The European Organisation for the Safety of Air Navigation (EUROCONTROL) is an intergovernmental organisation for the central coordination of air traffic control in Europe. The headquarters of EUROCONTROL are in Brussels.
MUAC, Maastricht
One single Flow Management System over Europe
ATFCM structure in Europe

- 43 States
- 68 En-route centres = 1750 Sectors
- 6,664 Airspace Users
- 525 Airports
- 60 FMPs
- +5,530 Connected end-users
- Peaks +37101 flights a day
- +11,011,000 flights a year

Fri 07/09/18: 37101
2018: 11,011,434
NM Main Areas of Operations

ATFM Area – 43 states
• NM is directly responsible for ATFM

ATFM Adjacent Area – 6 states
• Any flight departing this area and penetrating the ATFM area may be subject to ATFM measures
NMOC coordination - FMPs

- 43 NM States (ATFM Area)
- 6 Cooperating States (ATFM Adjacent Areas)
- AO Organisations
  - IATA
  - IACA
  - AOG
  - A4E
The Network Manager
Connecting the Network to deliver Improved Performance

FLOW MANAGEMENT  SINCE 1995

FLIGHT EFFICIENCY INITIATIVE
LAUNCHED IN 2013
# The Network Manager Factsheet

## Legal Basis
- **EUROCONTROL nominated since July 2011**
- NM defined by EC regulation N°677/2011
- Amended by EC regulation N°970/2014
- Until end 2019, Seeking re-designation for RP3 & RP4

## Organisation
- **Staff:** 437 FTE
  - Operations: 154
  - Systems: 130
  - Planning: 66
- **Annual budget:** €164 million
  + €35 million costs from past (e.g. pensions)
- **Sites:** Brussels & Brétigny-sur-Orge

## Scope
- NM delivers ATM performance to the pan-European network in the areas of safety, capacity, environment, flight efficiency and cost-effectiveness
- **Functions:**
  - ATFM - European Network Route Design - Scarce resources (TCF & RFF)
  - Airports - Operational safety – new systems

## Governance & Oversight
- **Governance:**
  - NMB
  - SSC
- **EASA has oversight on behalf of the EC:**
  - 3-year cycle; annual report
- **EASA common requirements regulation:**
  - NM is a pan-European ANSP obliged to obtain certification by January 2020

## Figures
- **NM area EU/non-EU average daily flights +/-29.000**
- **Max Nb of flights yearly: 36.000**
- **Delay average:** 0.88 min
- **Minutes saved yearly:** 1.5 mil
Network Management and Network Manager

- Network Management involves:
  - ~2000 airspace users
  - ~500 airports
  - 9FABs, 40 European ANSPs, ~70 ACCs, ~700 ATC enroute sectors, ~29000 flights/day
  - Global/interregional operational links
  - Network Manager

- The Network Manager (NM) has:
  - Key role in Flow management (coordinating & applying ATFM measures)
  - Influence on capacity planning and management (CDM)
  - Key role in airspace design, planning and use (including military)
  - Formal role in scarce resources management (R/F spectrum, SSR codes)
  - Key role in crisis management

- The NM
  - is nominated by the EC
  - reports to and works under industry-led NMB governance

The Eurocontrol Network Manager is the operational pillar of the Single European Sky
Inter-institutional relationships

DGs MOVE, GROW, RTD, ENV, CLIMA, CNECT

European Economic and Social Committee

European Parliament

European Council
NM Network Operations collaboration and partners
Network Management Directorate

Network Operations Management

- Airspace AIS Data Mgt
- Network Operations
- Safety
- Airports
- Operations Planning

Network Management Functions

- The design of the European Route Network;
- The coordination of scarce resources, in particular;
  - Radio frequencies within aviation frequency bands used by general air traffic;
  - SSR transponder codes.
- The ATFM function.
The ATFCM

**Traffic Forecast**
- Harmonised Planning considering:
  - Traffic Demand
  - Airspace Structure
  - ATC Capabilities
  - Airport Capabilities

**Strategic Flow & Capacity Planning**

**Pre-tactical Flow and Capacity Management**
- Optimised Daily Plan and anticipation of events in order to maintain the network stability

**Tactical Flow**
- Reaction to real-time events to minimise disruptions impact and/or to take benefit of opportunities

**Post Operations**
- Feedback on all phases
- Review of event implementation/discussion of issues
- Lessons learned used for future events

**1 year**  **1 week**  **real-time**

**Feedback**

**Planning**

**Execution**
Air Traffic Flow and Capacity Management

Overall set of flow management activities in NM/NMOC (in coordination with ANSPs, AU, Airports, MIL authorities, CFSP) dealing with:

- **Strategic/pre-tactical planning of events** (from *Year -1* to *Day of ops -1*) leading to capacity reduction (en-route or airports) potentially causing ATFM delay for AUs

- **Day of operation (tactical day)**
  - demand/capacity balancing aimed at providing safety, resulting in delay on the ground (CTOT) to flights flying across congested airspaces or to congested airports.

