



SUPPORTING  
EUROPEAN  
AVIATION

# EUROCONTROL as Network Manager

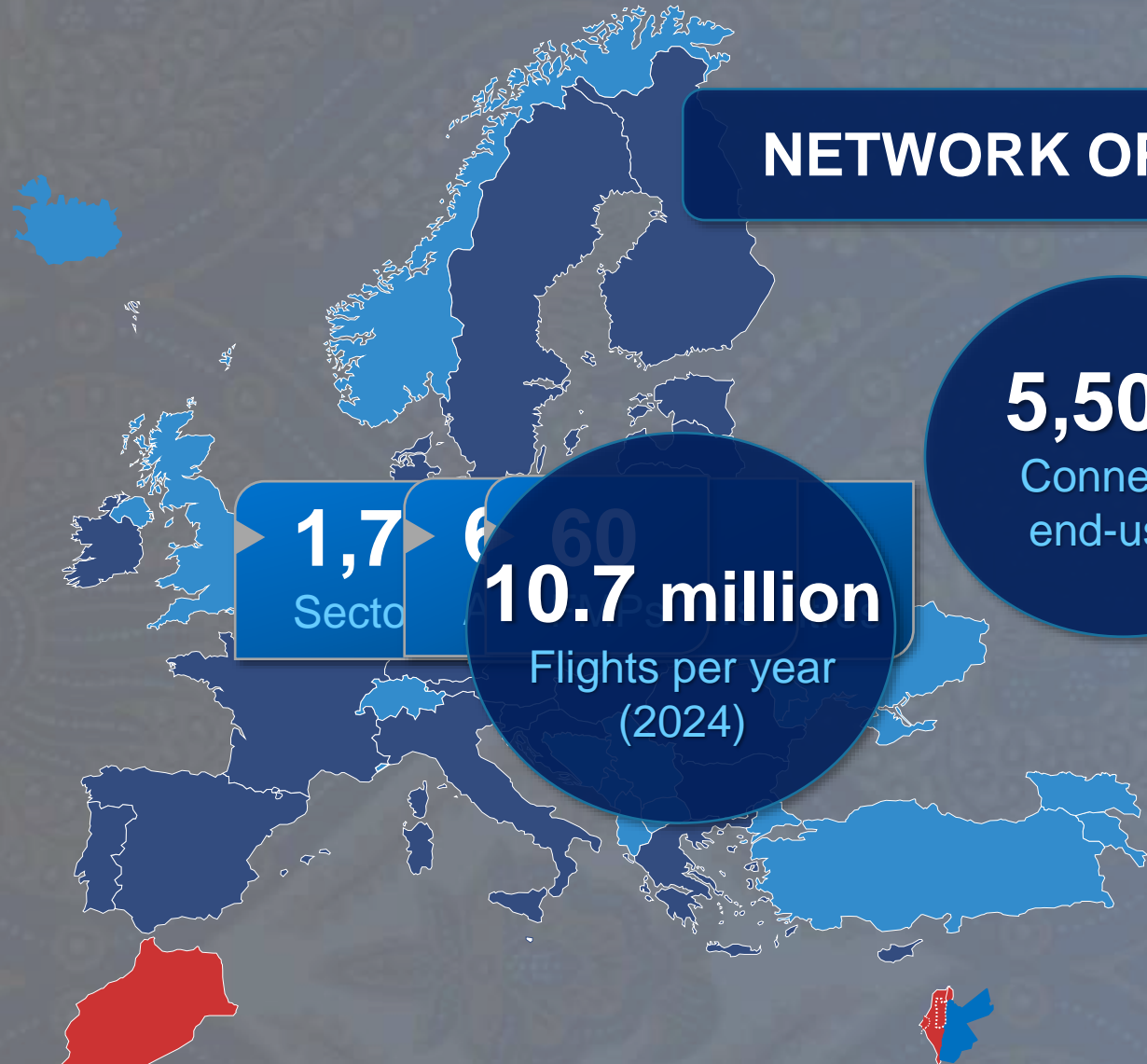
Role of Collaborative Decision Making  
(CDM)

Valerio Cappellazzo  
EUROCONTROL Network Manager



# MANAGING ONE SINGLE AVIATION NETWORK OVER EUROPE

## NETWORK OPERATIONS



1,760  
Sector

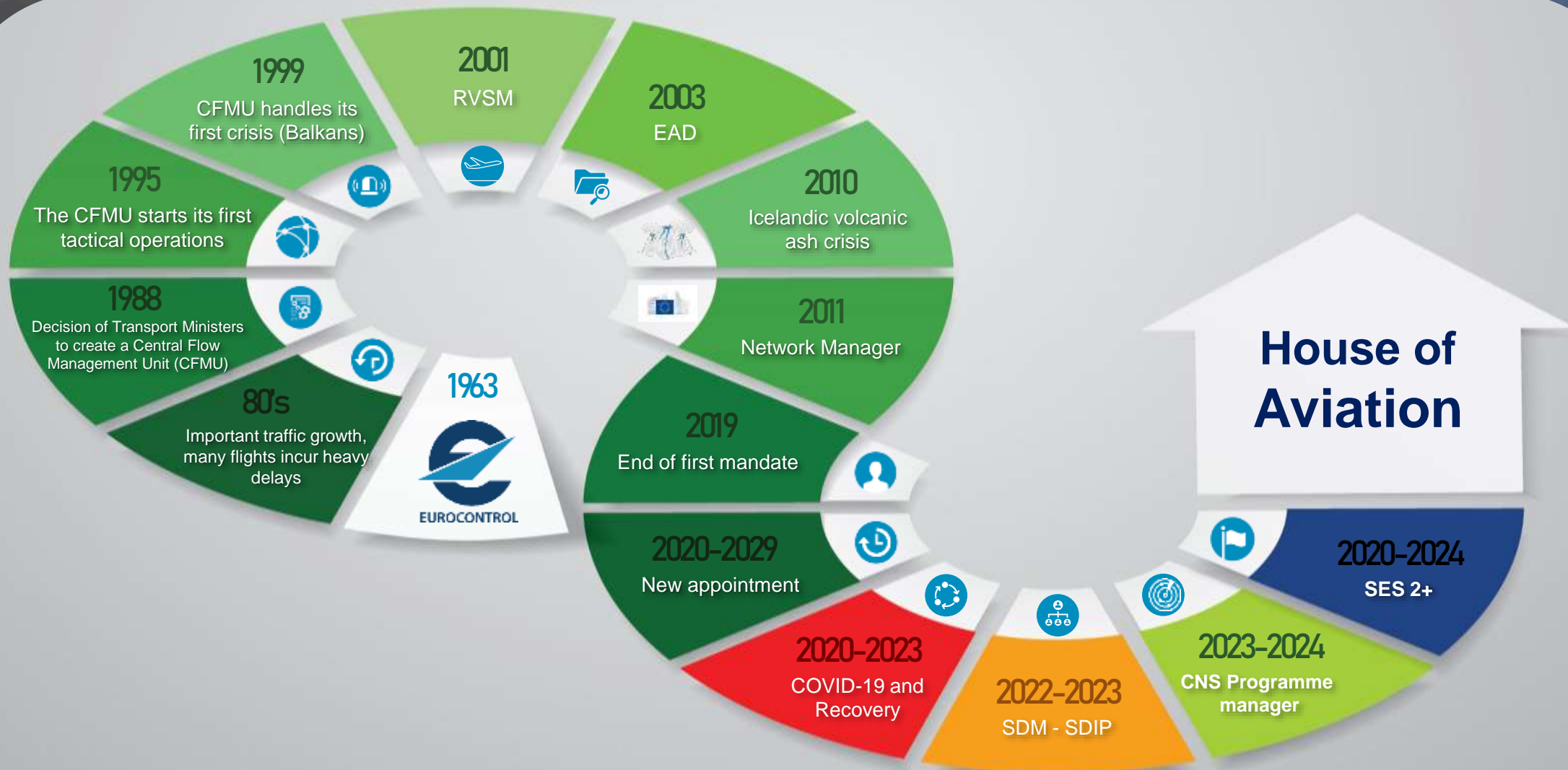
10.7 million  
Flights per year  
(2024)

