



Network Manager
nominated by
the European Commission



European ATFM

Connecting the Network for better performance

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Unique collaboration of all ATM stakeholders

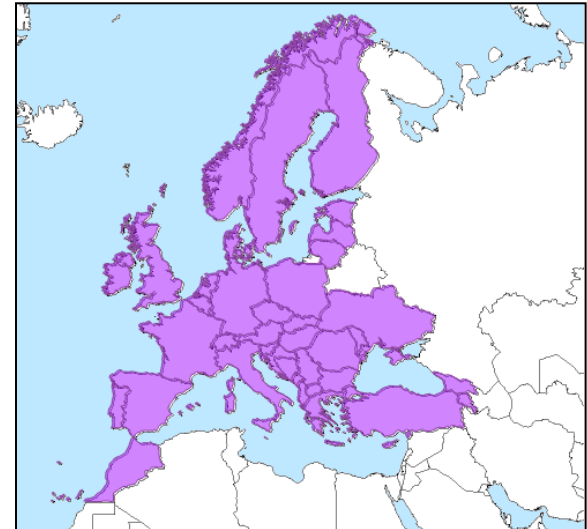
History



- Centralised system grew from sub-regional ATFM units (London, Rome, Frankfurt, Paris, Madrid)
- ECAC¹ Ministers of Transport (Frankfurt 1988) – decision to take joint action on the air traffic congestion problems in Europe.
- Aim at a Central Air Traffic Flow Management Unit – EUROCONTROL.
- Agreed list of actions, designed to improve the pro-active role of the “CEU West²”, and the acceptance of EUROCONTROL as the central coordinator of the activities thus required.
- The Permanent Commission of EUROCONTROL also recognised the need to coordinate the establishment of the CFMU with the non-ECAC States
- Centralised unit operational April 1996:
- Growth from 15 to 42 states

¹ ECAC: European Civil Aviation Conference. This organisation of 44 European Member States deals with all aspects of civil aviation for the promotion of the continued development of a safe, efficient and sustainable European air transport system.

² CEU West: original aim was that the EUR ICAO region would have a CEU West (Brussels) & a CEU East (Moscow)



