

Supporting  
European  
Aviation



# Operational coordination during COVID-19 EUROCONTROL Network Manager's experience

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NETWORK  
MANAGER



# Lessons learnt from 2010 ash crisis



## May 2010: European Aviation Crisis Coordination Cell



# Network Manager: 24/7 contribution to coordinating & managing response to crises affecting aviation in Europe



**Bárðarbunga**  
Alert status  
NM mechanisms  
Readiness

**Brussels attacks**  
Security measures  
Info exchange

**MH17**  
Airspace status:  
NM ultimate source of info & support to AOs

**Ebola**  
Supporting role to coordinated response

**Conflict zones**  
Teleconferences  
Alternate routes  
Mitigated impact

**Current situation**

Planned flights	Airborne	Landed
23,382	4,034	2,021

Flights delayed more than 30 mins	Total amount of delays today (mins)
79	11,615

**Today's top 5 accumulated delays (mins)**

NIH+KOH+LXH+LNH FL335+	2,226
APT: LONDON GATWICK	1,402
APT: CHANIA / IOANNIS DASKALOGI	948
AMSTERDAM FIR CROSS BORDER A	825
BORDEAUX R4	821

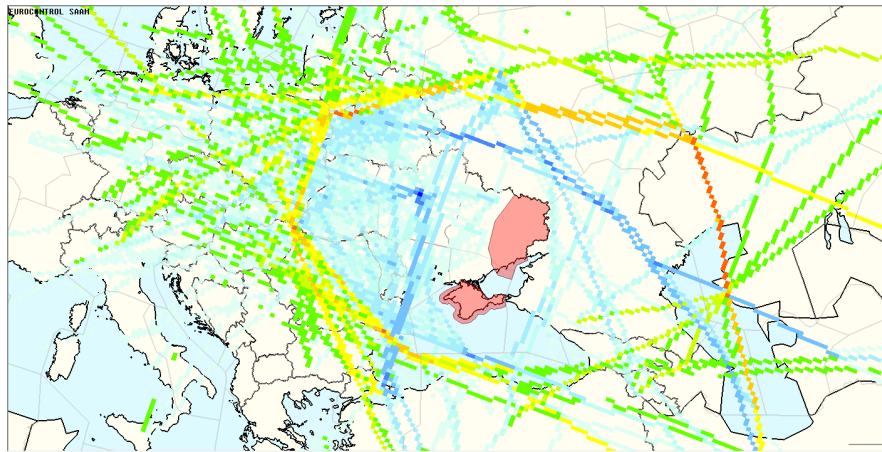
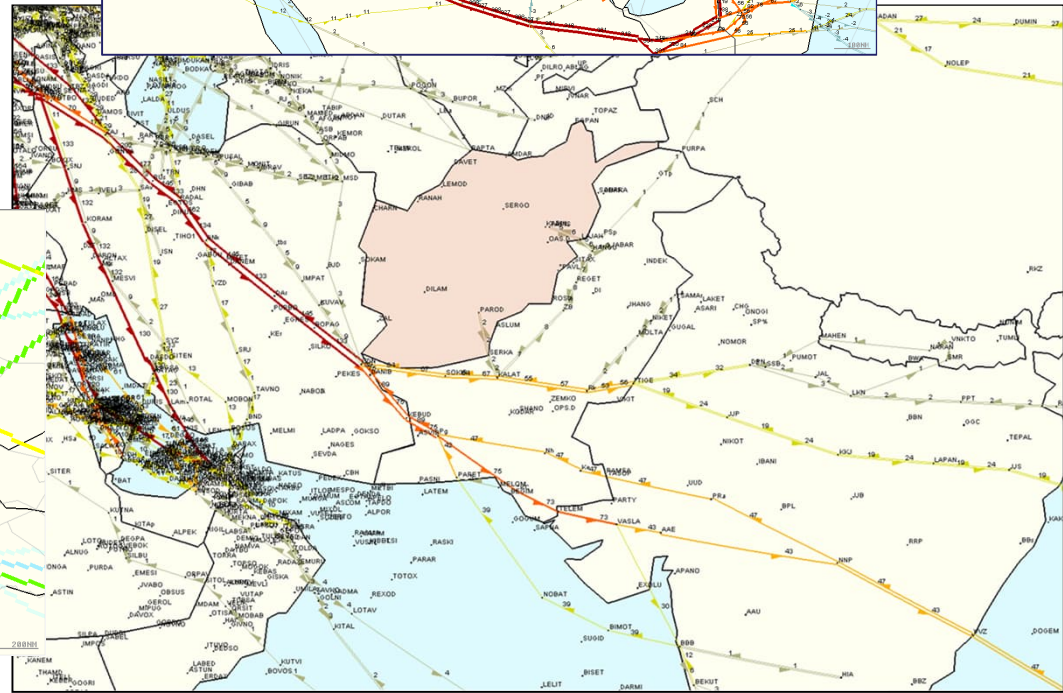
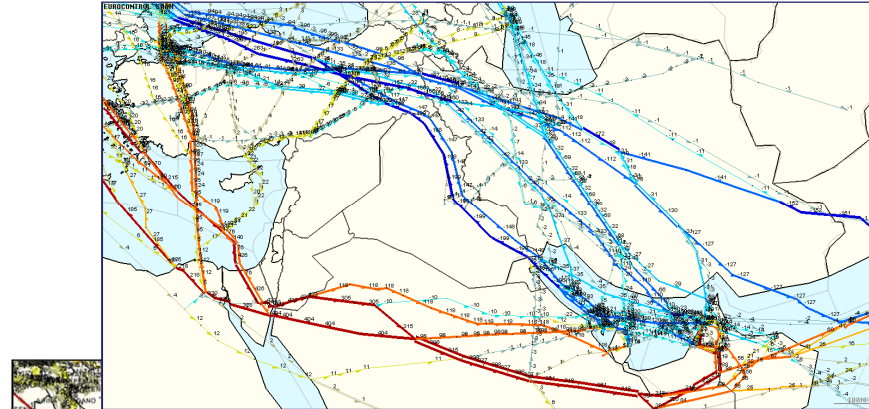
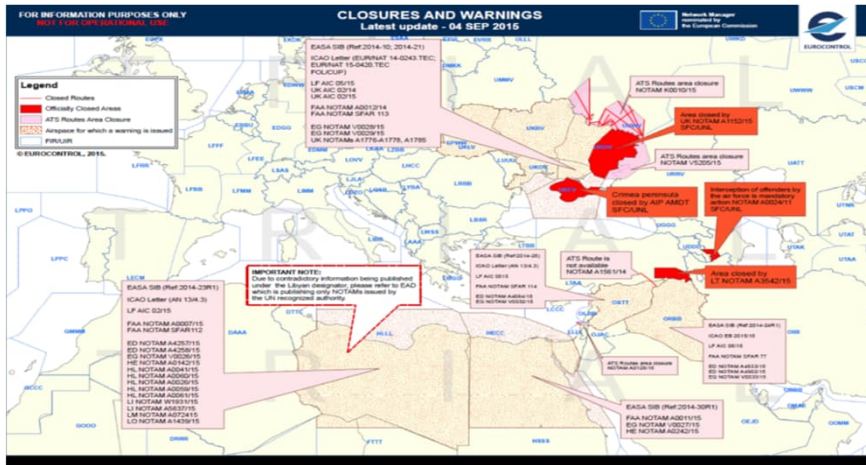
  