5,500+  
Connected  
end-users

Peak 2024  
35,710  
Flights per day

# THE EUROCONTROL NETWORK MANAGER STORY

3



# CONNECTING THE NETWORK TO DELIVER IMPROVED PERFORMANCE

4





SES2+

# Network Functions and NM Tasks

## FUNCTIONS



**DESIGN & UTILISATION OF AIRSPACE STRUCTURES**  
with due regard to security and defence needs



**ATFM**  
NM OPERATIONS CENTRE,  
Airspace data, Flight planning, post-ops



**SCARCE RESOURCES**  
Radio Frequencies  
Radar transponder codes



**DELIVERY OF ATC CAPACITY IN THE NETWORK**  
in accordance with commitments in the NOP



**FACILITATION OF DELEGATION OF ATS PROVISION**  
through cooperation with ATSPs & MS



**CRISIS MANAGEMENT**  
EACCC



**ATFM DELAY ATTRIBUTION**  
through CDM



**INFRASTRUCTURE MANAGEMENT AND DEPLOYMENT**  
Supporting deployment of new services, infrastructure and avionics  
Evolution of the terrestrial CNS network



**INFRASTRUCTURE MONITORING**  
European ATM Network Infrastructure



## TASK AND OBJECTIVES



**AIRPORTS IN THE NETWORK**  
Full integration



**NETWORK PLANNING**  
NSP – NPP – NOP



**CIVIL MILITARY COORDINATION**  
Flexible Use of Airspace



**ALERTING**  
Support to EU's Air Safety List



**SAFETY**  
Safety alerts, Operational Safety Hazards



**ATM DATA SHARING**  
Aeronautical services



**COMPLIANCE WITH PERFORMANCE PLANS/TARGETS**



**ADVISE ON CLIMATE-OPTIMISED FLIGHT TRAJECTORIES**



**ADVISE ON DEPLOYMENT OF ATM NETWORK INFRASTRUCTURE**



**UNION-WIDE AERONAUTICAL INFORMATION INFRASTRUCTURE**

EU Regulation 2024/2803 (SES2+ Basic act) entered into force, and it is directly applicable as of 1 December 2024





SES2+

# Role of Member States in CDM



Much more prominent role of the **States** in CDM:

- **Member States shall be fully involved in decisions of strategic importance, in particular the shaping of the Network Strategy Plan**
- **Where a Member States sovereignty is concerned (i.e design of airspace structures, delegation of ATS, CNS evolution), their consent is required**
- **Member States have complete competence for the development, approval and establishment of the routes and airspace structures for the airspace under their responsibility**
  - For that they shall take into account air traffic demands, seasonality, and complexity of air traffic and of performance plans
  - Before deciding on those aspects, MS shall take due consideration of the needs of AUs and Military





SES2+

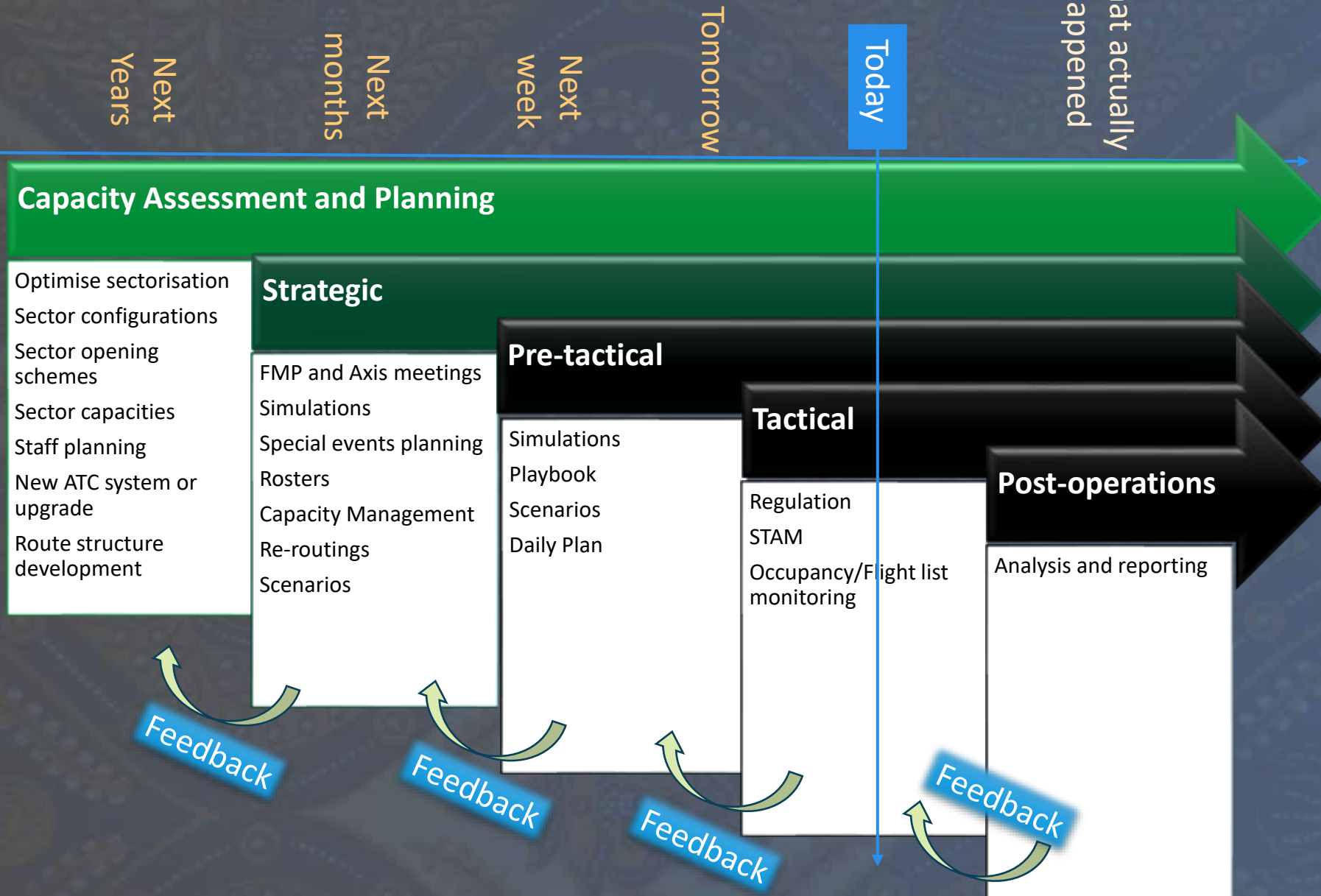
## Relation with 3<sup>rd</sup> Countries and ICAO