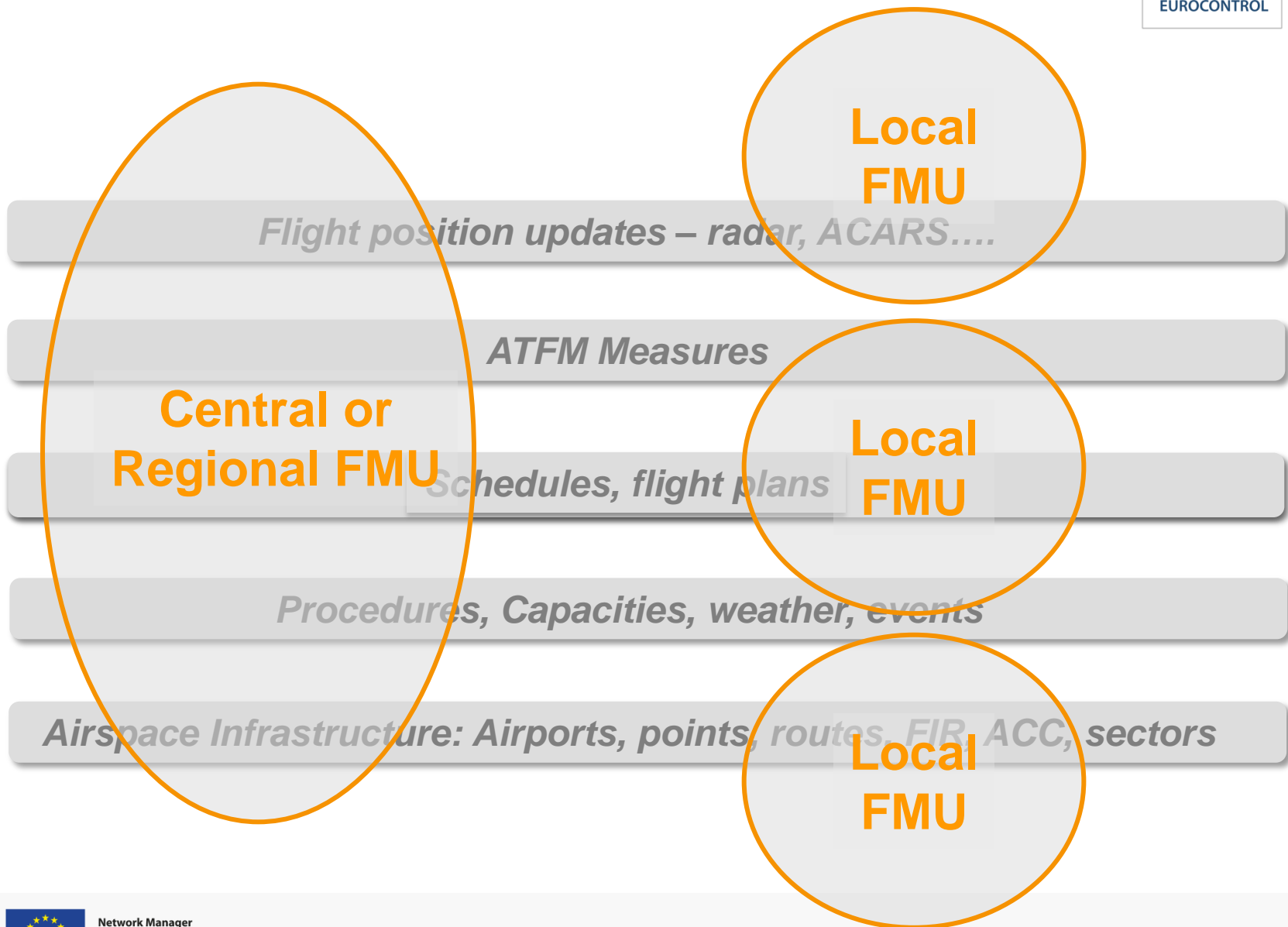
Evolution from CFMU to Network Manager

- Initial database of schedules and other pre-flight information, basic airspace structure (FIR, ACC, sectors, routes, points, aerodromes)
- PRETACT: Pre-tactical planning function identifying potential congestion problems 6 days before real time ops
- Centralised flight planning service – IFPS Centralising flight plan management regionally contributes substantially to improving both the consistency and predictability of flight demand information
- Strategic, pre-tactical and tactical ATFM operations The ATFCM activities are divided into three phases where actions ranging from strategic planning (capacity, routing schemes) to real time operations monitoring are performed,

Evolution from CFMU to Network Manager

- **Airspace management – FUA, CDR** Flexible Use Airspace Airspace is no longer purely "civil" or "military", but allocated according to user requirements. Any necessary segregation is temporary. Conditional Route is an ATS route that is available for flight planning and use under specified conditions, that may change at specified times.
- **ATFM to ATFCM** protecting ATC from overloads > balancing and optimising capacity and demand.
- **Receipt and distribution of real-time surveillance information**
- **Integrating airports and network –** reduce delays and manage any conditions or events that may have an impact upon the network. Develop cooperative action plans with airports
- **Network Operations** linked core operational services across several domains flight plan, flow management, information management, crisis & contingency management, post-operations
- **Disruption and crisis management** - aims at implementing ATFCM/contingency measures to deal with any network disruptions and ensure the continuity of the operational services.

ATFM Building Blocks



ATFCM - 2000

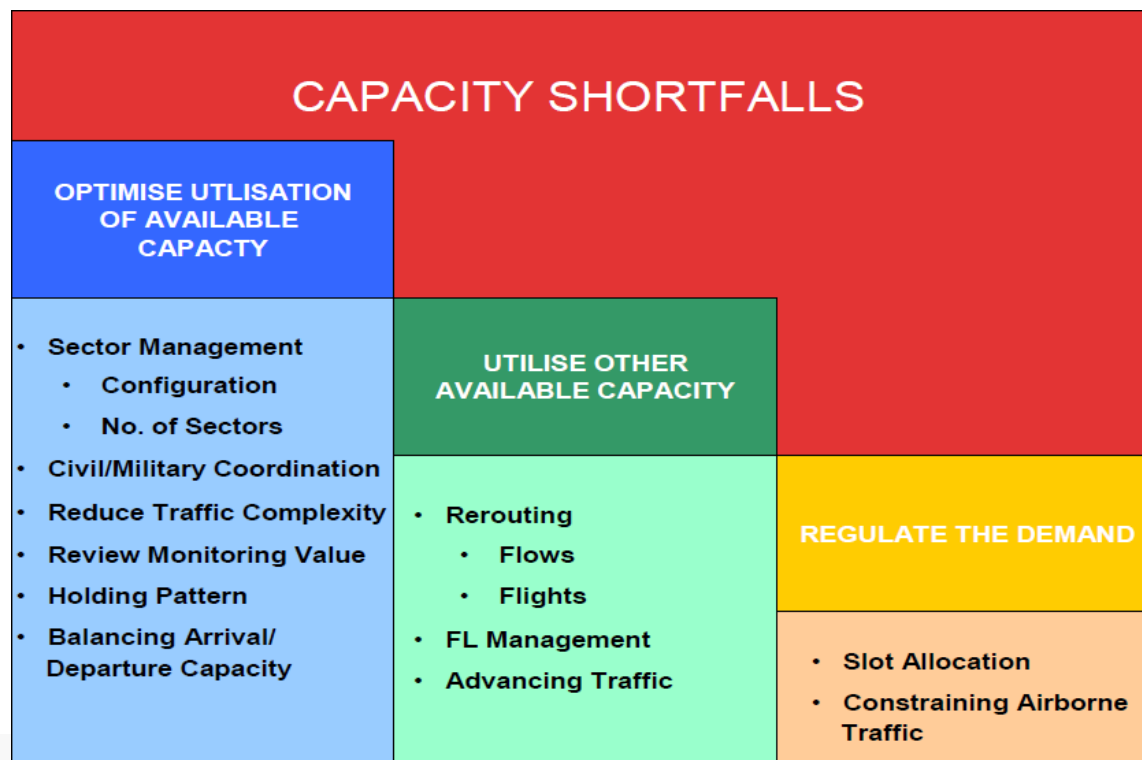
Moving FROM
a flow management
system
based mainly on
regulating mechanisms