**Legend (delay in mins/flight)**

< 15	> 15	> 30	> 45
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**Historical situation Friday 5th September: Low visibility in London Gatwick, and high demand for the Greek Islands. No significant enroute problems. Bardarbunga**

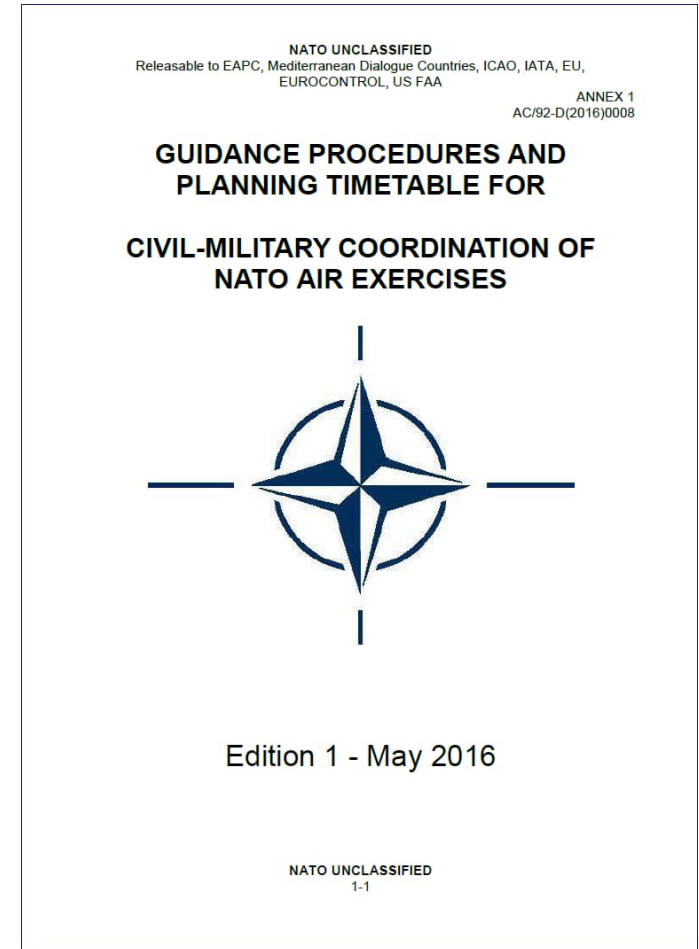
# Constant Support to Crisis Scenarios and Planning



# How NM sees the civil military coordination in crisis and pre-crisis situations?



1. EUROCONTROL/NM has a [direct link with the national military authorities and/or AMCs](#).
2. EUROCONTROL/NM under the umbrella of the MoU with NATO has developed a NATO [Guidance Procedures](#) AC/92-D(2016)0008:
  - The document laid down the guiding principles for NATO air exercises planning, execution and post-exercise review
  - It contains requirements for the exercises airspace definition, inter-agencies coordination and publication, likewise requirements for aircraft equipage. Provision of the Command and Control elements, key civil and military personnel concerned and coordination channels between civil and military