**EU and Member States shall aim and support the extension of the SES to non-EU members**

**EU and MS shall endeavor to cooperate with 3<sup>rd</sup> countries via:**

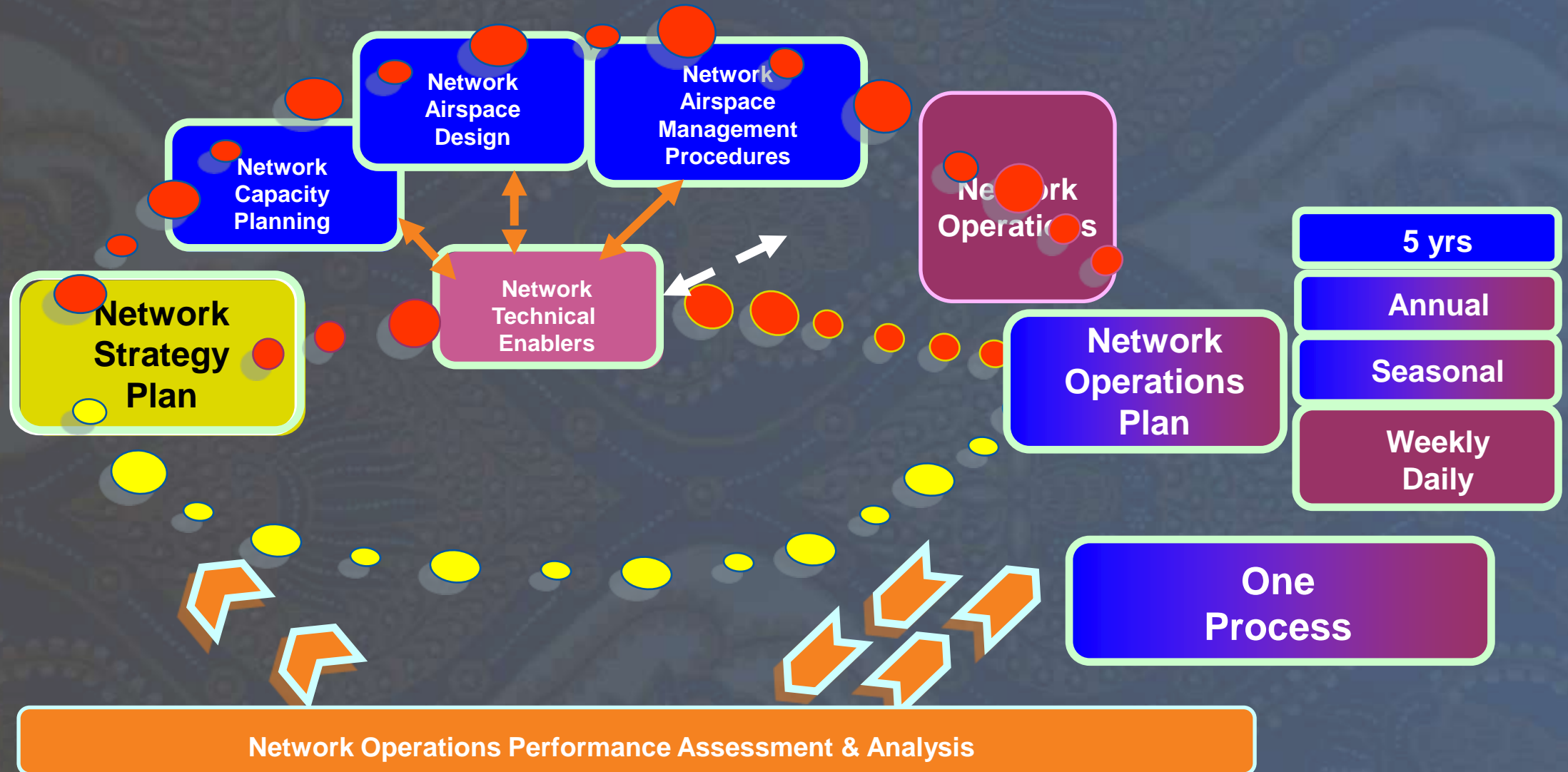
- Cross-border ATS agreements
- ATM modernisation
- Network Functions
- Union and EUROCONTROL agreement - providing a general framework for enhanced cooperation, reinforcing the pan-European dimension of ATM

**ICAO - elevated relation from “support when requested” to coordination with ICAO and ICAO regions in relation to the network functions**





