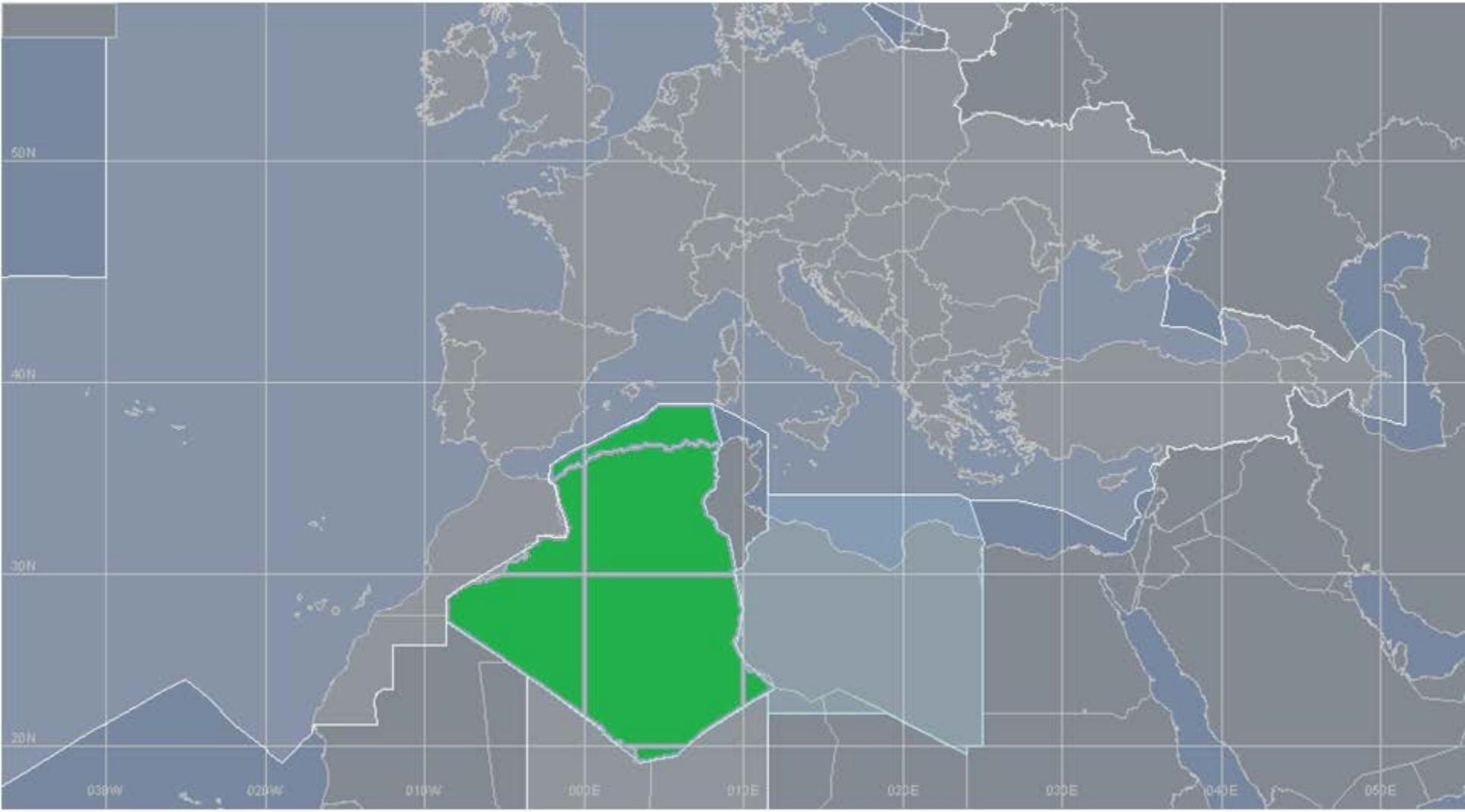




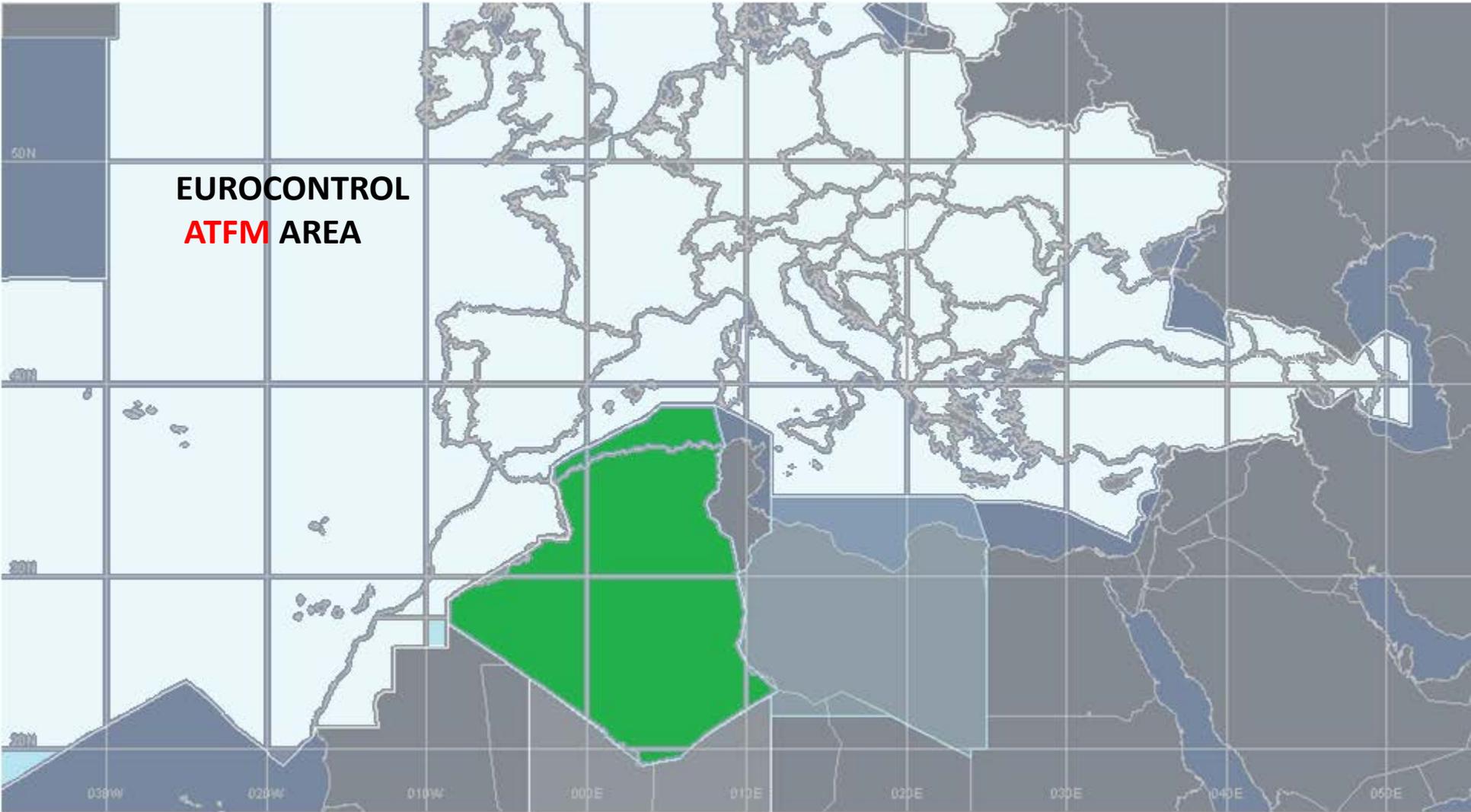
E.N.N.A

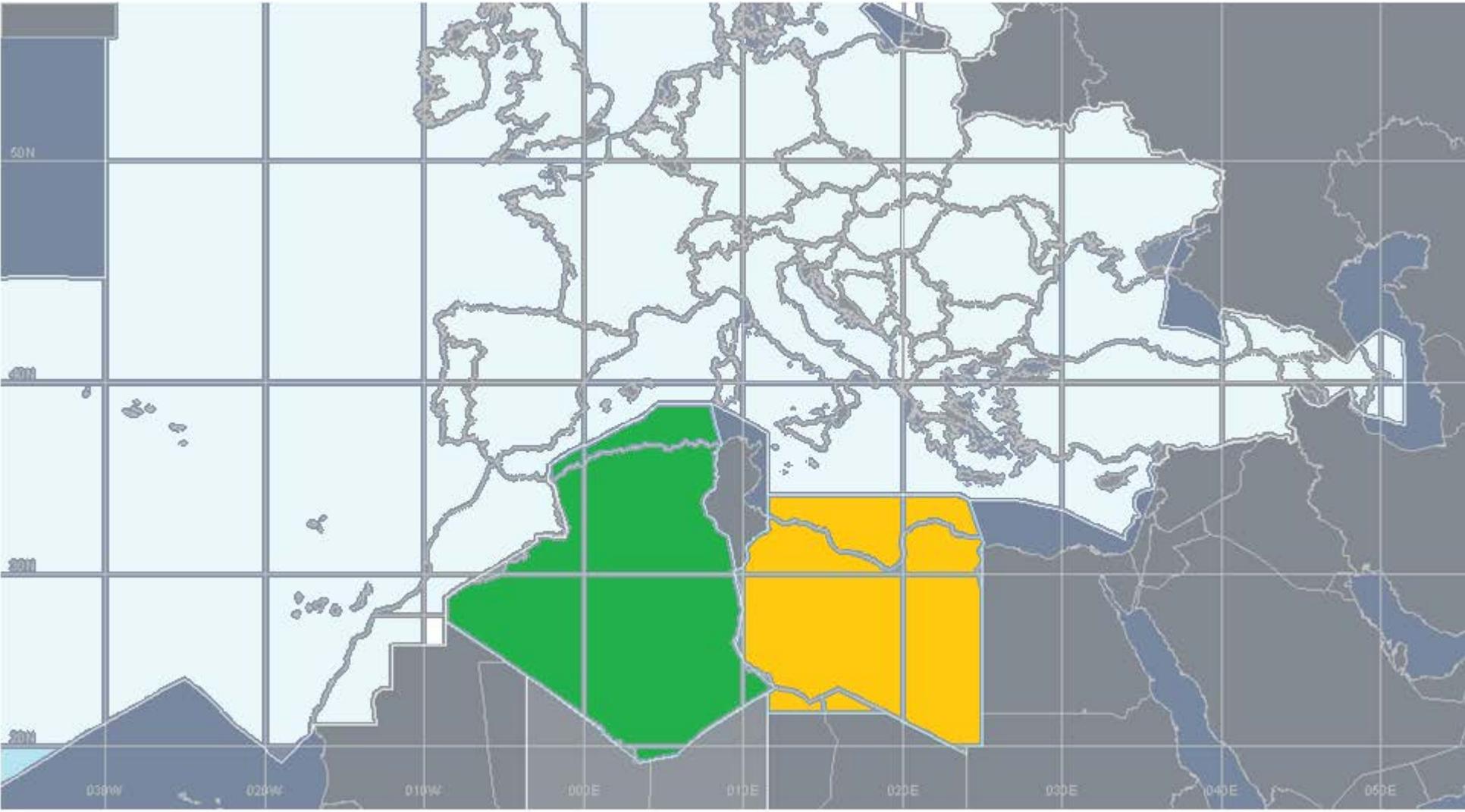
Using **ATFM**
In Crisis Management

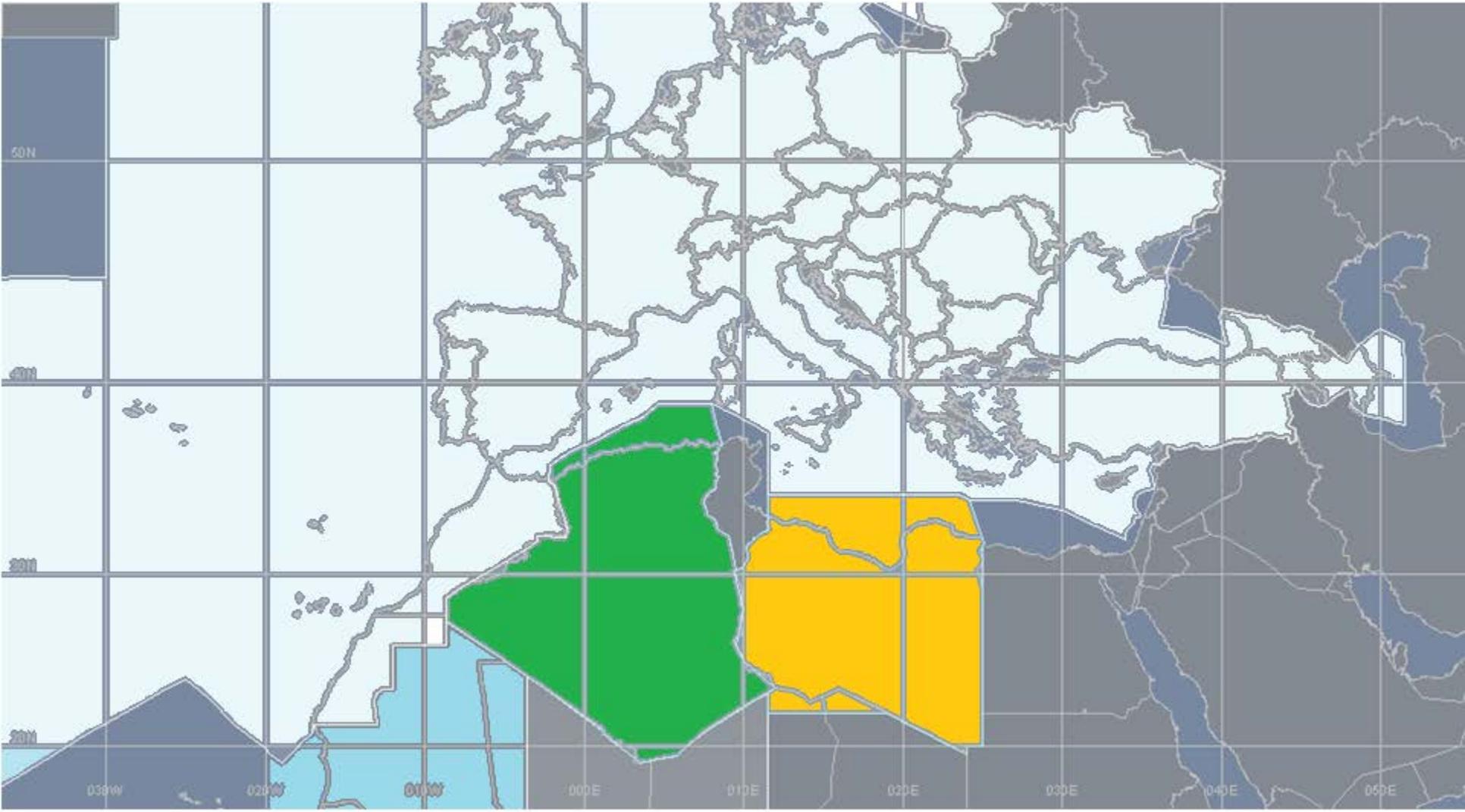
- ✓ Algiers FIR
- ✓ Niamey Contingency Plan
- ✓ Impssibility for ATCs to Manage the constraints
- ✓ Using ATFM tools and techniques for efficient crisis management