# Planning during times of crisis



## *EACCC support*

- EACCC State Focal Points contributed weekly to the 2020 Recovery Plan

## *Network Recovery Plan*

- Expected daily traffic demand initially for 4-week period
- Produced weekly since 30<sup>th</sup> April 2020

## *NOTAMs*

- Daily NOTAM summary table

## *European NOP Rolling Seasonal Plan*

- Covering 6-8 week period
- Started on 23<sup>rd</sup> Oct 2020

## *NDOP Ad-hoc Coordination Cell*

- Operational stakeholder discussion every Monday

## *Airport Function in NMOC*

- Airport Corner – COVID-19 page
- Strong cooperation with ACI
- Data collection used in the Recovery Plan

## *RAD*

- NM coordinated the lifting RAD and other restrictions

## *Industry engagement*

- Regular bilateral recovery briefings and talks with operational stakeholders

# Status of Service



## NOTAMs



### Production of NOTAM summary table on daily basis

- From March 2020 until April 2023
- More than 100 pages



### NM measures to deal with NOTAMs

#### COVID 19 RELATED-NOTAMS WITH NETWORK IMPACT VALID ON 03 JULY 2021 – 0700 UTC

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Only NOTAMs explicitly including COVID-19 related information are summarised. All operational stakeholders are requested to consult the most up-to-date AIS publications.

**Text highlighted in green indicates information with European ATM network impact**

**Changes from previous edition highlighted in yellow**

#### HIGH LEVEL SUMMARY OF CHANGES FOR 03/07/2021

- **Denmark/Greenland – all NOTAMs with flight requirements updated – until 01 September 2021**
- **France – pax requirements/restrictions updated with the addition of Democratic Republic of Congo, Namibia, Oman, Russia, Seychelles, Surinam and Zambia on the red list of countries – until 31 August 2021**
- **Germany – pax requirements/restrictions updated with the addition of Armenia, Azerbaijan, Bosnia Herzegovina, Brunei, Canada, Jordan, Kosovo, Moldova, Montenegro, Qatar on the list of accepted countries – until 30 September 2021**
- **Greece – pax requirements/restrictions updated with the addition of Armenia, Azerbaijan and Jordan on the list of accepted countries – until 08 July 2021**
- **Greece – pax requirements for travelling to the Greek islands updated with the removal of the self declaration of past COVID sickness – until 12 July 2021**
- **Netherlands – general pax/flights sanitary requirements prolonged with no changes – until 21 August 2021**
- **Slovenia – general exemptions for transport personnel prolonged with no changes – until 23 July 2021**
- **Slovenia – pax requirements and restrictions updated with respect to pax arriving from dark red list countries and exemptions for pax arriving from orange or red list countries – until 23 July 2021**
- **Spain – flight restrictions for Brazil and South Africa prolonged with no changes – until 19 July 2021**
- **Spain – third country national requirements and restrictions updated with some changes for the UK citizens – until 31 July 2021**
- **Spain – general aircraft operators requirements updated on the basis of the new resolution of AESA - permanent**
- **Several airports NOTAM changes**

# Status of Service



## *Airspace Restrictions (RAD) suspension*

- **1200 RAD restrictions** have been suspended or cancelled to ensure the best flights trajectories
  - eNM/S2020 cancellation
  - National/cross-border RAD/FL restrictions suspension until November 2020 and then until April 2021
- Other initiatives taken to further reduce airspace restrictions
  - Could lead to the reduction of approximately 50% of the restrictions
  - Remaining ones still required to ensure network connectivity

# Status of Service



## Business Continuity Plans



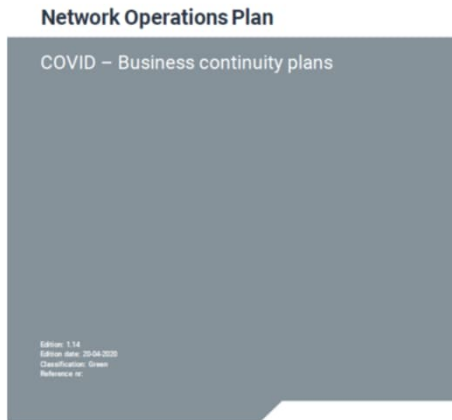
**Consolidated network business continuity coordinated by NM with ANSPs and airports master document.**



**14(fourteen) versions published**



**All ACCs, Airlines and most airports have communicated their status**

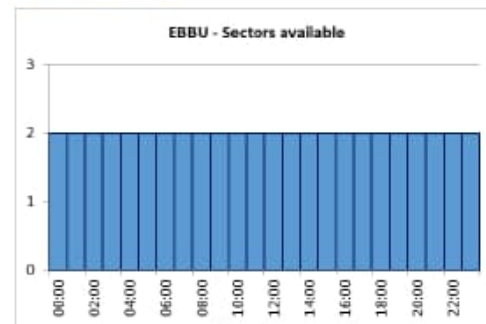


# Status of Service



## *Business Continuity Plans*

### Sector openings



Until 19 April 2020 23:59 UTC:

ACC sector configuration CE1W1 will be used 24/7 (i.e. one sector EAST + one sector WEST).