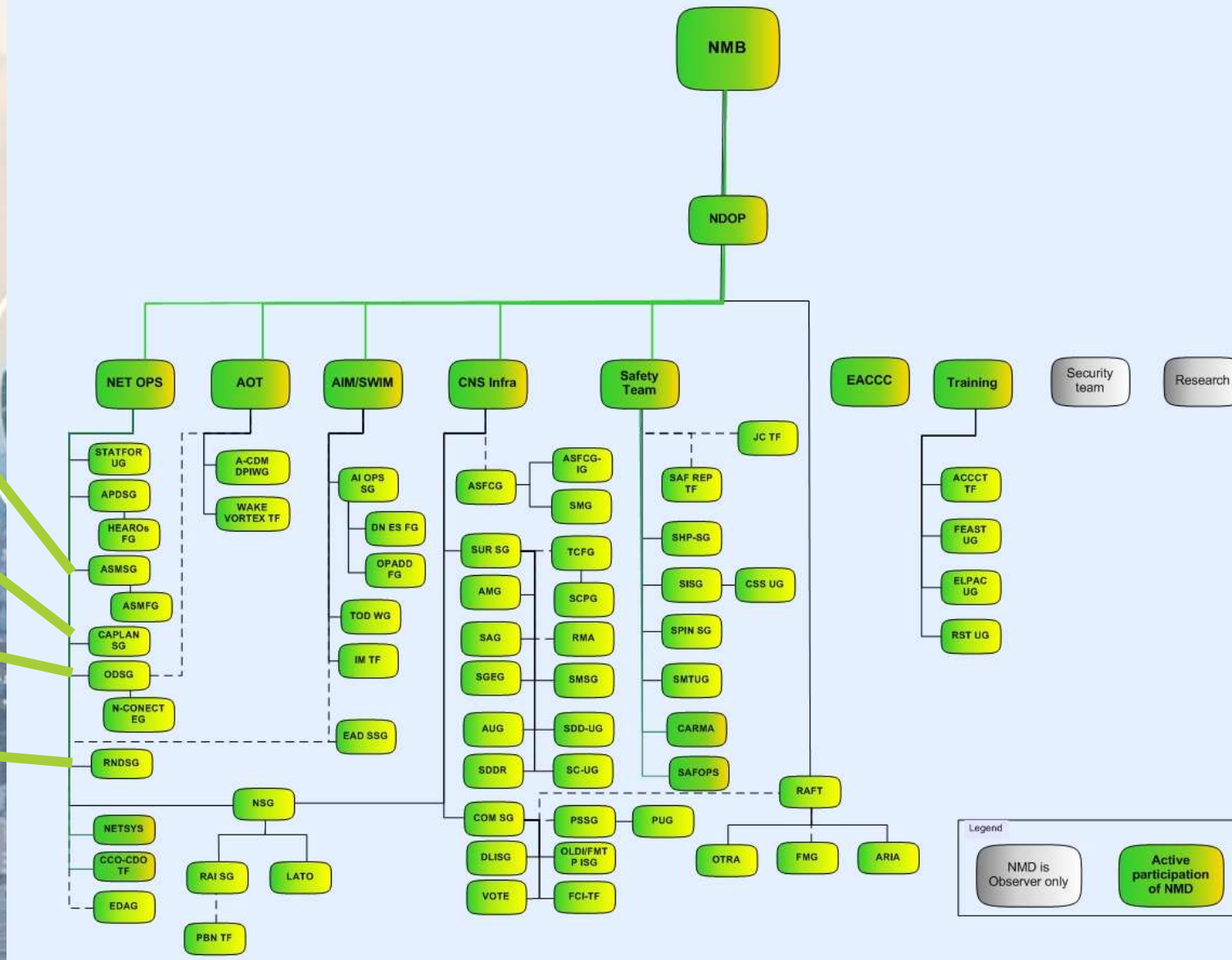
# INTEGRATED NETWORK PLANNING AND MANAGEMENT



# Network Manager Working Arrangements

## NMD Working Arrangements & Consultation

Update Date: 13/11/2019 15:02

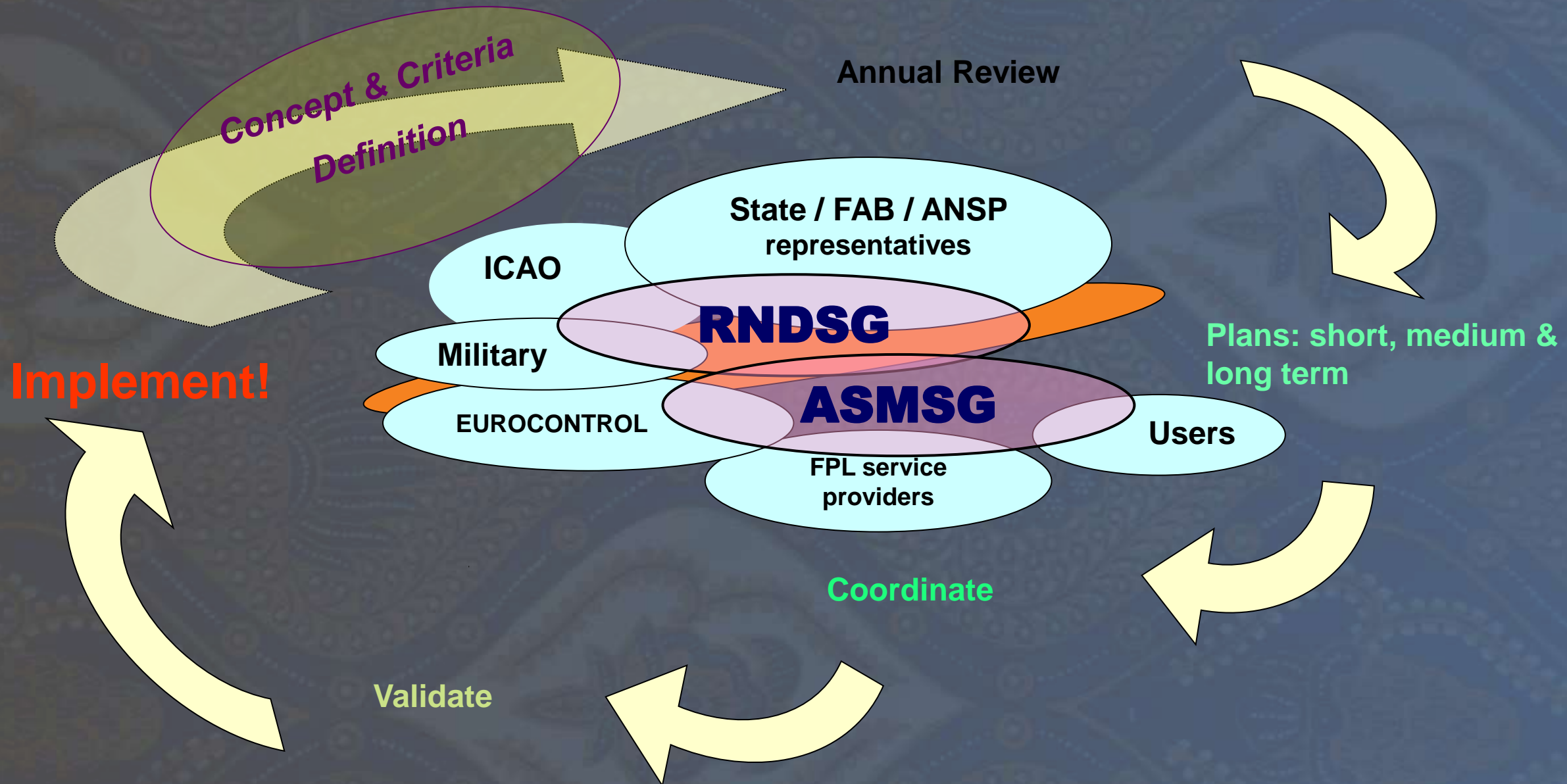




# Network Manager Working Arrangements

## CDM Example: RNDSG & ASMSG

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# European Route Network Improvement Plan Database (ERNIP Database)

## ➤ A web-based interactive database

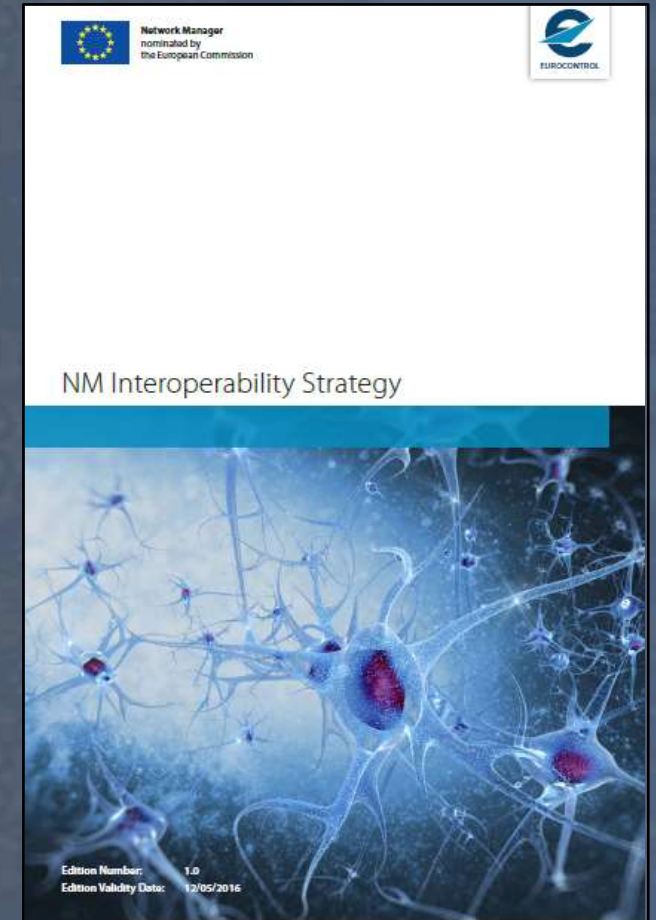
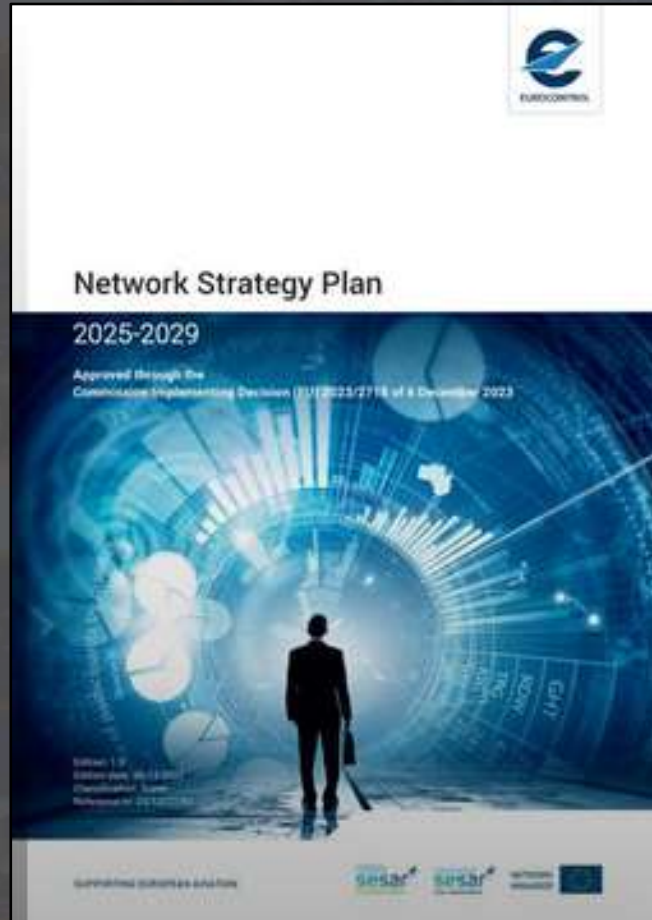
- Covering improvement projects related to ATS route network, airspace design and its utilisation – at local and network level.