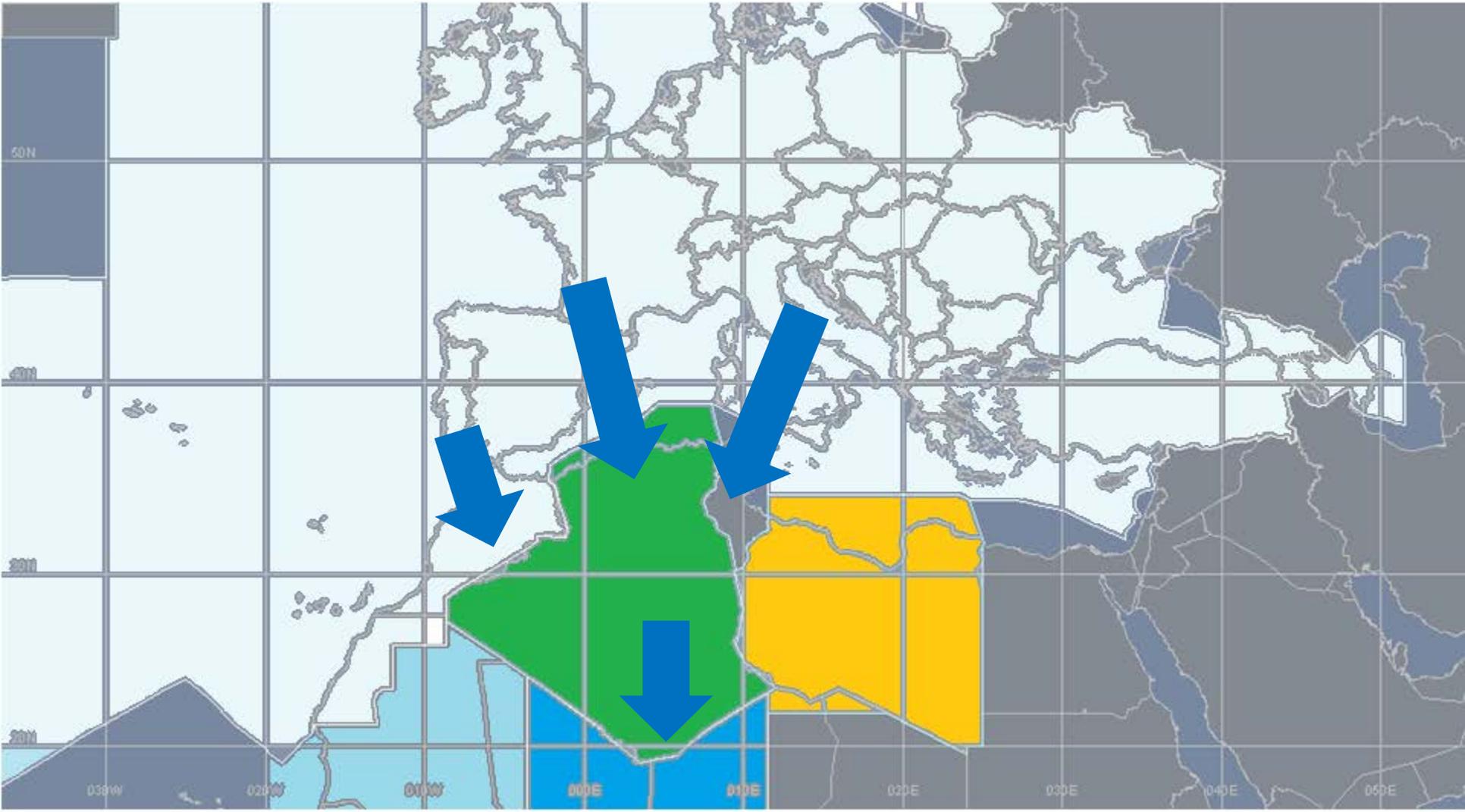


EUROCONTROL
ATFM AREA

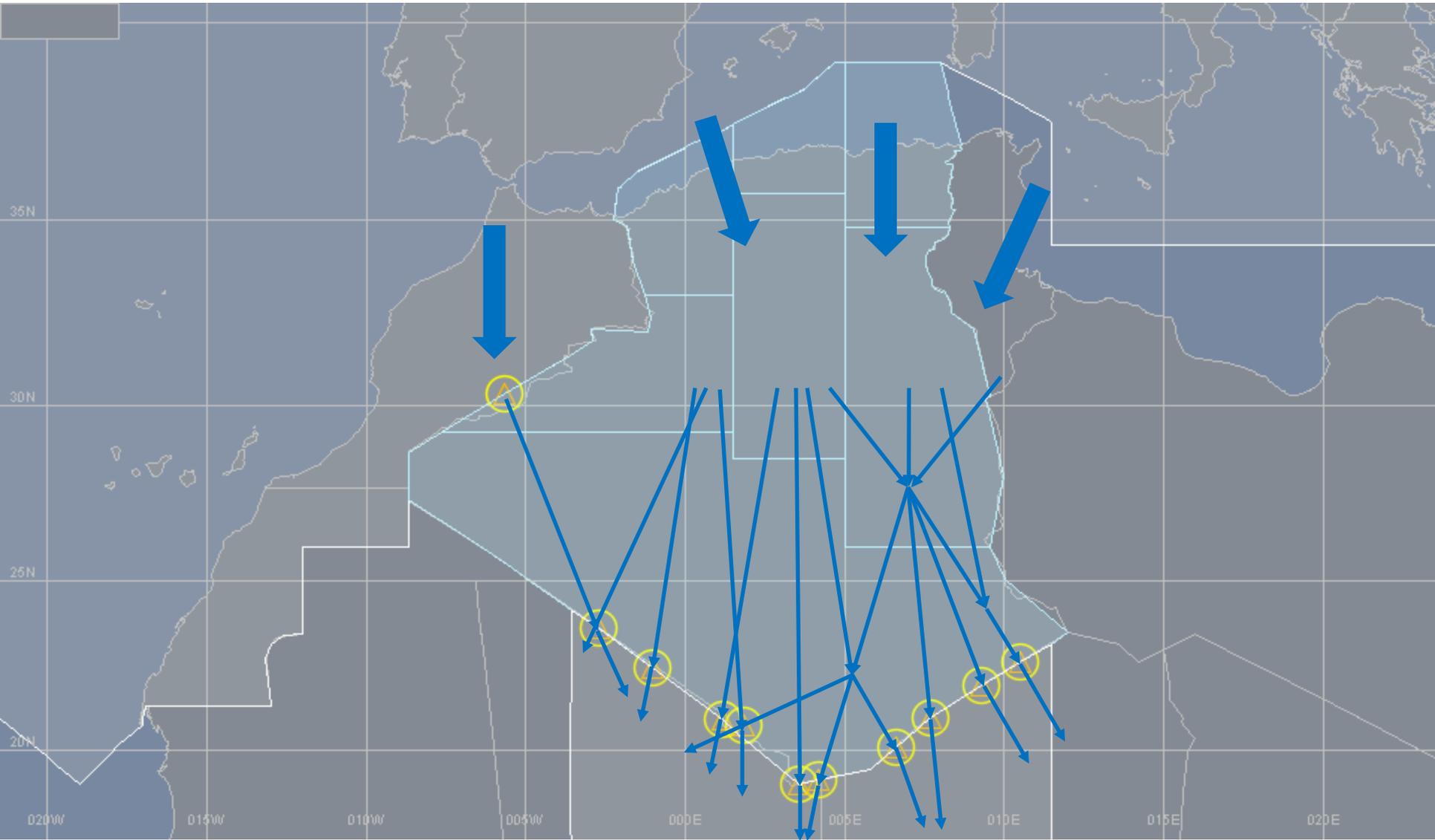




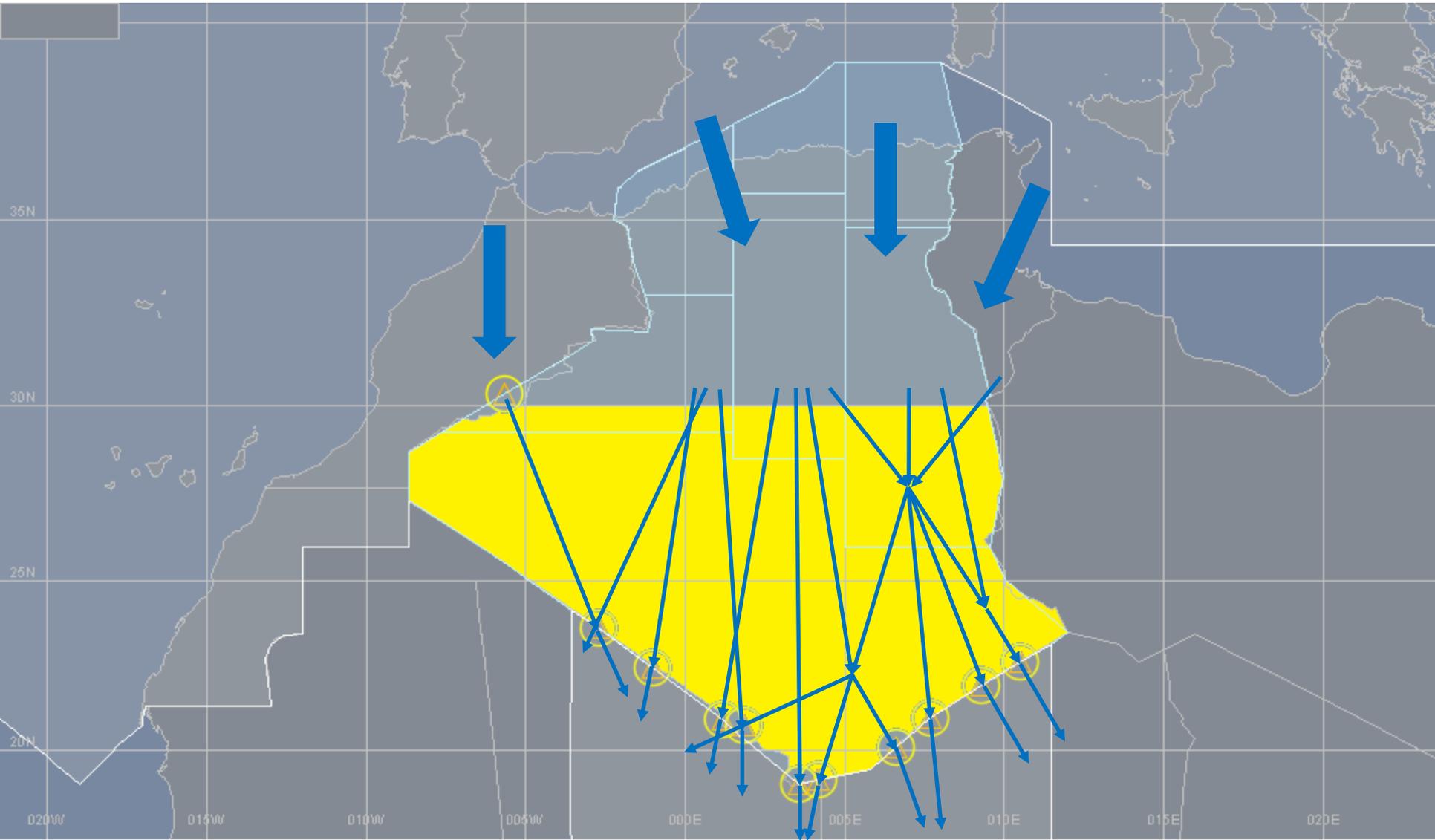




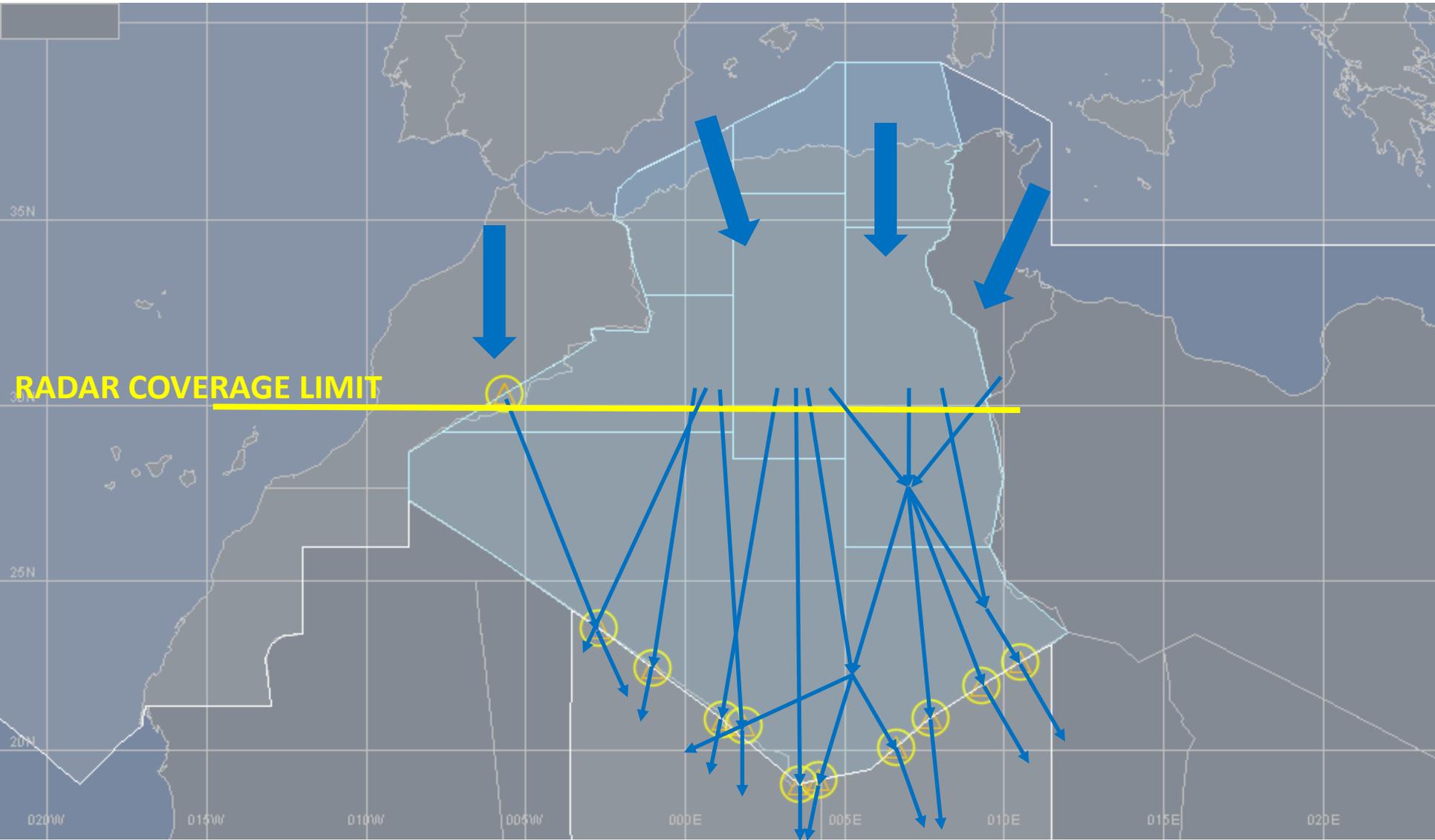
Routes Network between DAAA and DRRR



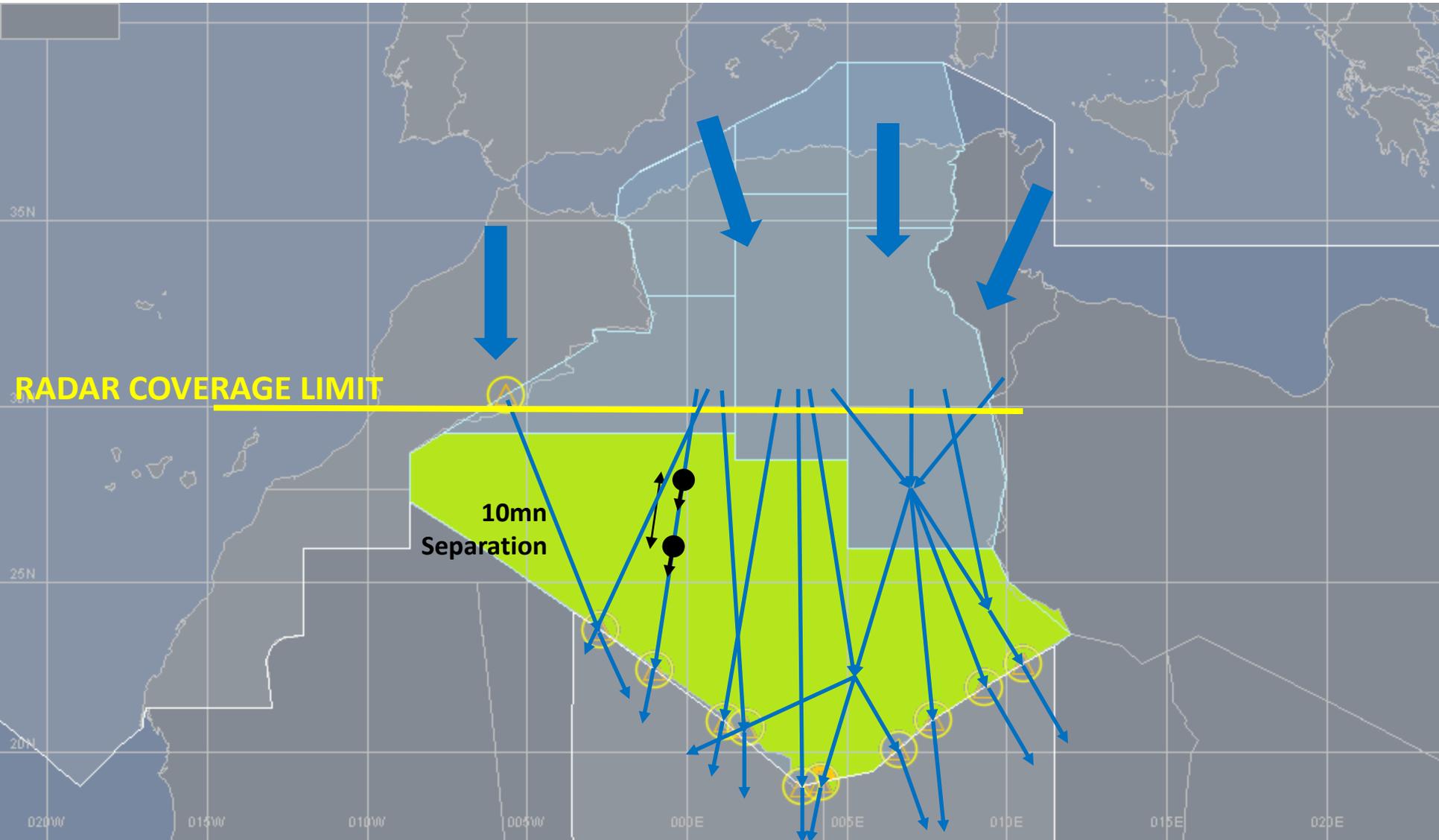