TO the essential function
of collaborative
management of capacity
and demand

CDM

CAPACITY MANAGEMENT AND OPTIMISATION

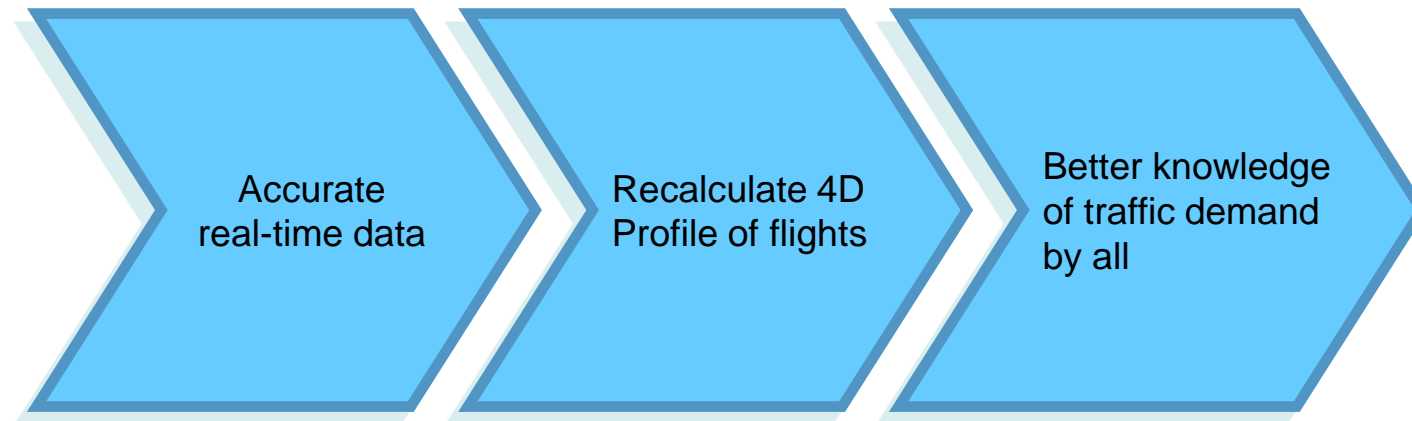
NETWORK: FROM AIRPORT TO AIRPORT

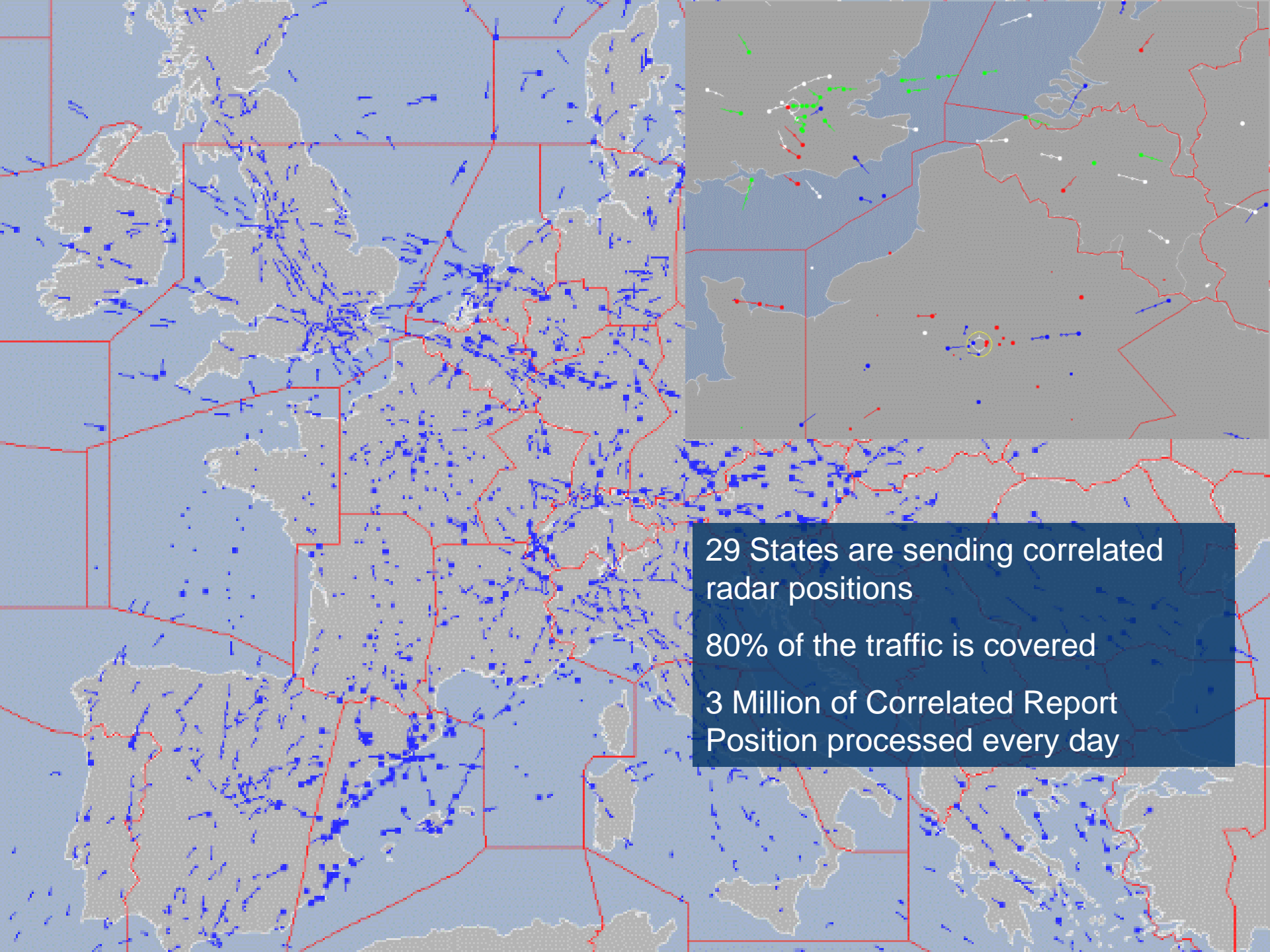


Flight data

In 2002 the TACT system was replaced by the Enhanced Tactical Flow Management System – ETFMS, bringing in a new functionality :

The update of planned info in the system using radar & AO position data every 2 minutes (30 seconds in 2015) – including MET info (wind speed & direction)





29 States are sending correlated radar positions

80% of the traffic is covered

3 Million of Correlated Report Position processed every day

Collaborative Decision Making (CDM)