Max. Configuration APP: 1 DEP + 1 ARR

Max. Configuration EBBR TWR: 1 AIR + 1 GND

### Capacity

ACC: No reduction in sector capacities

EBBR: Single RWY operations – Max capacity DEP 40 – ARR 34 – GLOBAL 40

### Availability of support to operations staff

- Set-up of fixed team in order to reduce contamination to single team
- New procedures drafted to reduce staff to the operational minimum
- Abolishment of overlapping shifts to avoid cross contaminations
- Downstaffing of all operational units
- Telework set up to the maximum extent and rollout of necessary tools
- Priority setting in relevant projects
- Strict hygiene measures applied
- Social Distancing applied

### NM Assessment

No regulations expected due to COVID-19.

# Status of Service



## COVID Recovery Plan



**Consolidated network view to enable smooth operations**

**Coordinated by NM with ANSPs and airports**



**24 editions published**



**All ACCs, airlines and most airports communicate their status**



# NOP 2020 Recovery Plan Scope

## Partnering for the Recovery Phase



Safe and smooth  
recovery phase for all  
operational  
stakeholders

One single  
consolidated and  
consistent source of  
information for the  
European ATM Network

Robust coordination  
process

Effective planning,  
execution, assessment  
and reporting

Ensuring "close to  
zero" ATFM delay

Facilitating optimum  
trajectories



# NOP 2020 Recovery Plan Weekly Coordination Process



Action	Date	Who
ANSPs to send their capacity plan to NM for the outlook period	By Friday COB one week before publication	ANSPs
Traffic expectations at network and ACC level for the outlook period, in NEST and Excel format	By Wednesday COB	NM
NM Assessment of ACC plans	Monday/Thursday	NM
Weekly NOP publication	By Friday COB	NM

## *Weekly UFN*

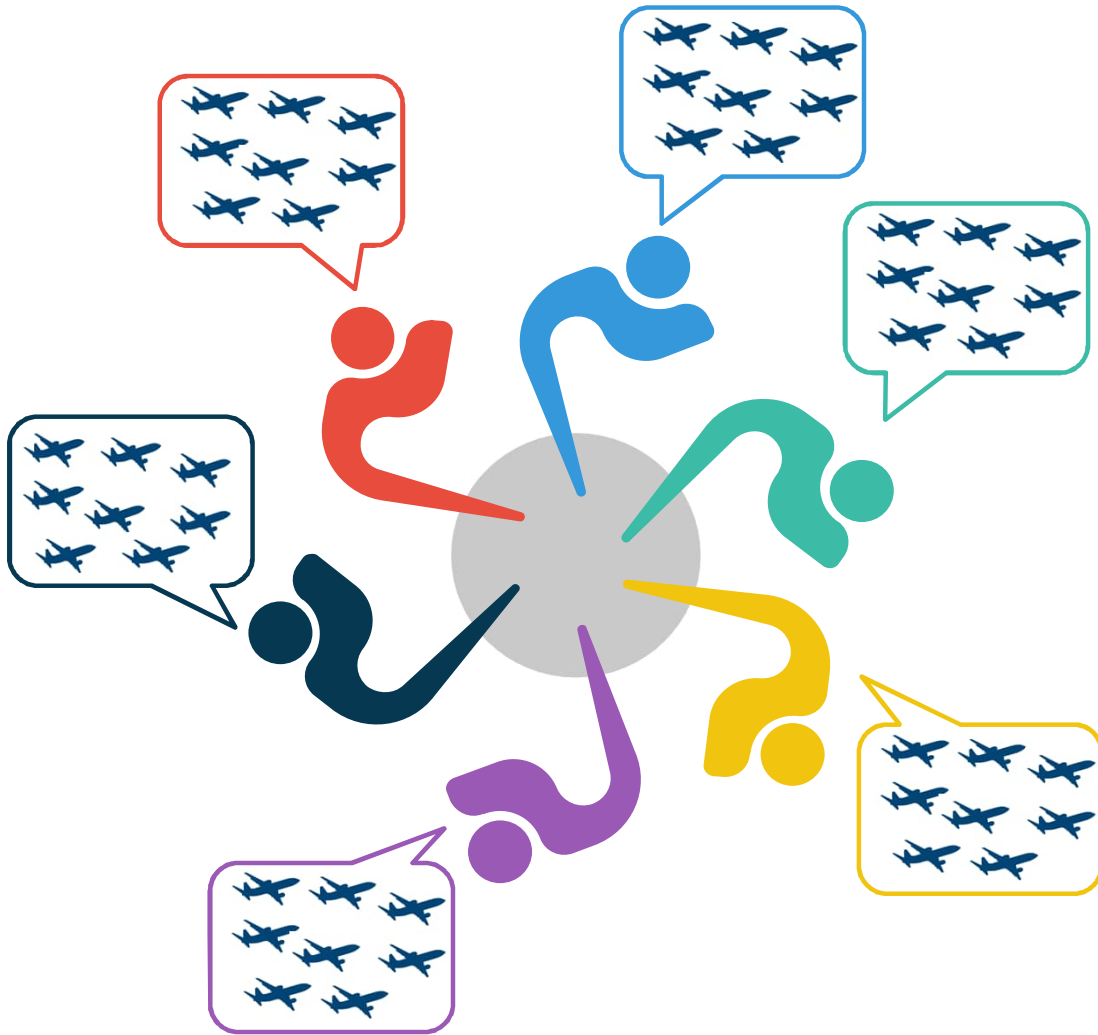
# NOP 2020 Recovery Plan Content

## Traffic Demand



- Based on weekly updates of airline schedules, airport slots, any other information provided by AOs or other sources
  - Forthcoming information from AOs and airports
  - Organised individually with airlines and airspace users associations
  