RADAR Coverage



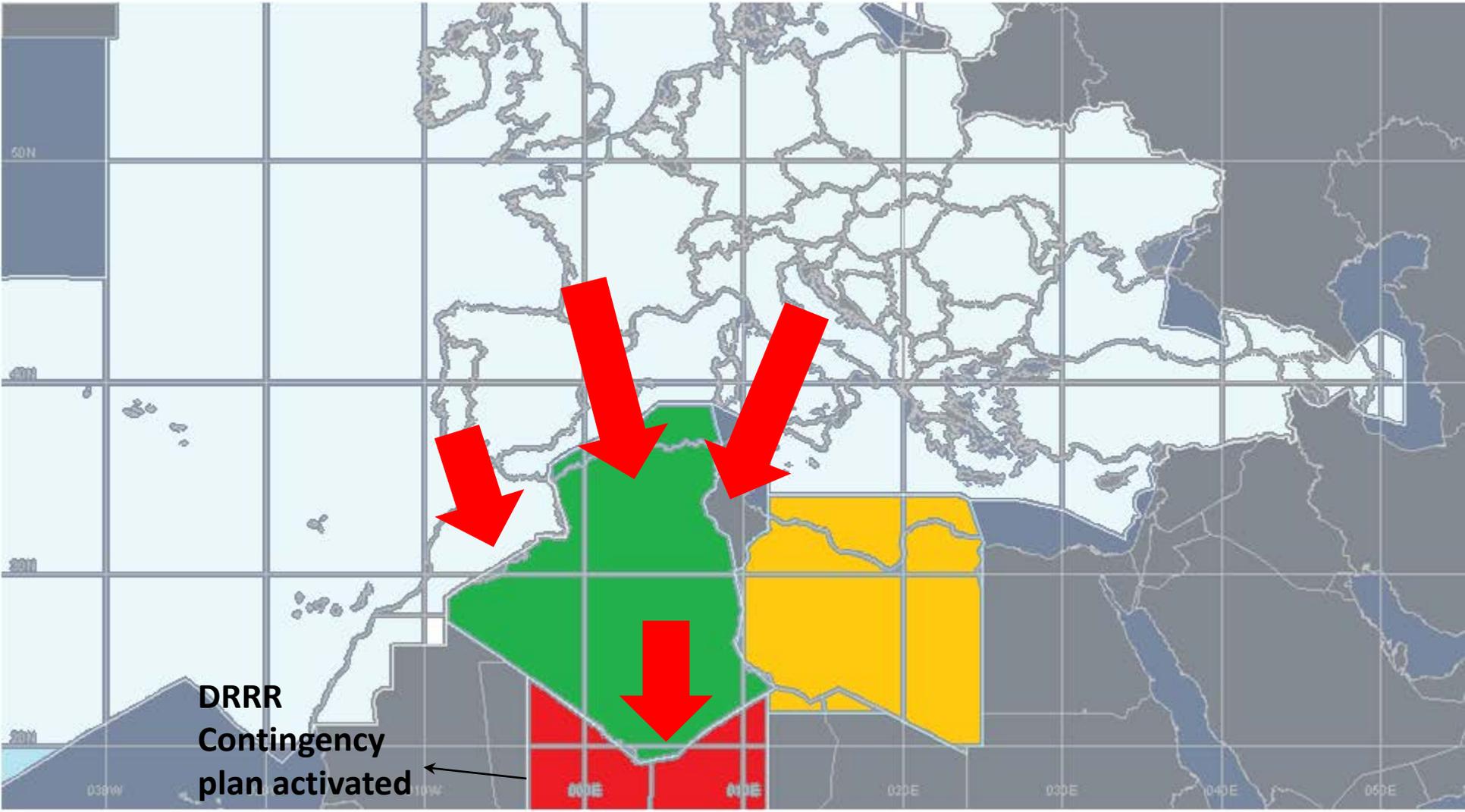
RADAR Coverage



South sector in Algiers FIR/Procedural service

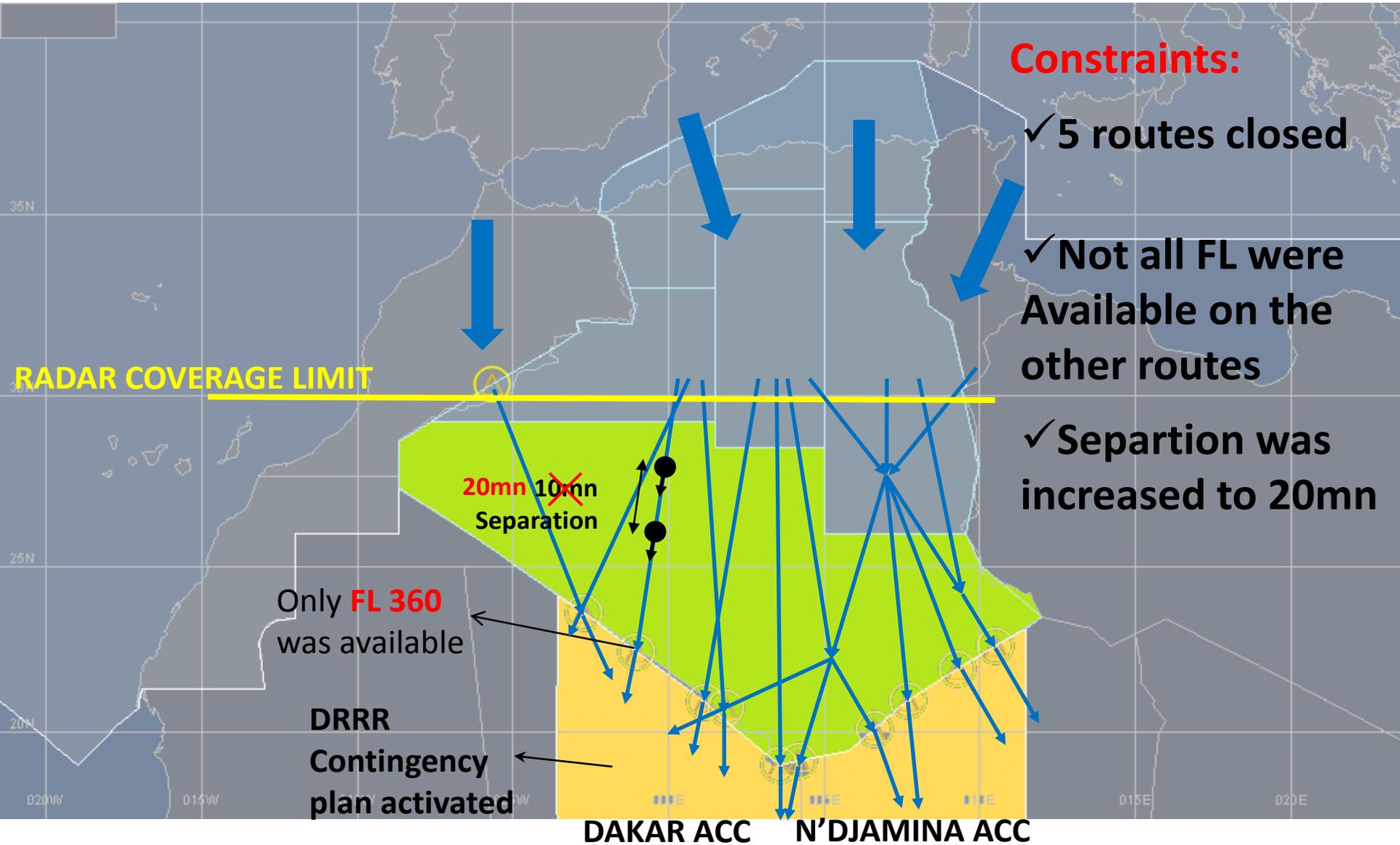


19th February 2016



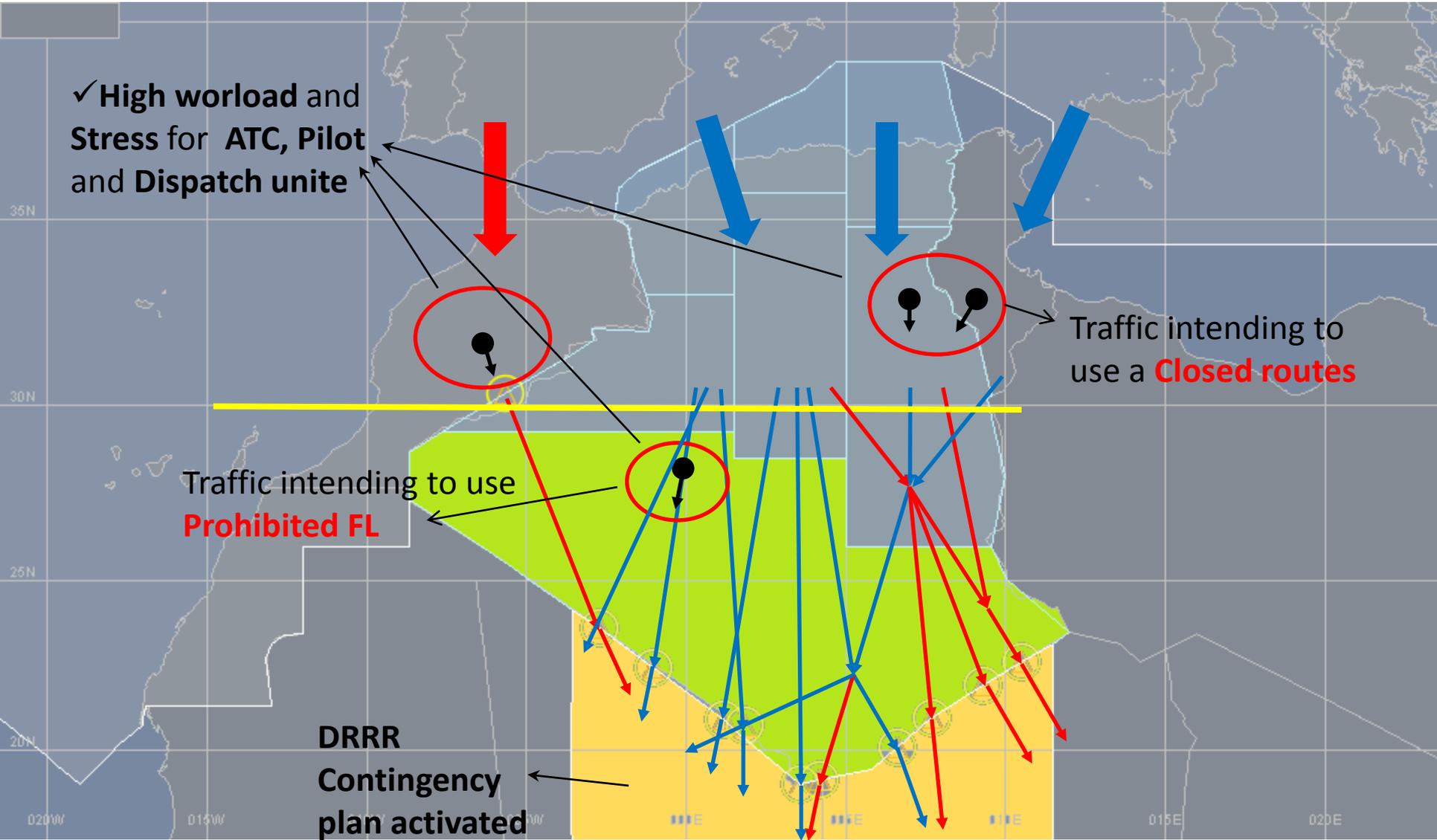
**DRRR
Contingency