- **Managing any tactical disruption**: weather, system failures, staffing issues, industrial actions…

- **…or crisis** in coordination with EACCC (EU Aviation crisis Cell): volcanic ash, Crimea, Libya…

**How to mitigate ATFM delay?**

- **Offloading congested areas** by applying RR (re-routeing) and FL (level-capping) predetermined scenarios, agreed with ANSPs and AUs (it is mandatory for AUs to comply with).

- **Sector configuration management**

- **STAM** (Short Term ATFM Measures)

- **Slot list manipulation by NMOC staff**

- **Tactical re-routeing** (RRP) offered to AUs (up to Operator whether to accept it or not)
Yearly traffic and ATFCM delays

- **Average delay/flight**
- **Average airport delay/flight**
- **Average en-route delay/flight**

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Top 25 delayed ACCs

**ATFM delay (min)**
- EDUU: 4,043,105
- LFMM: 2,876,930
- MUAC: 1,482,995
- LFEE: 1,263,265
- LFRR: 1,028,935
- LOVV: 806,285
2018 top 40 delayed airports

2018 ATFM delay (min)
EHAM: 610,645 min
LECB: 493,115 min
EGLL: 439,825 min
Pan-European Dimension

Ensuring that it meets its mission and priorities, the Network Manager relies on working closely with ANSPs, airports, civil and military airspace users across the airspace of 43 States.

Its Pan-European global view:

- Promotes the EU aviation strategy to the widest possible European scope
- Exports SES standards to non-EU states which have not yet signed agreements with the EU
- Ensures global consistency and interoperability
- Establishes a common cooperation framework
- Achieves international reach to ICAO, FAA and others

The Eurocontrol Network Manager has global reach through a concrete policy of concluding agreements with 3rd country Air Navigation Service Providers - providing a concrete platform for global ATM cooperation
Agreements with 3rd country ANSProviders

The EUROCONTROL Network Manager currently has agreements with 19 non-EU non-EUROCONTROL States.

The Network Management Board has already provided in principle approval for agreements with:

- USA (FAA)
- Algeria (ENNA)
- Tunisia (OACA)

The Network Manager has also been invited by the EC to initiate dialogue for a future cooperation with Azerbaijan (AZANS).
The main challenge: traffic growth

2000: 8 million  2018: 11 million  2030: 17 million
Growth forecast to 2040 (IFR movements)

most-likely scenario
The Network Vision

Free Route airspace - fully deployed in upper airspace

Efficient access to airports - high density segregated departure and arrival routes requiring PBN capabilities

Advanced flexible use of airspace - unused airspace will be made available to either civil or military users

Network operations (e.g. TTO) are integrated with local/FAB ops (e.g. AMAN/DMAN) through cooperative traffic management

Network Safety is addressed with focus on human aspects

SWIM sharing of dynamic ATM information supports the European ATM Network
Delay mitigation plans 2019

- NM supporting ANSPs to deliver required capacity
  - check *declared* sector configurations vs the *applied*, info available to AUs
  - need for solid and long term ATCO recruitment plans by ANSPs (unknown)

- Expand NM-4ACC initiative: eNM-ANSPs plan
  - Several hundred of flights removed from congested airspaces
  - these actions will grant an amount of ATFM delay similar to 2018!

- Improve airspace management with focus congested airspaces

- Cross-border WX initiatives in S19, following S18 trial
  - Common WX forecast, Teleconferences
We take your ATC flight plan seriously!

ATFCM planning based on filed ATC flight plans, to match traffic demand against available ATC capacity

ATC flight plan not just an initial theoretical plan that meets all the rules, but can be ignored after take-off

Non adherence impact:

- Less effective ATFCM
- Non-anticipated traffic in ATC sectors already having max demand => safety!
- Lack of trust in ATFCM => larger ATC safety margins reducing available capacity!

=> reduced overall network performance!
Scenario aim at the optimisation of capacity across the European Network of ATCS. Network Operations NMC works actively to minimise the number of ATM regulations, consistent with the protection of ATC sector.

The following links provide information on the Asia for the Summer 2019 Season:
- South East Asia Summer 2019
- South West Asia Summer 2019
- Read the NSC Asia Meeting Terms of Reference

Skylax 2018 2019
- Skylax Agrid plan for the weekend 09 10 March 2019
- Skylax statistics for the weekend 09 10 March 2019

Contingency
- The status of the Network Manager operations is NORMAL.
- NM ATCM Contingency Plan Winter 2018 2019
  - valid 20th October 2018
- NM ATCM Contingency Plan Summer 2019
  - valid 31st March 2019

These documents address the contingency procedure to be followed in the event of a failure in the network management services.
The vision for Global ATFM
A set of interlinked operational ATM regions