- Traffic demand calculated per ACC and for major airports and Origin/Destination Zones and published in the rolling NOP 2020 Recovery Plan for a 6 weeks rolling period
  - Observations on anticipated evolutions per major traffic flows
  
- Confidentiality and data depersonalisation ensured

# Traffic Outlook



## Weekly

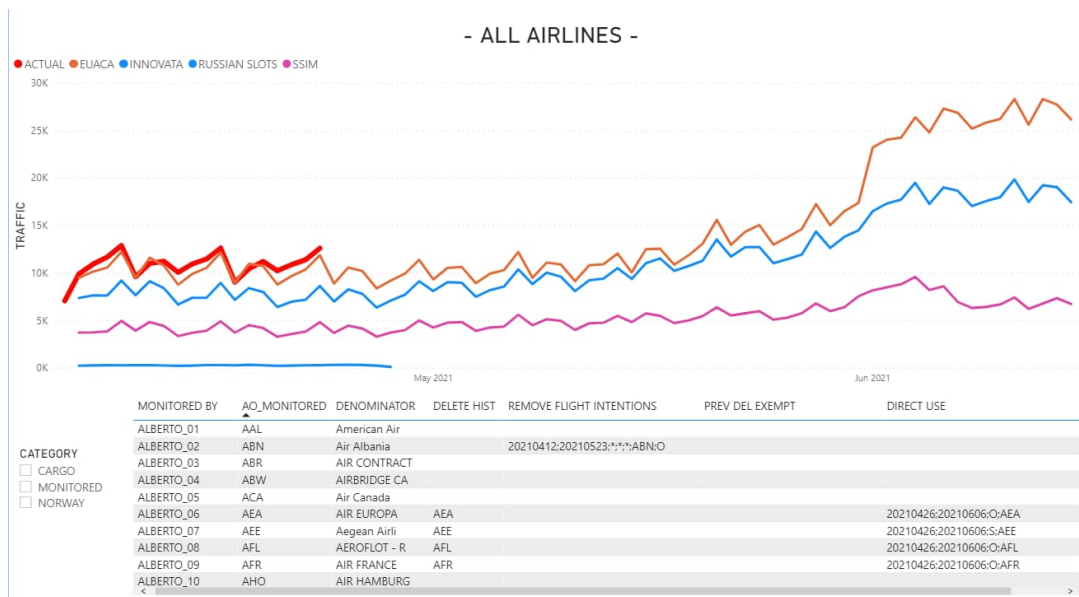
- 360 airline schedules
- >130 airlines closely monitored.



## Continuous

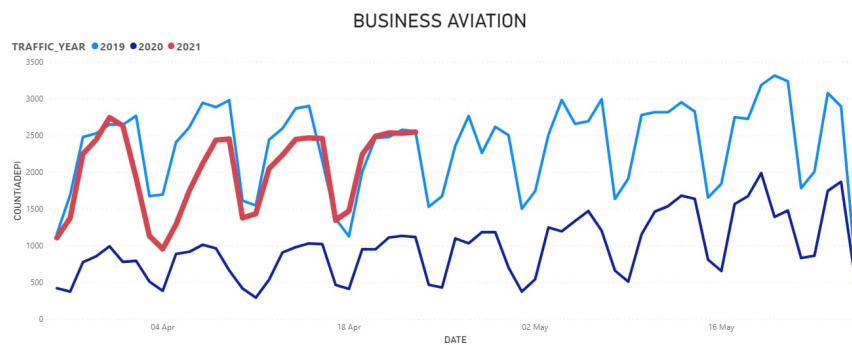
- Data collection and communication with the airlines
- Improvement of the algorithm and process
- Documentation and planning
- Keeping a bulletin of news from the industry

# Monday am



## Initial hypothesis:

- Analysis of the raw flight intentions for the >130 monitored airlines
- Initial input for the forecast algorithm



## Initial hypothesis:

- Check business aviation previous weeks
- Check Norway helicopters previous weeks
- Choice of reference week

# Monday pm



## Reviewed hypothesis

- Analysis of the calculated traffic for the >130 monitored airlines
- Reviewed input for the forecast algorithm

## Next step:

- Launch forecast generation with **route assignment**

Monday pm

## Route Assignment



Last 6 months scanned for the most recent occurrence of a route to build a **route catalogue**