Regional CDM Management

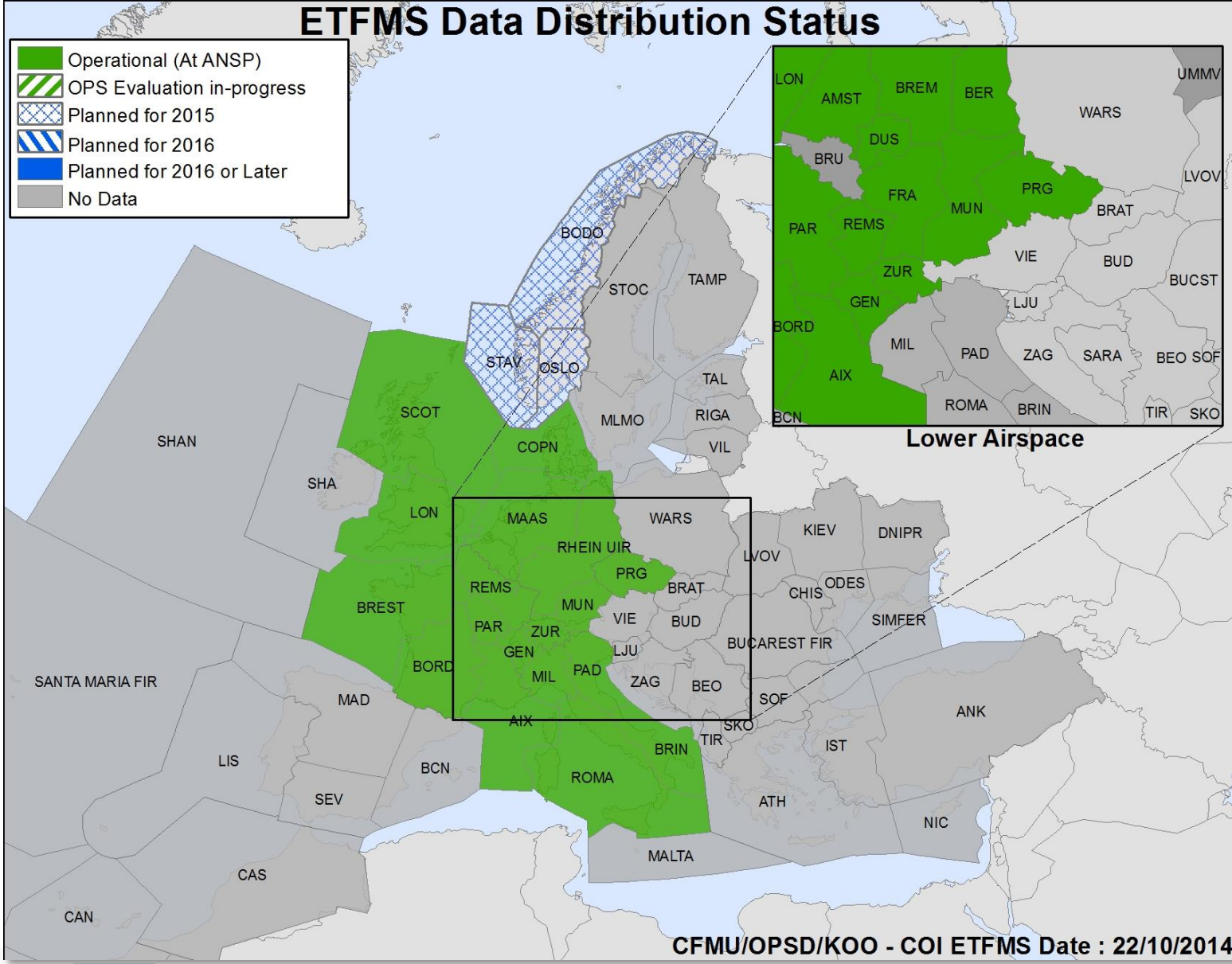
Local Airport CDM Management



ANSP Flight data distribution