plan activated**

DRRR contingency plan constraints



DRRR contingency plan constraints

✓ **High workload and Stress for ATC, Pilot and Dispatch unite**

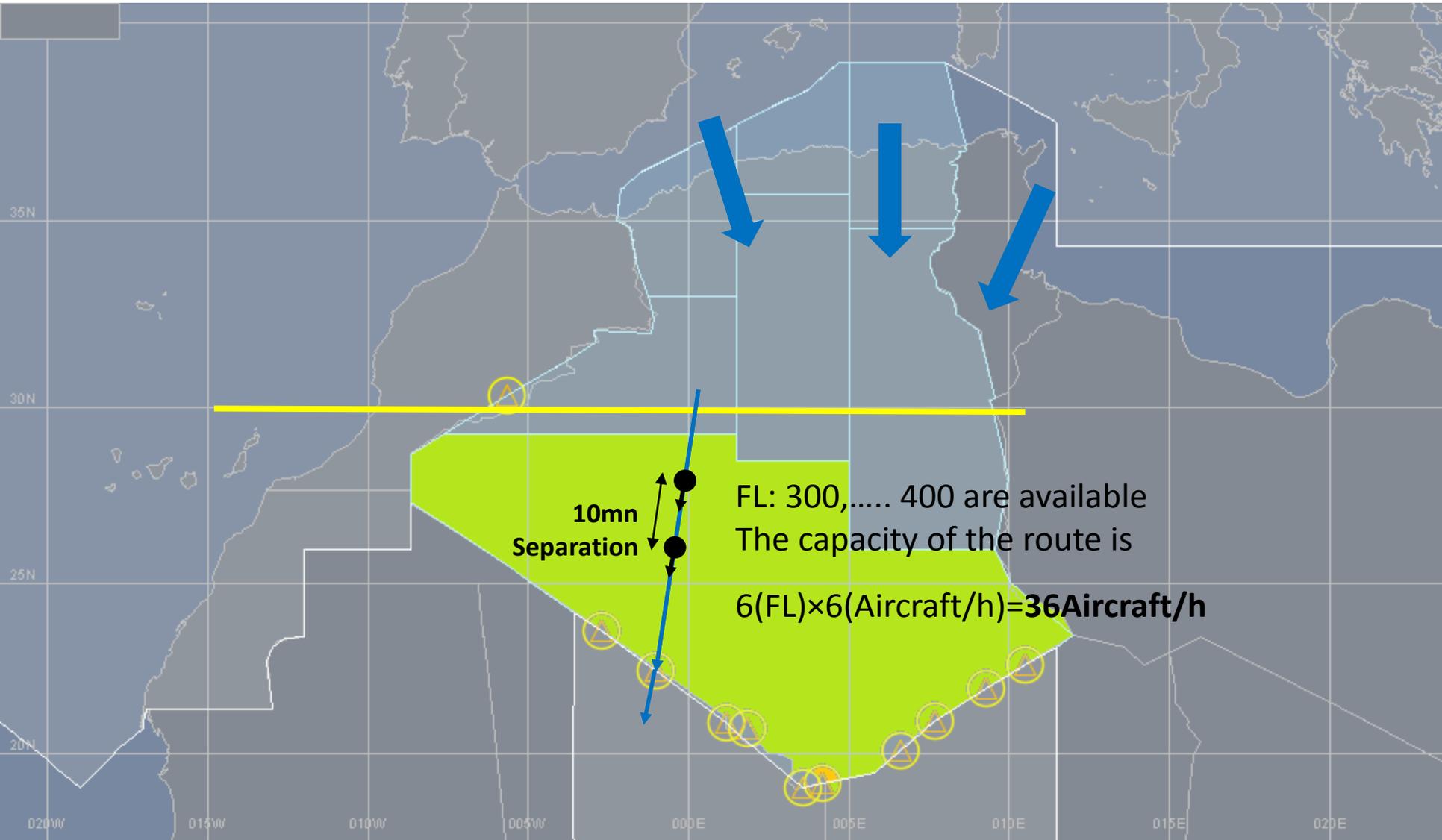


Traffic intending to use a **Closed routes**