**~92%**

Flight intention **in** the route catalogue  
Route matched from route catalogue



**~8%**

Flight intention **not in** the route catalogue  
DDR2 shortest route assignment

# Tuesday



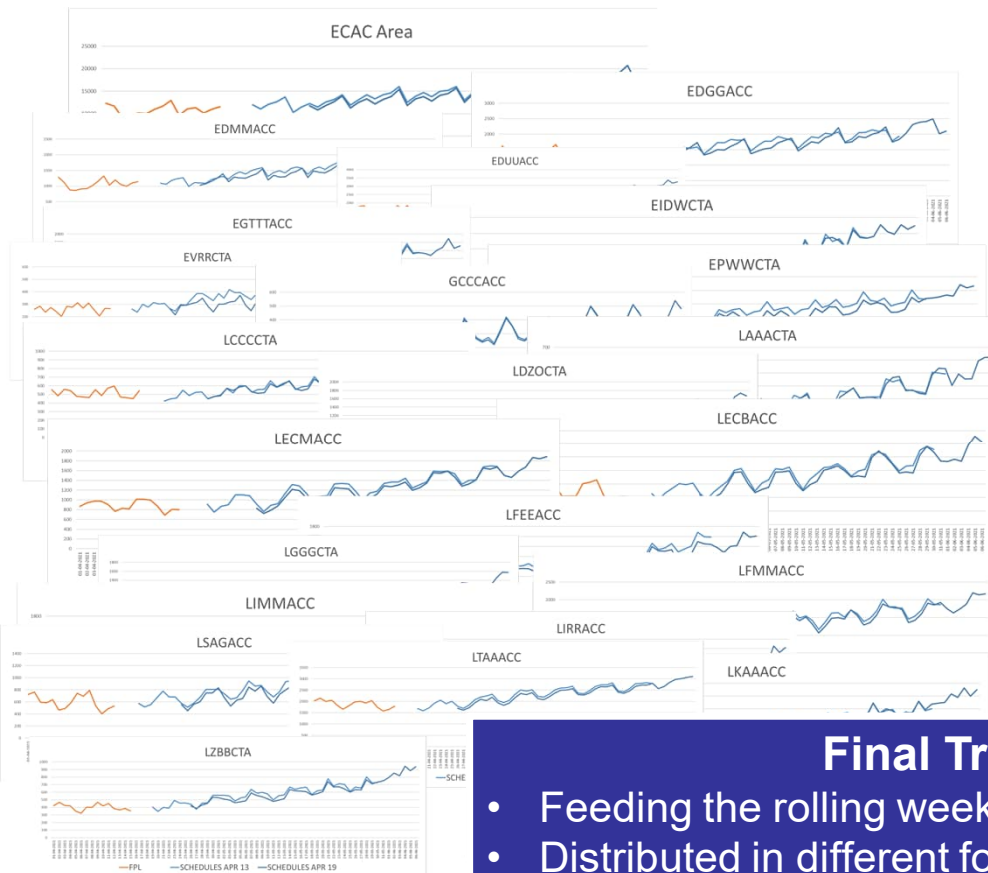
## Final traffic outlook

ACC traffic demand checked for

- Consistency with local airline behaviour
- Hypotheses assumed
- General trends
- Information collected and recent news

➔ GO/NO GO

Fine tunings and an additional run

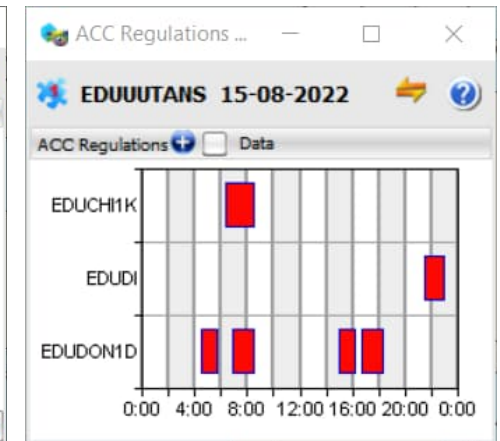
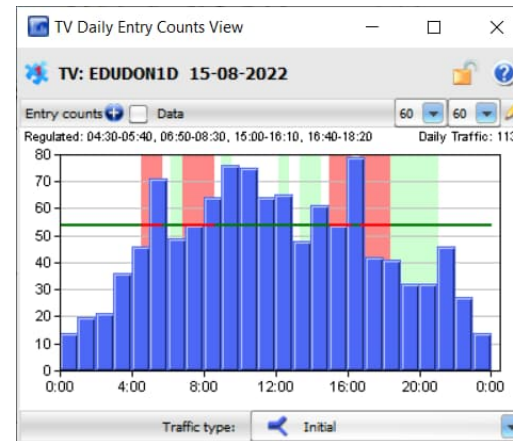
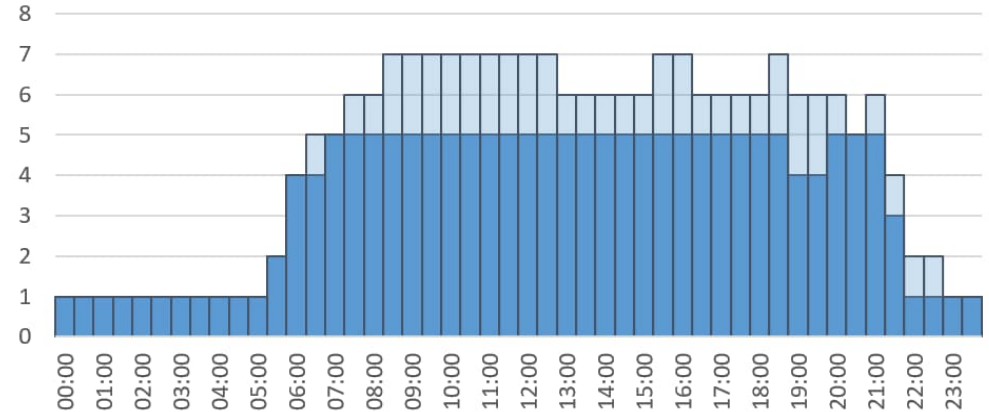