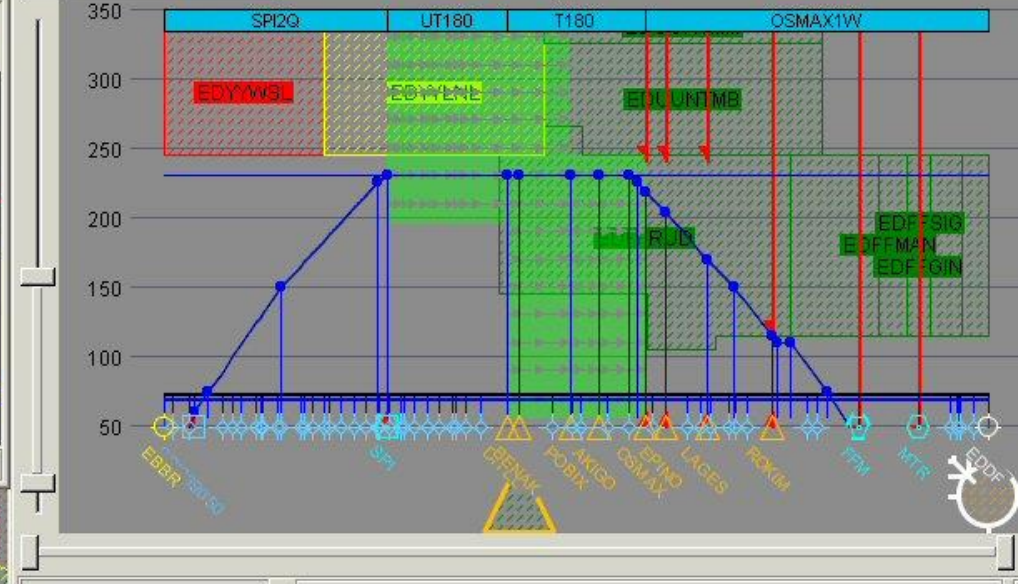
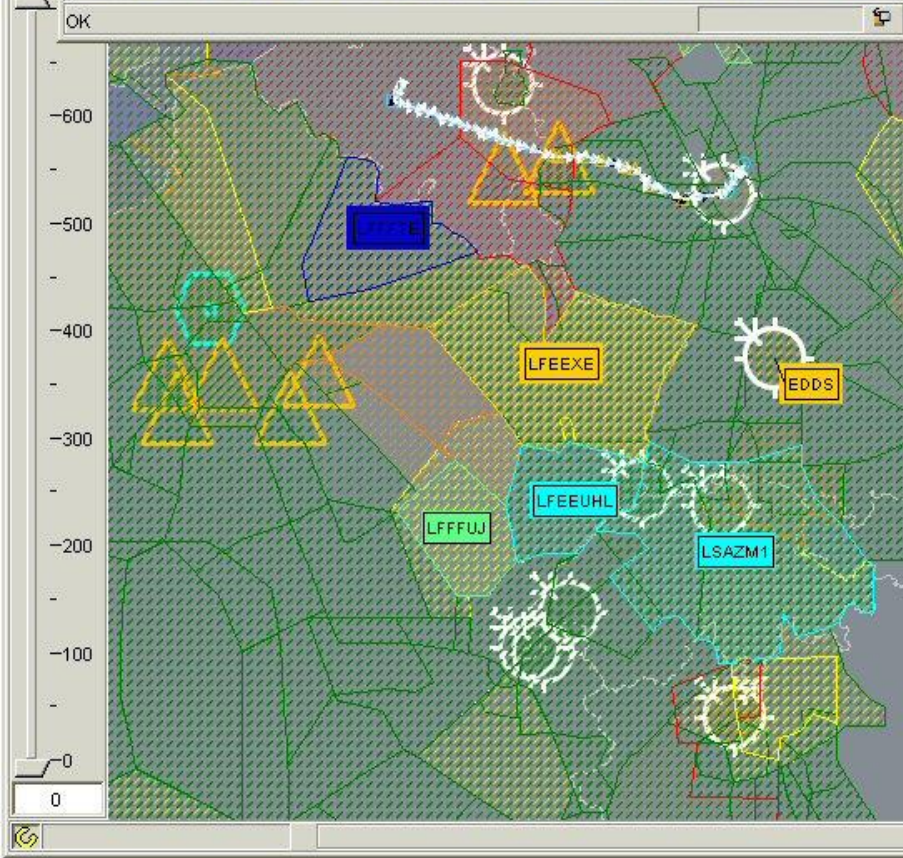
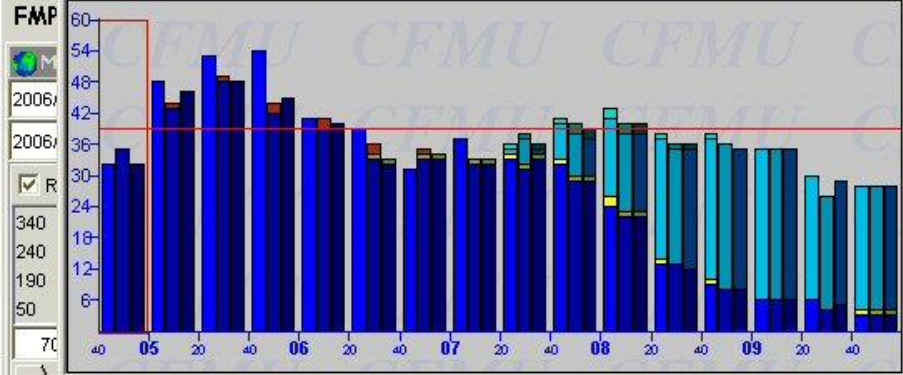
ETFMS Data Distribution Status