Traffic intending to use **Prohibited FL**

DRRR Contingency plan activated

DRRR contingency plan constraints

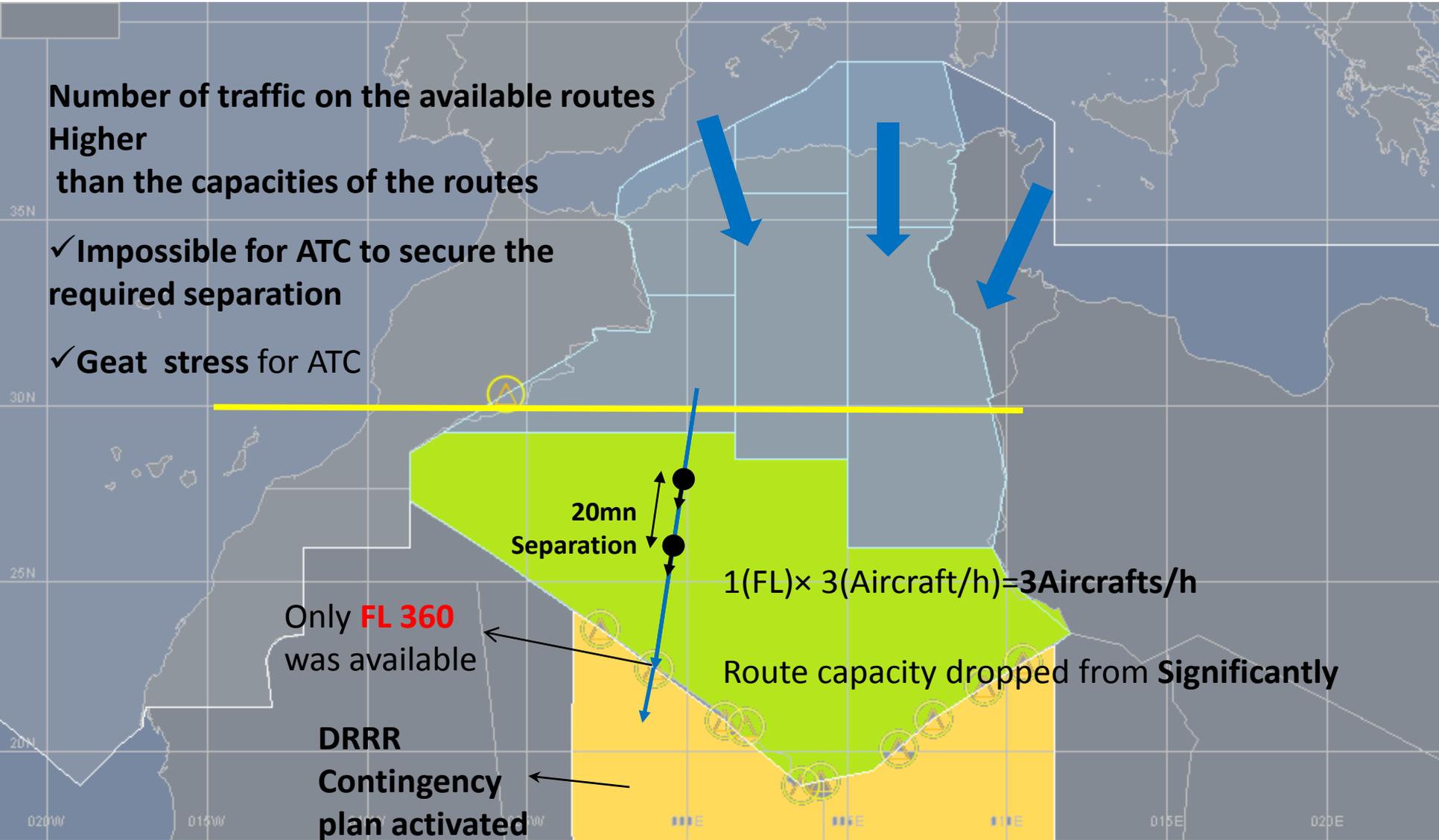


DRRR contingency plan constraints

Number of traffic on the available routes
Higher
than the capacities of the routes