The screenshot displays the 'RNDSG/RDGE On-line Route Planning Database' web application. It features a search bar at the top with fields for 'Proposal Number' and 'Project / Issue Number'. Below this, there are tabs for 'Proposals', 'Administration', and 'Help'. The main content area is divided into several sections: 'Search Criteria' with filters for 'Proposal Status' (Proposed, Revised, Approved) and 'Implementation Date' (Without implementation date, With implementation date); 'Proposals / Summary' listing various projects like 'FAD BLUE MED', 'FAD CE', 'FAD DAFNE', etc.; and 'Implementation Status' with a table of project details including 'Proposal Number', 'Project / Issue Number', 'Status', and 'Comments'.

This screenshot shows a document titled 'AIP SUPPLEMENT SWEDEN' from the LFR (Länsförbundet) organization. It is dated '15/2010' and '25 MAR', with an 'EFFECTIVE 6 MAY 2010'. The document is for 'LFV, SE-601 79, NORRKÖPING, Phone +46 11 19 20 00, Fax +46 11 19 20 75, APIN ESKLYA'. It contains a table with columns for 'Proposal Number', 'Project / Issue Number', 'Status', and 'Comments'. The table lists several projects, including 'SUP 15/2010, SWEDEN FRA, FREE ROUTE AIRSPACE - PHASE 2'. The document also includes a section for 'All times in UTC' and a 'Map: RAIS, 10, RAD1.jpg (Proposal 70.034)'.



# SOLID STRATEGIC CONTEXT



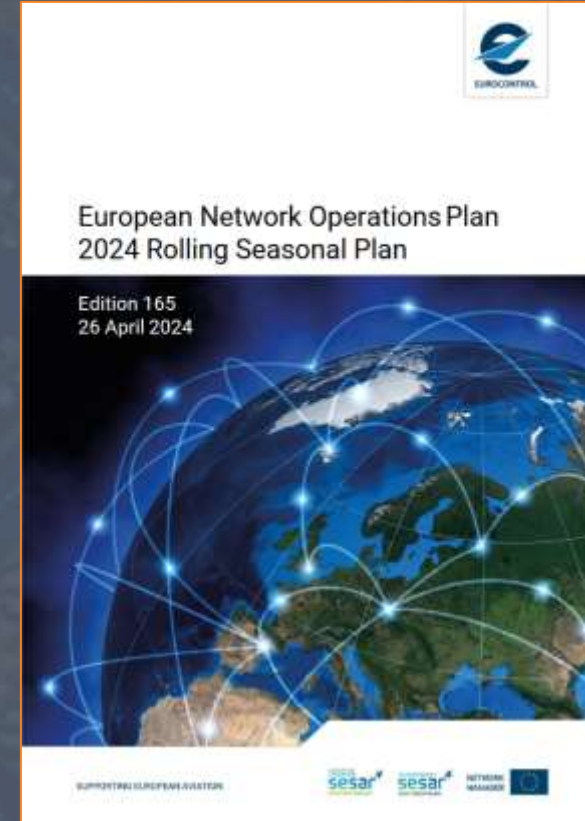


# Network Operations Plan



5 years horizon  
2 updates per year

# Rolling Seasonal NOP



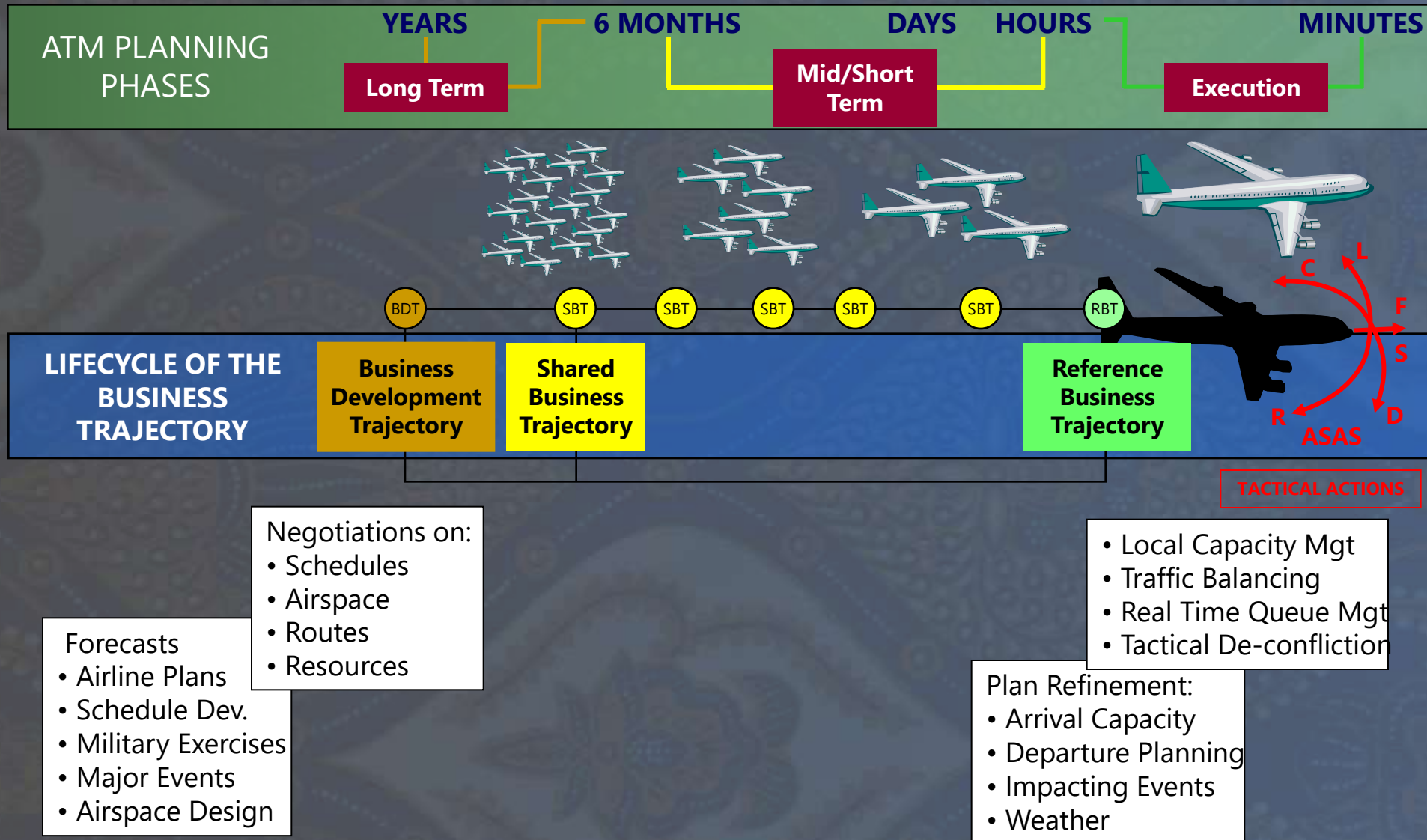
8-week traffic & 6-week capacity outlook  
Weekly updates