- Operational (At ANSP)
- OPS Evaluation in-progress
- Planned for 2015
- Planned for 2016
- Planned for 2016 or Later
- No Data

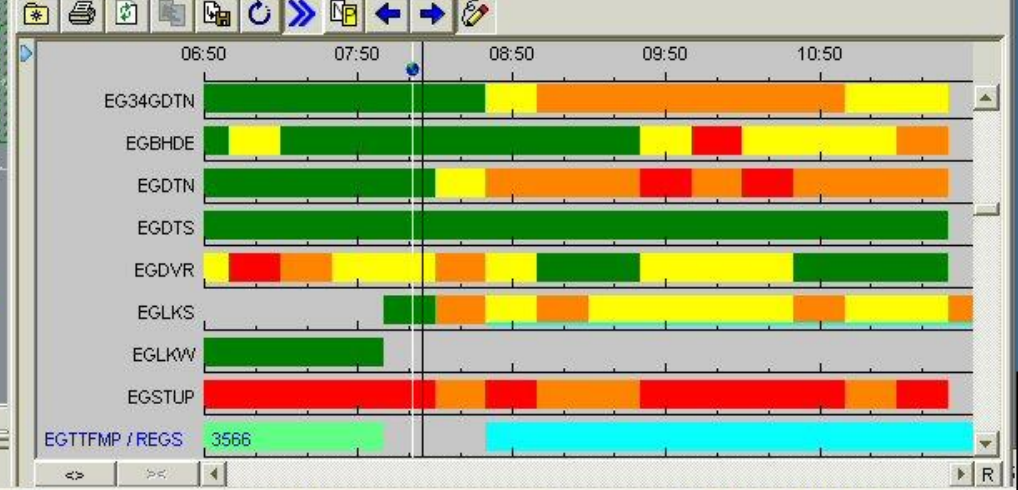


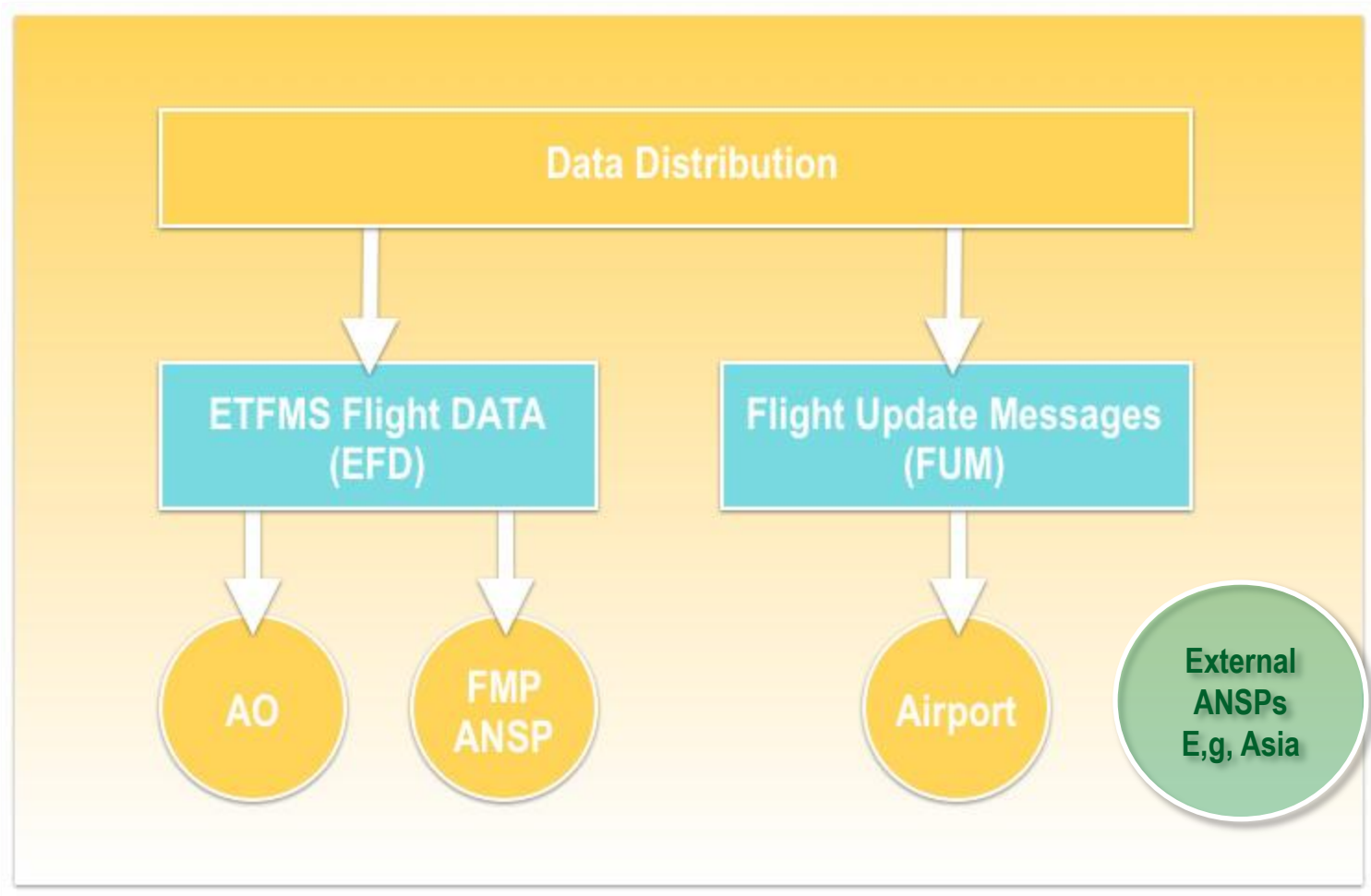
CFMU/OPSD/KOO - COI ETFMS Date : 22/10/2014

