborative Decision Making
ACH	ATC flight plan Change
ACK	IFPS Acknowledgement Message
AD	Airspace Data
ADES	Aerodrome of Destination
ADEXP	ATS Data Exchange Presentation
A-DPI	Airport-Departure Planning Information
ADS	Automatic Dependent Surveillance
ADS	NM Airspace Data Section
ADS	Airspace Data Service
ADS-B	Automatic Dependent Surveillance - Broadcast
AFP	ATC Flight Plan
AFTN	Aeronautical Fixed Telecommunication Network
AFUA	Advanced Flexible Use of Airspace
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information, Regulation and Control
AIS	Aeronautical Information Services
AIXM	Aeronautical Information Exchange Model
AMA	AMC Manageable Area
AMAN	Arrival Manager
AMC	Airspace Management Cell
ANI	Advanced Network Integrated (ANI) airports
ANSP	Air Navigation Service Provider
AO	Aircraft Operator
AoI	Area of Interest
AOP	Airport Operations Plan
AoR	Area of Responsibility
AOWIR	Aircraft Operator What-if Reroute
API	Arrival Planning Information
APL	ATC Flight Plan
APOC	Airport Operations Centre
APP	Approach Control
APR	Aircraft (Operator) Position Report
ARO	Air Traffic Services Reporting Office
ARR	Arrival Message
ASM	Airspace Management
ASMSG	Airspace Management Sub-Group
ATC	Air Traffic Control
ATFCM	Air Traffic Flow and Capacity Management
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management

ATS	Air Traffic Services
AU	Airspace User
AUA	ATC Unit Airspace
AUAD	AUA Delegation
AUAG	ATC Units Airspaces Group
AUP	Airspace Use Plan
B2B	Business-to-Business
B2C	Business-to-Consumer
BADA	Base of Aircraft Data
CAA	Civil Aviation Authority
CACD	Central Airspace and Capacity Database (new name of ENV)
CADF	ECAC Centralized Airspace Data Function
CAP	Collaborative Advance Planning (DSNA tool)
CASA	Computer Assisted Slot Allocation
CASTAR	Computer Aided Synchronization Tool for Airspace Repositories
CCAMS	Centralised SSR Code Allocation and Management
CDM	Collaborative Decision Making
C-DPI	Cancel-Departure Planning Information
CDR	Conditional Route
CE	Change and Enhancement - or Central Europe
CfC	Closed for Cruising
CFSP	Computerised flight plan service provider
CHG	Modification Message
CHMI	Collaboration Human Machine Interface
CIAM	Collaboration Interface for AMCs
CIAO	Collaboration Interface for AO
CIFLO	Collaboration Interface for Flow management position
CITO	Collaboration Interface for Tower
CNL	Cancellation Message
CNS	Communications, Navigation, Surveillance
COM	Communication
COM	Committee of Management
CP1	Common Project One
CPA	Collaboration Portal Application
CPR	Correlated Position Report
CR	Change Request
CS	Combined Sector
CSST	Call-Sign Similarities Tool
CTFM	Current Tactical Flight Model
CTM	Cooperative Traffic Management
CTO	Calculated Time Over
CTOT	Calculated Take-Off Time
CTA	Control Area
CTR	Control Zone
DAC	Dynamic Airspace Configuration
DCB	Demand and Capacity Balancing

DCT	Direct
DEP	Departure message
DES	De-Suspension Message
DLA	Delay or Delay Message
DLE	Delay or holding on route
DPI	Departure Planning Information
DSNA	Direction des Services de Navigation Aérienne
DSU	Division Support Unit
DWH	Data Warehouse system
EAD	European AIS Database
EAIMS	European ATM Information Management Service
EASA	European Union Aviation Safety Agency
EAUP	European Airspace Use Plan
EC	European Commission
ECAC	European Civil Aviation Conference
EDDP	Leipzig Halle Airport
EET	Estimated Elapsed Time
EFD	ETFMS Flight Data
eFPL	FF-ICE flight plan
EHMI	ETFMS HMI
EIBT	Estimated In-Block Time
ENV	NM Environment System (former name of CACD)
ENVCOOR	National Environment Coordinator
EOBT	Estimated Off Block Time
ERNIP	European Route Network Improvement Plan
ERR	Error Message
ES	Elementary Sector
ESP	Elementary Sector Part
eSS	Enhanced Slot Swapping
ETFMS	Enhanced Tactical Flow Management System
EU	European Union
EUROCONTROL	European Organization for the Safety of Air Navigation
EUUP	European Update airspace Use Plan
FAAS	Flight Assessment and Alert System
FAB	Functional Airspace Block
FAM	Flight Activation Monitoring
FB	Functional Block
FCM	Flight Confirmation Message
FEI	Flight Efficiency Initiative
FF-ICE	Flight and Flow Information for a Collaborative Environment
FIXM	Flight Information Exchange Model
FL	Flight Level
FLS	Flight Suspension Message
FMP	Flow Management Position
FPFDE	Flight Plan and Flight Data Evolution
FPL	Flight Plan message (ICAO format)