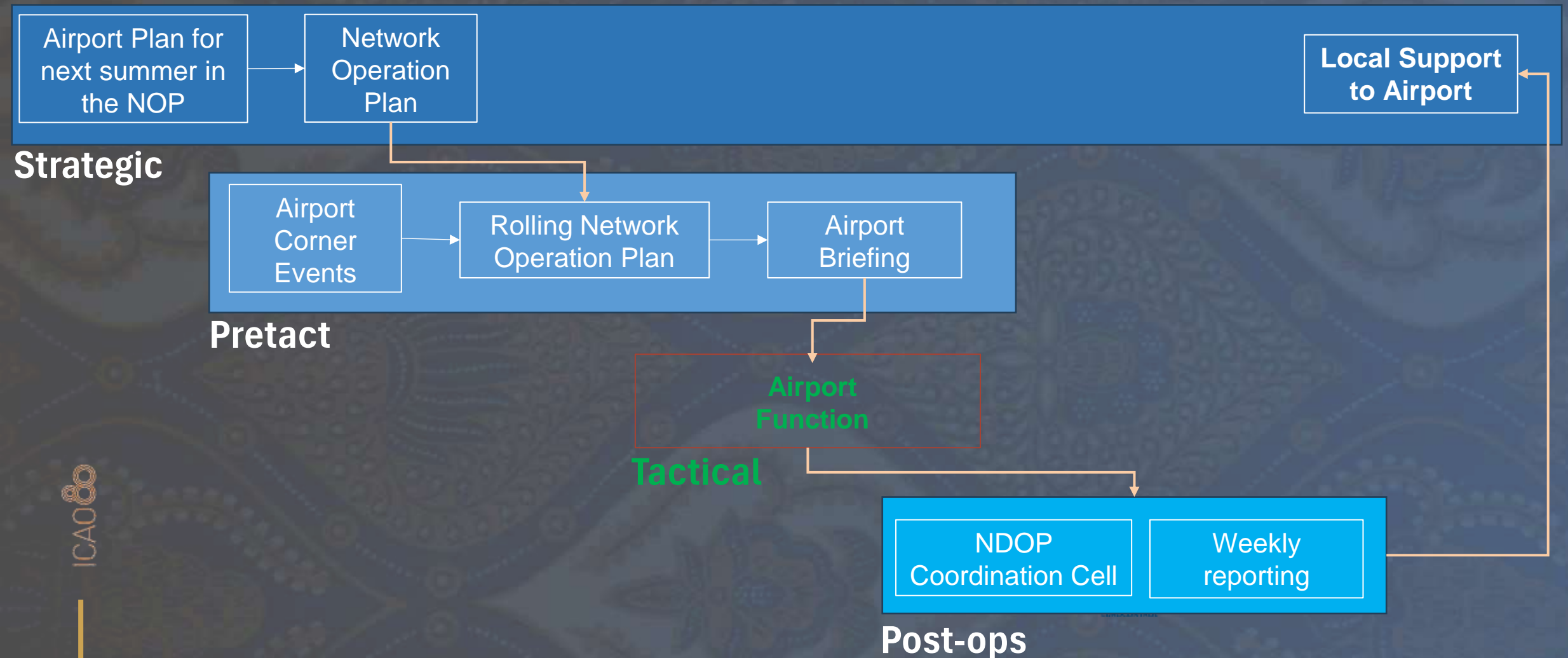
# Transition Plan



# From Network planning... (in a nutshell)



# ... to Network plan execution. (in a nutshell)





# Events preparation

E.g.: Upcoming events – 19 JUNE - 15 JULY 2025

📅 Start date	📅 End date	📍 Location (ACC/AD)	📄 Title	📂 Category	✅ Potential network impact
📅 22/06/2025	27/06/2025	EHAA EHAM	NATO Summit 2025	Event	
📅 23/06/2025	03/07/2025	LFBB LFRR EGGX	OCEANIS	Military event	Low impact
📅 23/06/2025	29/06/2025	LFEE	EXTEL 25-03	Military event	Low impact
📅 30/06/2025	04/07/2025	ED	Weapon Instructor Course (WIC25)	Military event	No impact
📅 30/06/2025	03/07/2025	LEZL LECS	United Nations International Conference on Financing for Development Category	Event	Low impact
📅 Q3/2025	Q3/2025	LECM GMMM	ATS Route Improvement	ENV implementation	No impact
📅 07/2025		EPWW	Lower airspace re-organisation	ENV implementation	
📅 Q3/2025	Q4/2025	LIME	Holding points reconfiguration - taxiways A and AB	Airport	
📅 Q3/2025	Q3/2029	EVRA	Passenger Terminal Expansion	Airport	No impact
📅 10/07/2025		GMMM	Free Route Airspace MORFRA- Casablanca FRA area, step 1a	Free route airspace	No impact
📅 12/07/2025	27/08/2025	EBBR	Renovation works runway 25L/07R	Airport	No impact
📅 12/07/2025	17/07/2025	EKCH	RWY 04R/22L Closed for maintenance	Airport	No impact
📅 14/07/2025	27/07/2025	LFBB	HARPOCRATE	Military event	Low impact
📅 15/07/2025	08/12/2025	LFPG	Closure of RWY 09R/27L	Airport	

# Major Projects

Planned project implementations for the season

Airspace reorganisation  
20/03/2025  
ATM system upgrade  
14/06/2025

Potential capacity impact

- ATM system upgrades/implementations
- Airspace reorganisations & FRA
- Training for ATM systems

New VCS  
11/2025-12/2025

Airspace reorganisation with LFSB APP  
Boundary modification with MUAC  
*completed*

ATM system upgrade  
*completed*

Training & live trials  
New ATM system  
09/2024-01/2026

Tech room modernization  
Q1 2023 - Q2 2026

4-Flight: final post-  
implementation transition  
*completed*

Point Merge  
06/2025-12/2027

New ATM system  
29/04/2025-16/05/2025

Move to new ACC  
*completed*

# Rolling Seasonal Plan

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8 Weeks  
Traffic outlook

6 Weeks  
Airport and ACC  
Capacity Plans  
(capacities and sector openings)

6 Weeks  
Capacity assessment

1-year rolling  
Events



# Overview of the process

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MONDAY

## Traffic Outlook

- 8-weeks outlook
- raw flight intentions and calculated demand per airline
- route assignment