✓ Impossible for ATC to secure the
required separation

✓ Geat stress for ATC



20nm
Separation

1(FL) × 3(Aircraft/h) = 3Aircraft/h

Only **FL 360**
was available

Route capacity dropped from **Significantly**

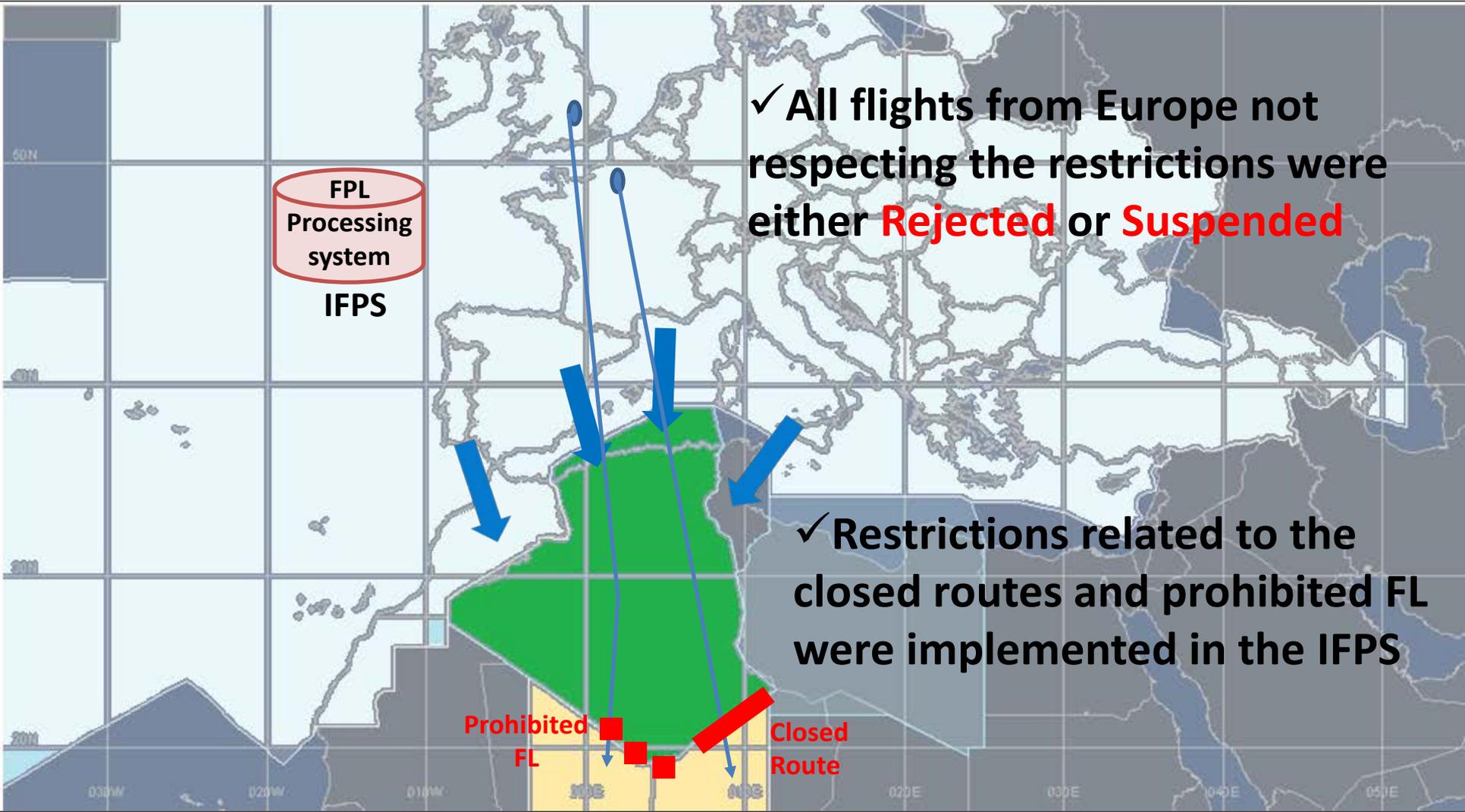
DRRR
Contingency
plan activated

There were two main problems:

- 1-Taffic intending to use **Closed routes** or **prohibited FL**
- 2- Number of traffic **higher** than the **capacities** of the routes

Solution for problem N°1

Solution for problem N°1



-TITLE REJ [REDACTED] -MSGTYP IFPL -FILTIM 191512 -ORIGINDT 1602191512

-BEGIN ADDR

-FAC [REDACTED]

-END ADDR

-ERROR PROF204: RS: TRAFFIC VIA ERKEL IKTAV INAMA BAGBO UM629 USRUT
IS ON FORBIDDEN ROUTE REF:[EUDADR] NOTAM DR A0347/16 DISRUPTION OF
ATS

-MSGTXT (FPL [REDACTED] -IN

-B744/H-SDE1FGHIJ4J5LM1ORVWXYZ/LB2D1

-[REDACTED]1900

-N0475F250 [REDACTED]

UN850 ABRON/N0502F310 UT250 ERPIN UT450 BUKID UM2 CSO UM998 BOD

UR978 ERKEL/N0504F330 UR978 AS UA604 DLA UG861 ARASI/N0506F350

UG861 IT/N0501F340 UW118 LIKAD/N0499F330 UR526F EXITO/N0502F350

UR526F VNA UN187 WHV DCT

-FYWH0905 FAOR FBSK

-PBN/A1B1D1O1S1 DOF/160219 REG/[REDACTED]

EET/[REDACTED] DAAA0122 DRRR0340 DNKK0437 FCCC0526

FNAN0652 FYWH0824 OPR/[REDACTED]PER/D RMK/TCAS)