FPP	Flight Plan Processing
FRA	Free Route Airspace
FSA	First System Activation message
FSPD	Flight Specific Performance Data
FTFM	Filed Tactical Flight Model
FUA	Flexible Use of Airspace
GAT	General Air Traffic
GRRT	Group Re-Routing Tool
GUFI	Globally Unique Flight Identifier
HMI	Human-Machine Interface
I2	Incident Type 2
IAF	Initial Approach Fix
IAP	Instrument Approach Procedure
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ID	Identifier
iDAP	integrated Digital ATFCM Platform
IDLA	Individual Delay (message)
IFPS	Integrated Initial Flight Plan Processing System
IFPUV	IFPS Unit for Validation
IFPZ	IFPS Zone
IFR	Instrument Flight Rules
iOAT	improved OAT
IR	Implementing Rule
KPI	Key Performance Indicator
M&R	Monitoring and Reporting
MCDM	Measure Collaborative Decision Making
MIN	Minimum
MoC	Memorandum of Cooperation
MSG	Message
MTTT	Minimum Turn-Round Time
MV	Monitoring Value
N/A	Not Applicable
NAM	Non AMC manageable Area
NATS	National Air Traffic Services (UK)
NAV	Navigation
NCAP	Network Collaborative Advance Planning (DSNA tool)
NCO	n-CONECT
n-CONECT	network-COmmoN Enhanced Collaborative ATM
NIA	Network Impact Assessment
NID	Network Impact Display
NM	Nautical Mile
NM	Network Manager
NMD	Network Management Directorate
NMIR	NM Interactive Reporting
NMOC	Network Manager Operations Centre

NMP	NM Portal
NMVP	Network Manager Validation Platform
NOP	Network Operations Plan
NOP	Network Operations Portal
NOTAM	Notice to Airmen
NPP	Network Performance Plan
NPZ	No Planning Zone
NRC	National RAD Coordinator
NSP	Network Strategy Plan
OAI	Target Time-Over Arrival Planning Information
OAR	ATFM Rerouting
OAT	Operational Air Traffic
ODSG	Operations and Development Sub-Group
OPP	Opportunity
OPS	Operations
OPT	Operational Testing
ORGN	Originator
OS	Operating System
OTMV	Occupancy Traffic Monitoring Values
P/S	NM B2B Publish/Subscribe
PC	Provisional Council
PCP	Pilot Common Project
PDI	Predicted Departure Planning Information
P-DPI	Predicted DPI
PFD	Planned Flight Data
PMS	Point Merge System
PREDICT	Variant of TACT used for Pre-Tactical Work
PSFD	Publish/Subscribe Flight Data (NM B2B)
PTR	Profile Tuning Restriction
R	Restricted Area
R	Right
R&D	Research and Development
R/R	NM B2B Request/Reply
RAD	Route Availability Document
REA	Ready Message
RFI	Ready For Improvement Message
RFR	Re-route after reroute cancellation
RJT	Rerouteing Rejection message
RL	Reference Location
RP3	Reference Period 3
RP4	Reference Period 4
RQS	Requested Supplementary Information Message
RRM	Rerouting Proposal Creation
RRN	Rerouting Notification Message
RRP	Rerouting Proposal Message
RSA	Restricted Airspace

RSI	CASA Revoke slot proposal
RTFM	Regulated Tactical Flight Model (by ATFM Measures)
RWY	Runway
SAFA	Safety Assessment of Foreign Aircraft (Programme)
SAM	Slot Allocation Message
SB	Study Block
SCC	Single CDR Category
SCR	Single Constrained Route
SES	Single European Sky
SESAR	Single European Sky ATM Research
SIBT	Scheduled In-Block Time
SID	Standard Instrument Departure
SIP	Slot Improvement Proposal Message
SITA	Société Internationale de Télécommunications Aéronautiques
SLC	Slot Cancellation message
SMM	Slot Missed Message
SO	Strategic Objective
SOBT	Scheduled Off-Block Time
SPA	Slot Improvement Proposal Acceptance Message
SRC	Safety Regulation Commission
SRJ	Slot Proposal Rejection message
SRM	Slot Revision Message
SSP	CASA STAM Proposal
SSR	Secondary Surveillance Radar
STA	Sharp Turn Angle
STAM	Short-Term ATFCM Measures
STAR	Standard Terminal Arrival
SWIM	System-Wide Information Management
SWM	SIP Wanted Message
TACT	Tactical System (predecessor of ETFMS)
TAI	Target Take-Off Arrival Planning Information
TB	Technical Block
TBD	To Be Determined, To Be Defined
TCF	Transponder Code Function
TLP	Traffic Light Protocol
TMA	Terminal Control Area
TOBT	Target Off Block Time
TP	Terminal Procedure
TP	Transport Protocol
TP	Trajectory Prediction
TSAT	Target Start-up Approval Time
TTL	Technical Team Leader
TTL	Time Table List
TTOT	Target Take Off Time
TV	Traffic Volume
TWR	Aerodrome Control Tower

UCD	Update MCDM Data
URL	Uniform Resource Locator
UTC	Coordinated Universal Time
UUP	Updated Airspace Use Plan
VFR	Visual Flight Rules
WG	Working Group
WKTRC	Wake Turbulence Category
WTC	Wake Turbulence Category
XCD	eXtended Conditions
YY	YoYo (as in YoYo flight)

EUROCONTROL