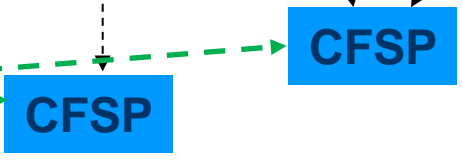
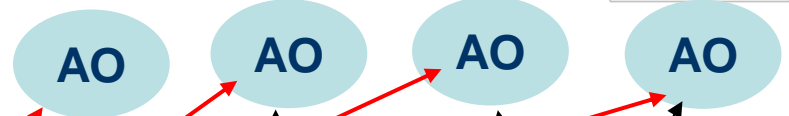
File [Icons] [Navigation: TL, TD, RD]



CF0404	D733	EDDL	LFA	E	100	04:03	04:10E	a	I	04:40E	N	N	N
EAL801	AT43	EDDK	LSGG	E	170	04:40	04:50C	I	I	04:47E	0	N	N
SAS2582	CRJ2	ELLX	ERCH	E	360	04:30	04:55C	I	I	04:49E	20	N	N
DAT36K	RJ1H	EBBR	EDDF	E	230	04:30	04:57C	I	I	04:51E	13	N	N
BZH877	CRJ1	EDDL	LFLL	E	330	04:25	04:46C	f	I	04:48E	8	N	N
KLM1736	F50	ELLX	EHAM	E	180	04:25	04:30E	a	I	04:37E	N	N	N
BER8018	F100	EDDL	LFPG	E	240	04:30	04:53C	f	I	04:53E	11	N	N
BER8892	F100	EDDL	EGSS	E	320	04:40	04:53E	a	I	04:59E	N	N	N







Up to the AO to identify a CFSP and to have a contract with it.



Specific service & technical agreements/contracts signed with users

Service & technical specific agreements

STAM – Short Term ATFM Measures

- Bridging the gap ATC ATFM
- Short Term ATFCM Measures (STAM) consist in smoothing the sector workload by reducing traffic peaks using short term measures such as small ground delay, flight level capping or small re-routings applied to a limited number of flights making the traffic less complex for ATC.
- Its main objectives are to **reduce traffic complexity** and to **streamline air traffic controller workload**, thus **improving capacity and safety**.
- Based on accurate occupancy counts