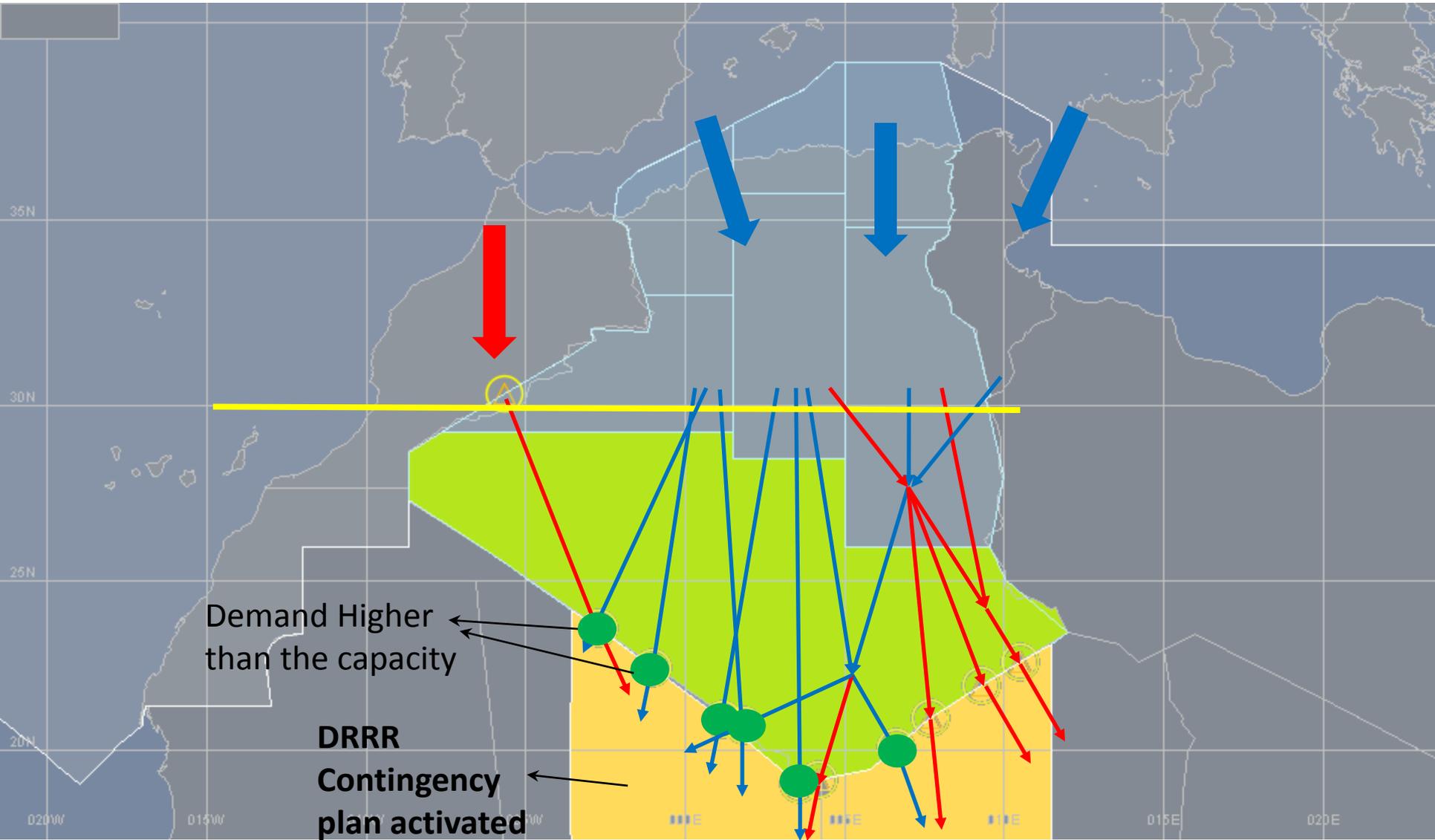
Problem N°1

- Solved by IFPS Restrictions

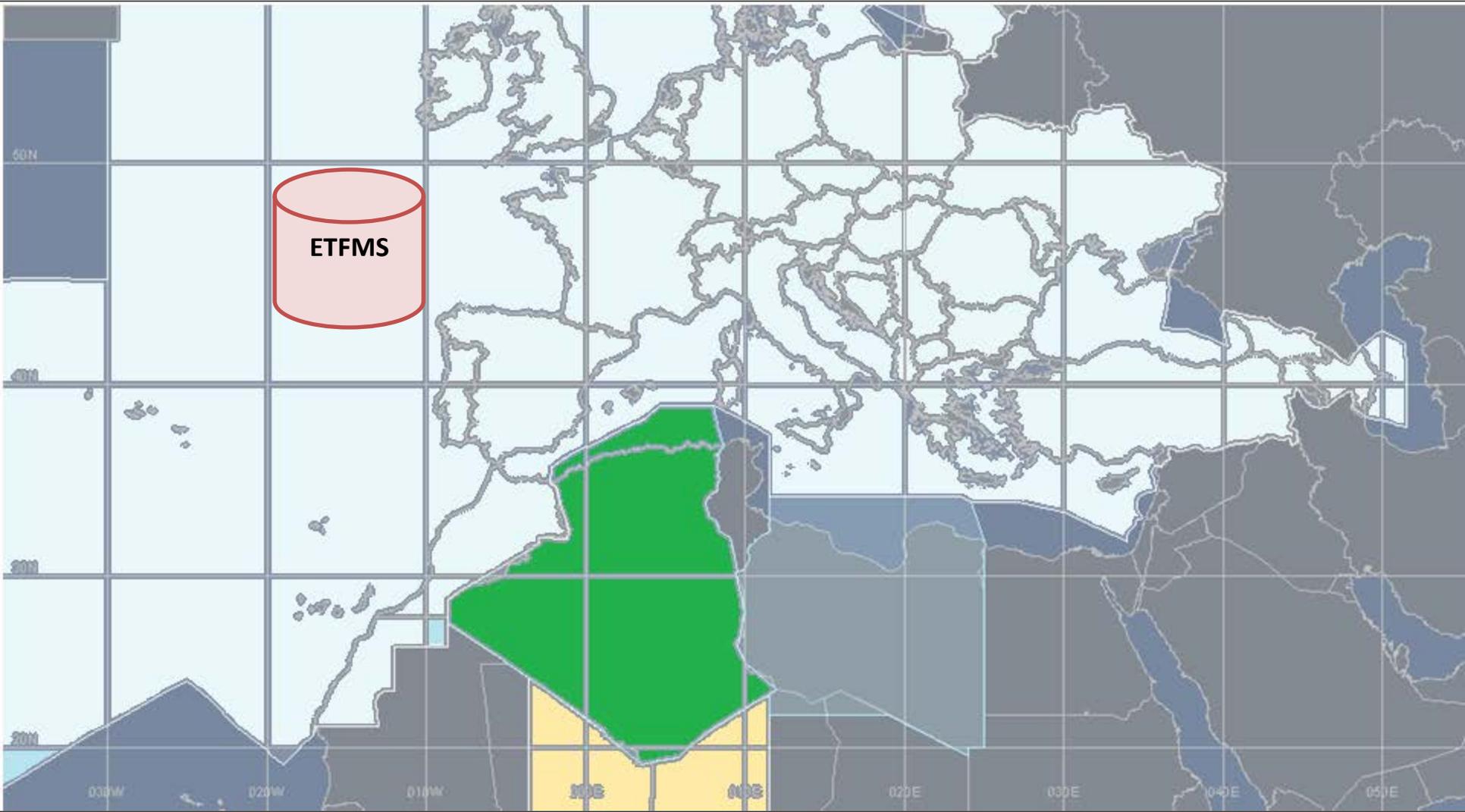
Problem N°2

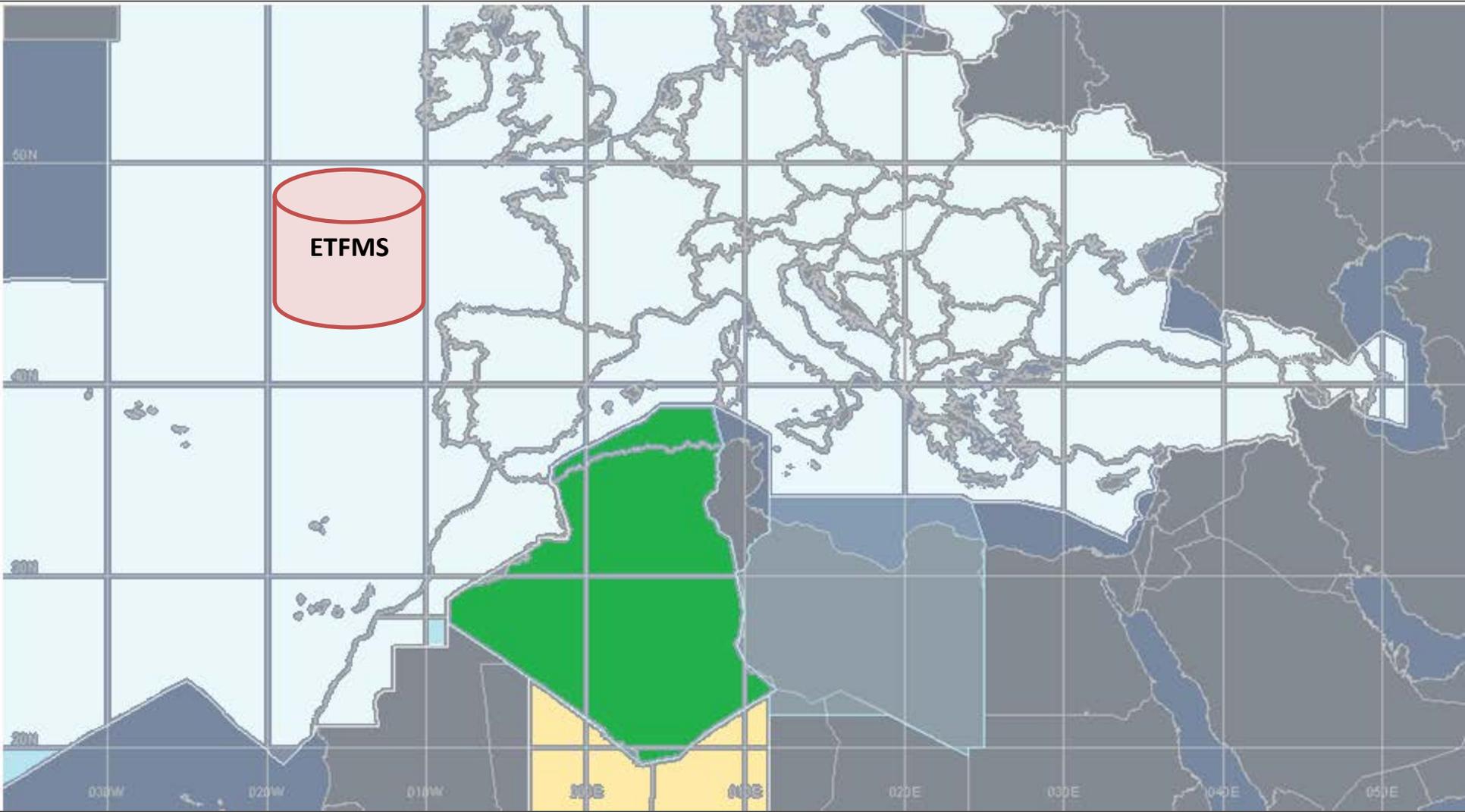