### Final Traffic Outlook

- Feeding the rolling weekly activities
- Distributed in different formats (e.g. NEST file)
- Direct operations planning use (support to rostering tools)

# Capacity assessment

- Based on traffic outlook and capacity inputs from ANSPs
- Simulation in NEST for 90 ACCs
- Not a delay forecast! Simulation results reviewed in the light of Flow Management Procedures
- Aim to anticipate capacity shortfalls and to plan the appropriate mitigation actions



NEST: EUROCONTROL Network Strategic Tool

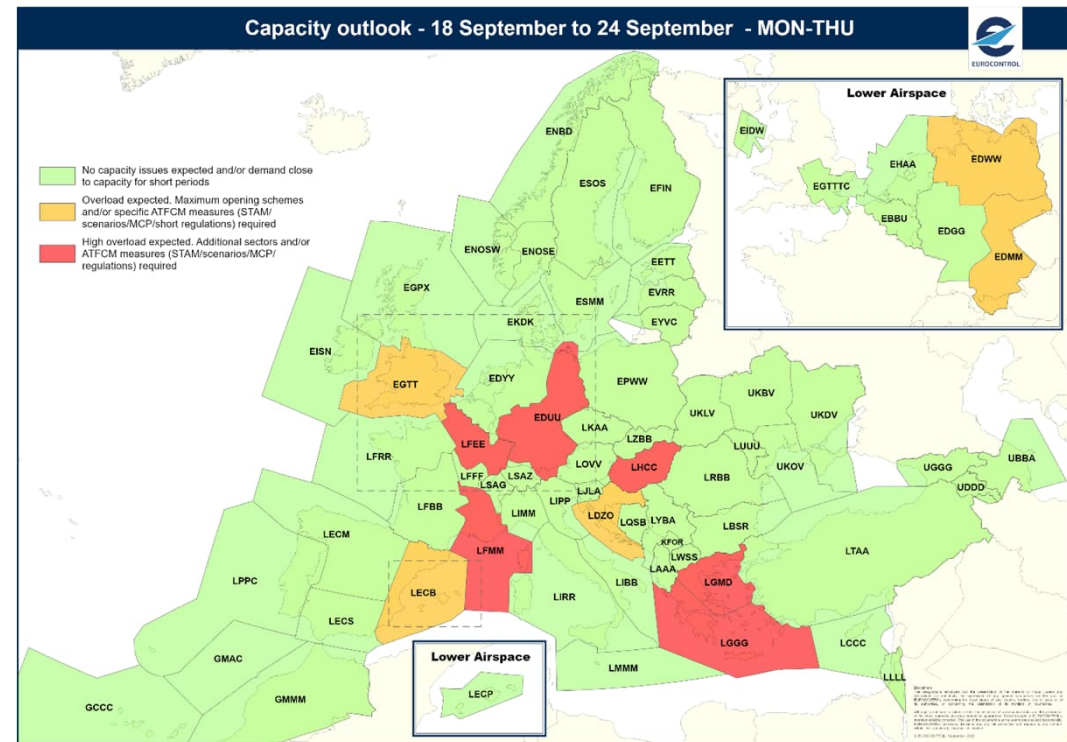
# Capacity assessment - results



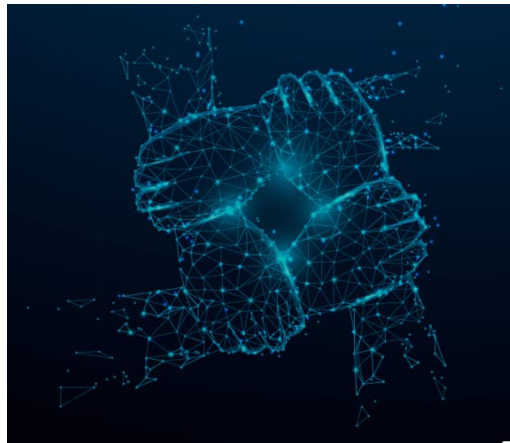
**Green:** No capacity issues expected and/or demand close to capacity for short periods

**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



# From Recovery Plan to Weekly Rolling NOP Since October 2020



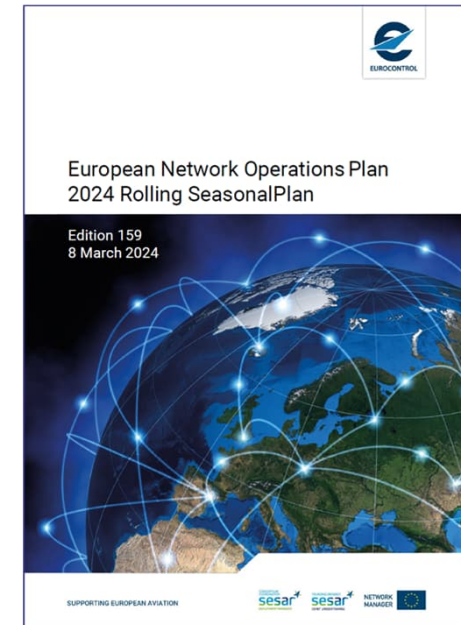
8-weeks traffic & capacity outlook  
Weekly updates