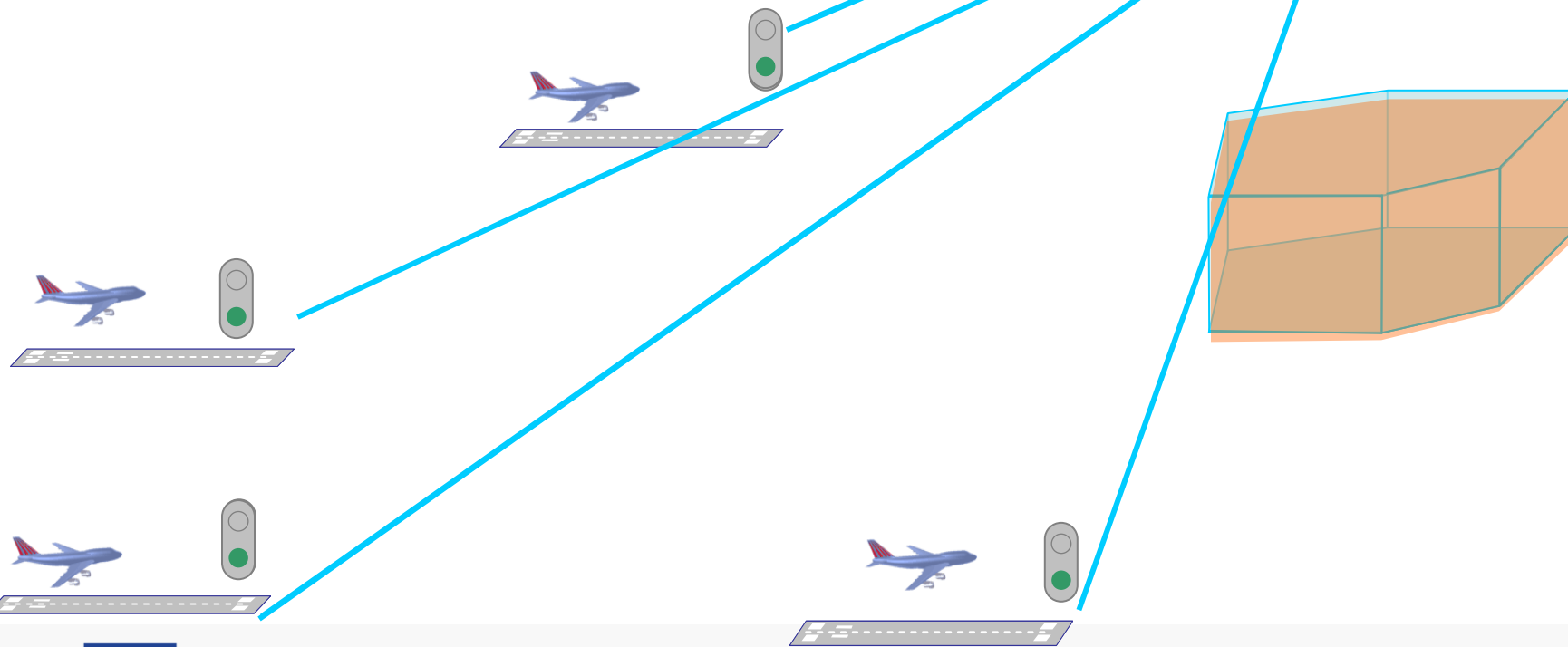
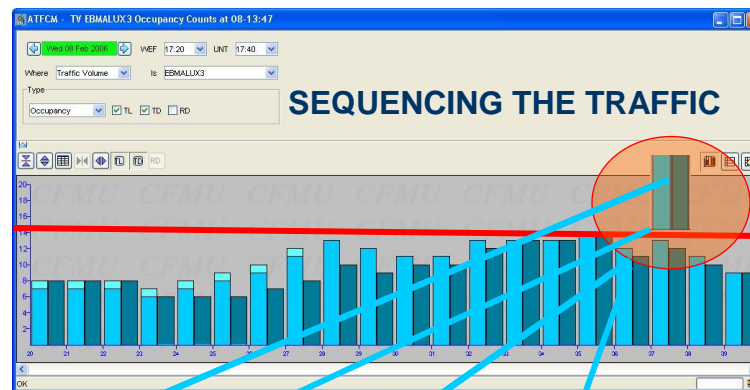
STAM PRINCIPLE

Short Term ATFCM Measures

Based on accurate occupancy counts

BENEFITS:

- Less traffic complexity
- Less ATCO workload
- Improving capacity and safety



Much more than an ATFM system

- **OPTICON** : optimum sector configuration application
- **PATHFINDER** : easy to find alternative route using the Map
- **NIA**: analyses the potential impact of any ATFM measure.
- **FE GRRT**: group rerouting tool offering latest available more efficient routes
- **E-Helpdesk**: pc to pc help desk allowing much better and faster management of the queries from customers.

- **SIMEX**: stand alone simulation tool. Snap shot of ETFMS
- **Flight List**: all partners can retrieve and display detailed information on any flight
- **ATFCM situation display**: shows at any moment ATFM situation in Europe.
- **GLANCE**: enables users to see different profiles of a flight
- **METEO updates**: 4 times in 24 hrs
- **NOP portal**: information tool (to become fully interactive in the near future)

Problems and issues

- Accurate capacity data – Full, timely, honest, buffers
- Clear lines of authority – local vs network
- Balance between AO and ANSP needs: late sector restrictions
- AO intentions: not communicated early enough. CDM must improve
- Capacity assessment and airspace design – link planning, simulations (computer and real-time) into ATFM
- End user HMI - misunderstanding of the data content
- Interoperability
- Standardisation

Next steps for Network Manager:

- Network strategic projects e.g. free route airspace
- FABs/regional cooperative activities
- Improved FDPS functionalities
- CNS technical developments e.g. DataLink, ADS-B
- Collaborative traffic management between AO, ATFM and ATC

**What is the Network Vision by 2020...
... to achieve predictability, punctuality,
safety and service continuity.**

**Free Route & Seamless
Airspace**

**Advanced
Flexible Use
of Airspace**

FREE ROUTES

FLIGHT LEVEL 310 **FLIGHT LEVEL 310** **FLIGHT LEVEL 310**

**Low impact ATFM
measures with
Cooperative
Traffic Management**

**STRUCTURED
AIRSPACE**

- Facilitated access to Airports
 - Environment friendly Airport Operations
 - PBN in TMA
 - A-CDM
-

**End-to-end
Information
Management**

**Efficient CNS
Infrastructure**

ENABLERS





Network Manager adds value to network performance!

NM - connecting you to the network!