## Data processing

- preparation of the input files for Strategic NM capacity assessment
- Events list update → Events preparation process
- sending requests to ANSPs

WEDNESDAY

## Strategic NM Capacity Assessment

- 6-weeks of ACCs data import
- 91 ACCs simulated
- NEST regulation and delay simulation
- Use of a dashboard with historical data, post-ops analysis, "Assessment tips"
- Assessment of each regulation in NEST

FRIDAY

## Publication

TUESDAY

## Traffic Outlook

- ACC traffic demand
- GO/NO GO
- Final Traffic Outlook NEST file

THURSDAY

## Input collection

- Airports plan for the outlook period
- Traffic expectations at network, ACC and airport level for the outlook period, in NEST and Excel format
- NM Assessment of ACC plans
- NM Assessment of airport plans

**Rolling NOP**

# Seasonal Rolling NOP Traffic Demand ECAC Area

ECAC Area



# ACC CAPACITY PLANS

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Increased  
network  
awareness

Up-to-date /  
correct  
assumptions

Better planning

Timely  
solutions

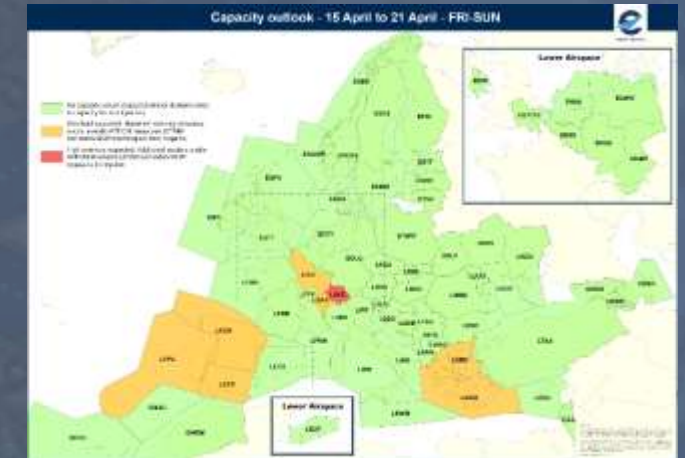
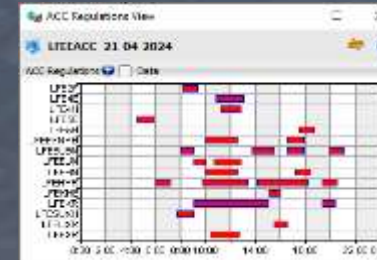
Improved  
impact  
assessment

Check entered data

GCCCCACC		All times UTC		Nb sectors (old)	Nb sectors (new)
Period 15-04 to 26-05		Time Start	Time End		
Sector openings validity	<input checked="" type="checkbox"/> 15-04 to 21-04	00:00	00:44	3	3
	<input checked="" type="checkbox"/> 22-04 to 28-04	01:00	22:59	8	8
	<input checked="" type="checkbox"/> 29-04 to 05-05	01:00	23:59	5	5
	<input checked="" type="checkbox"/> 06-05 to 12-05				
	<input checked="" type="checkbox"/> 13-05 to 19-05				
Days	<input checked="" type="checkbox"/> Monday				
	<input checked="" type="checkbox"/> Tuesday				
	<input checked="" type="checkbox"/> Wednesday				
	<input checked="" type="checkbox"/> Thursday				
	<input checked="" type="checkbox"/> Friday				
	<input type="checkbox"/> Saturday				
	<input type="checkbox"/> Sunday				

Add a spreadsheet

Please add as many spreadsheets as necessary



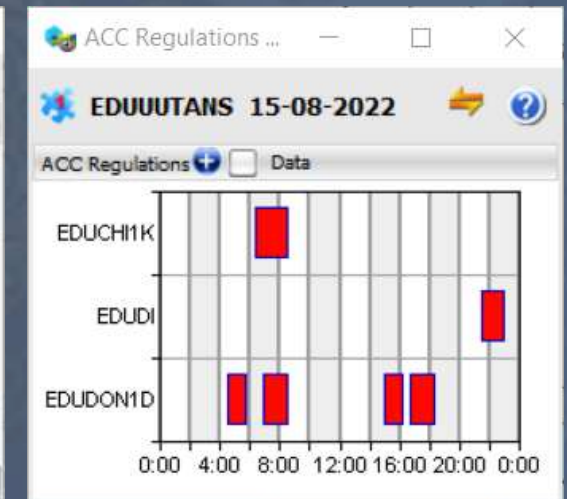
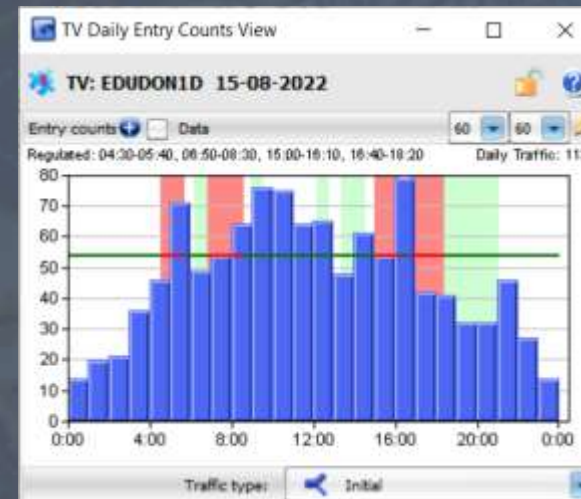
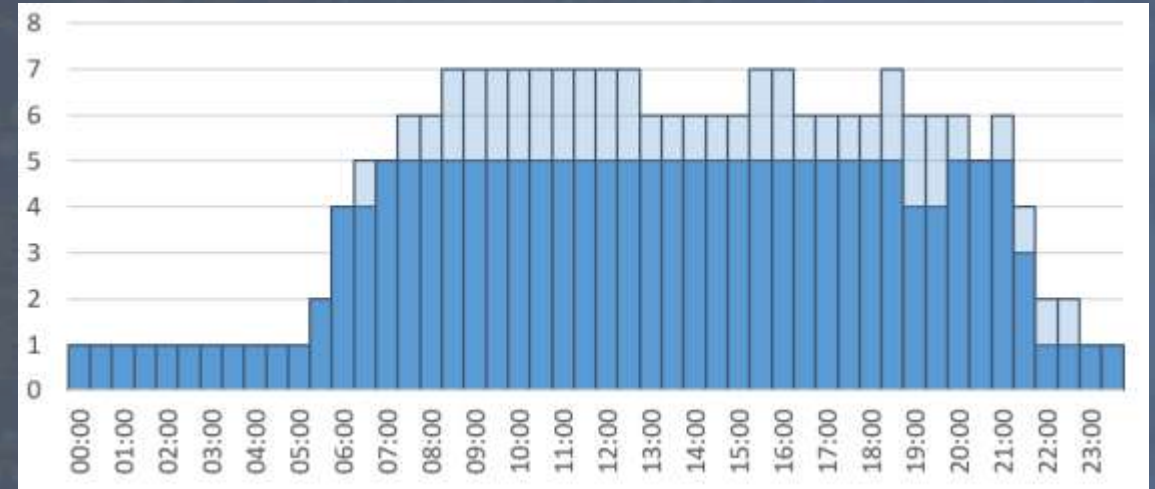
22/04/2024	07/05/2024	LFFF	0-Flight - Training
22/04/2024	03/05/2024	LE	MILS
22/04/2024	26/04/2024	LHBP	Rwy 13R/31L Closure due to rubber removal
24/04/2024	34/04/2024	LFFF	0-Flight 2nd Unit
24/04/2024	18/05/2024	ESNM ESOS	SPRING STAKE 24
25/04/2024	23/04/2024	LFBH	MIL
26/04/2024	27/04/2024	EPGD	Runway 11/29 closed
29/04/2024	05/05/2024	LSAZ	New Post Handling (RHH) Zürich - FDI System Upgrade (Police v2.0)