Minimise delay



Greener trajectories



**159 editions published**

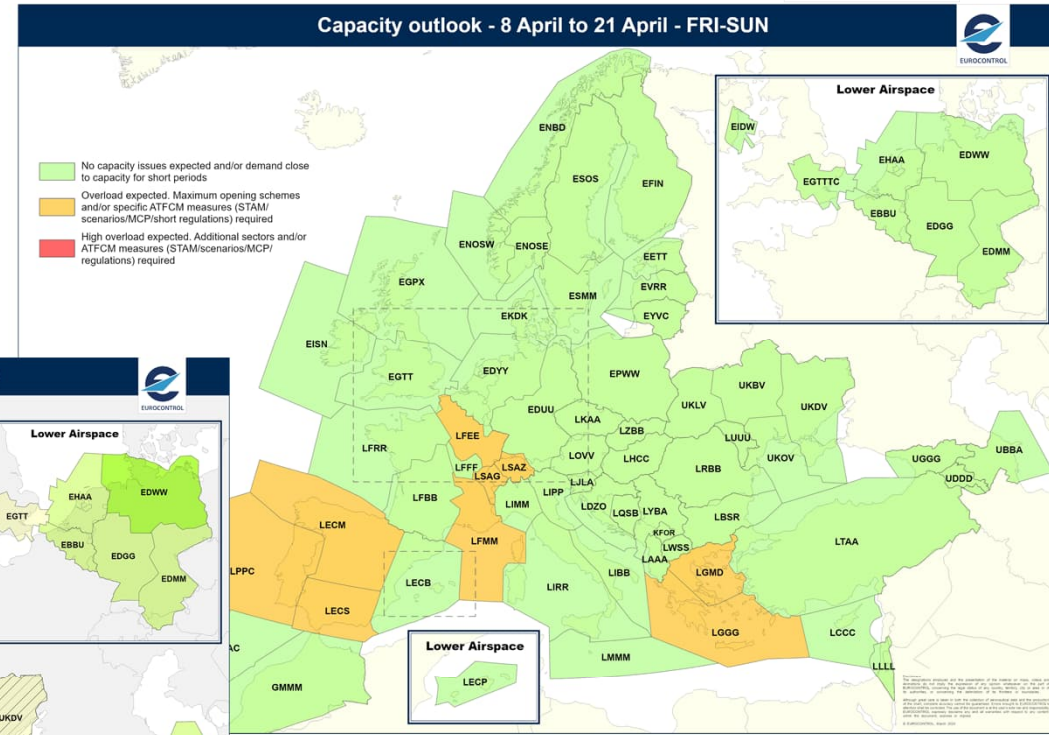
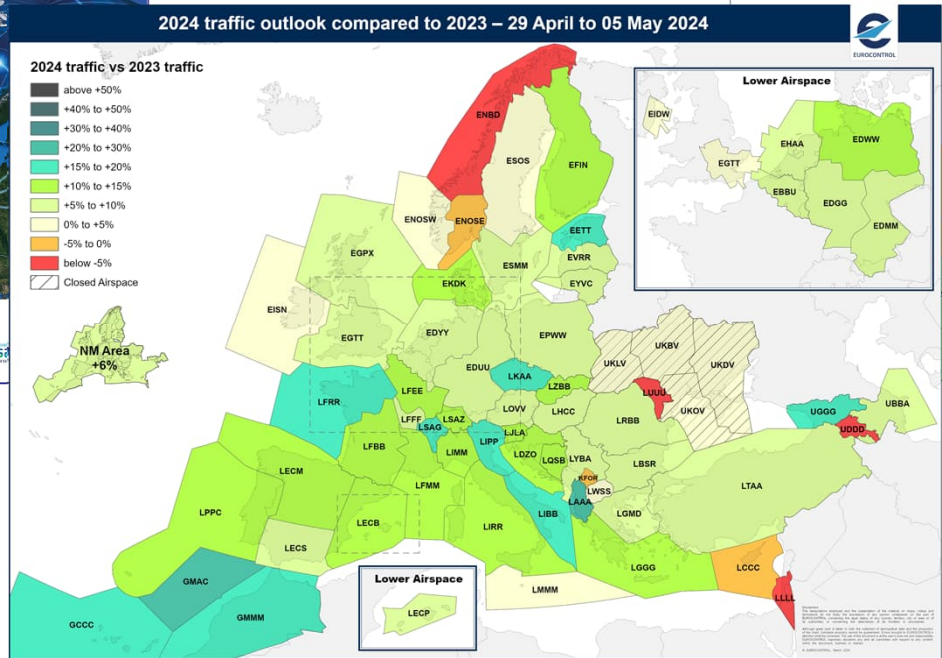
# Traffic and Capacity outlook in the Rolling Seasonal NOP



**European Network Operations Plan  
2024 Rolling Seasonal Plan**

Edition 159  
8 March 2024

SUPPORTING EUROPEAN AVIATION



# Main Take Aways



Safe Operations



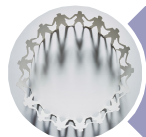
Resilience



Scalability



Network stability



All together