# CAPACITY ASSESSMENT

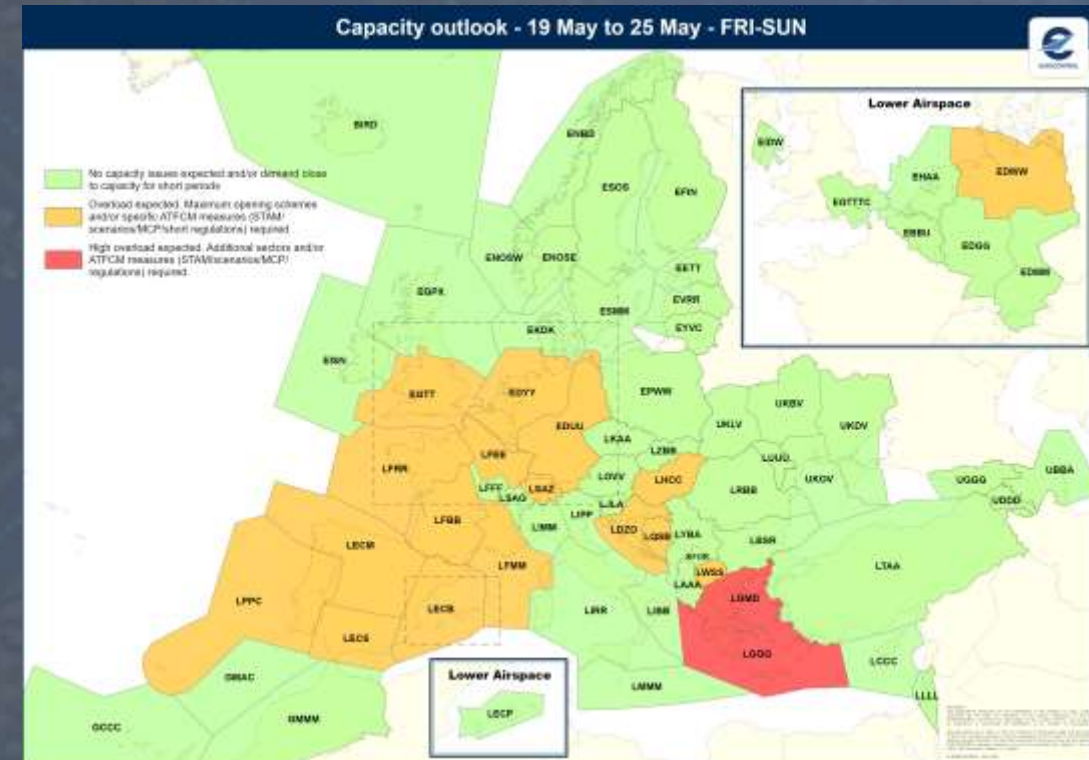
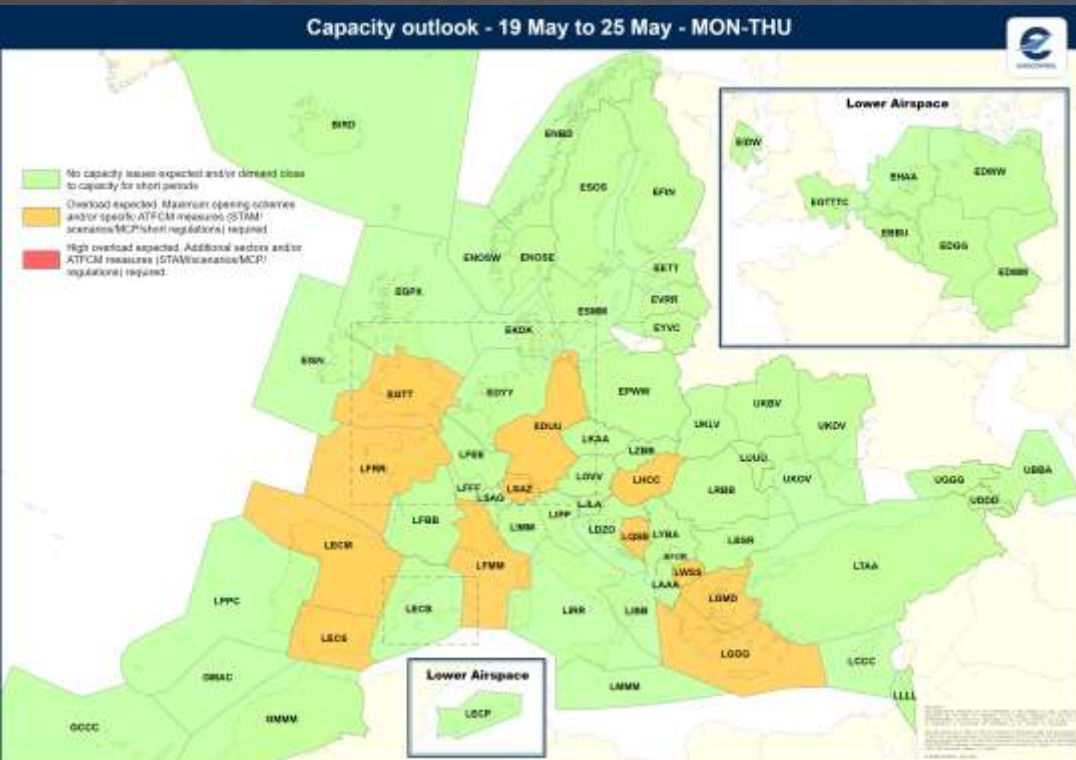
24

- Based on traffic outlook and capacity inputs from ANSPs
- Simulation in NEST for 88 ACCs/sector groups
- Not a delay forecast! Simulation results are reviewed, “fake” regulations discarded, past performance taken into account



# CAPACITY ASSESSMENT OUTCOME

25



**Green:** No capacity issues expected and/or demand close to capacity for short periods

**Orange:** Overload expected. Maximum opening schemes and/or specific ATFCM measures (STAM/scenarios/MCP/short regulations) required

**Red:** High overload expected. Additional sectors and/or ATFCM measures (STAM/scenarios/MCP/regulations) required

# Actions after assessment

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For ACCs in  
**GREEN**

- No specific action

For ACCs in  
**ORANGE and  
RED**

- Actions at Monday's ad-hoc Network Director of Operations conferences
- Check Sector openings vs. NOP2025/2026-2029 commitment
- ANSPs to try to mitigate the impact



# ASSESSMENT SHARED WITH NM PRETACTICAL AND TACTICAL TEAMS

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Planned sector openings



Planned/ongoing sector capacity reductions



Detailed capacity assessment for the next 6 weeks



Traffic outlook



Shared at the Friday OPS Briefing

**Thank you.**