- Number of traffic **higher** than the **capacities** of the routes

Solution for problem N°2



Solution for problem N°2

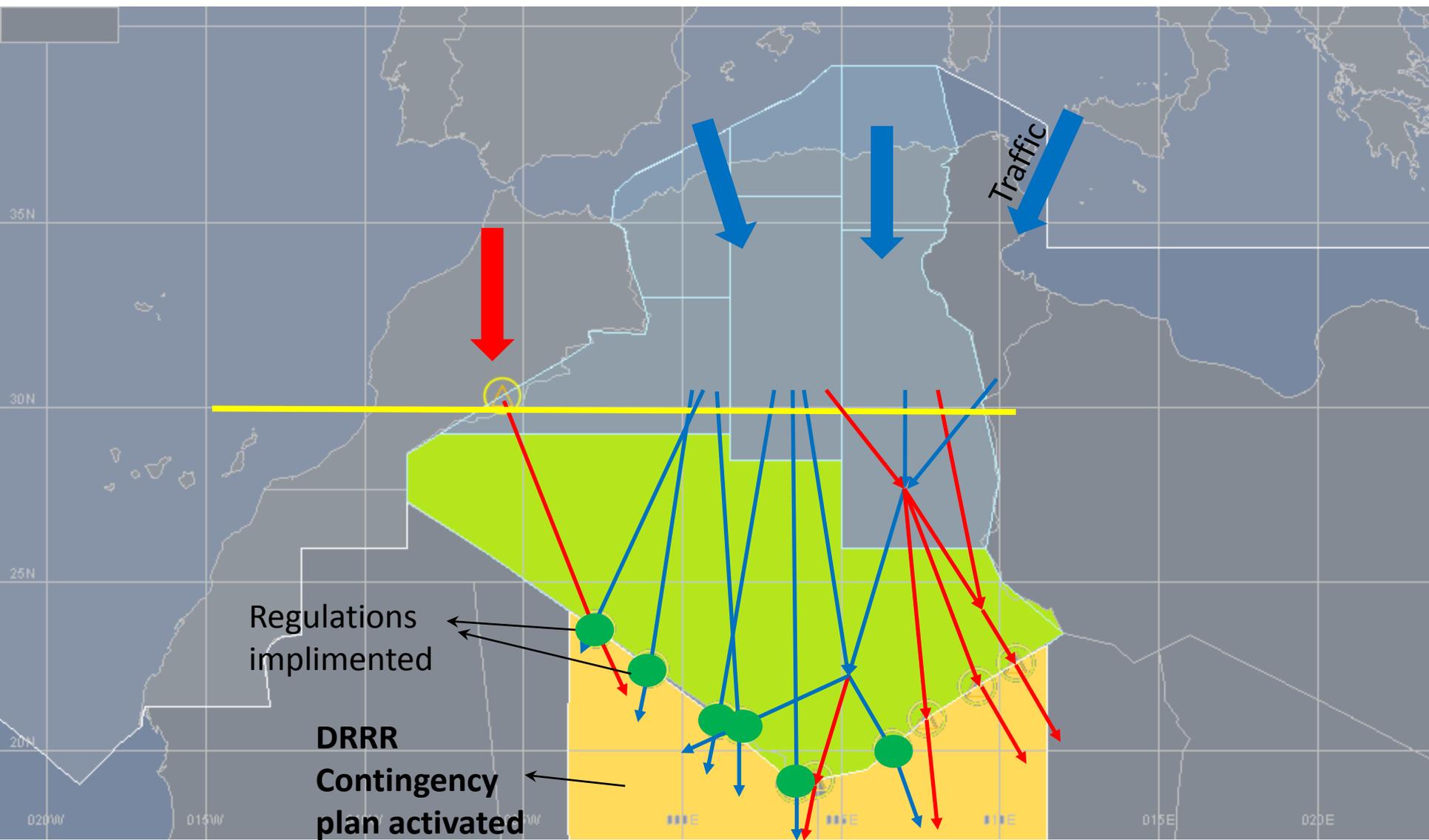




ETfMS

00E

010E



Regulations
implimented

DRRR
Contingency
plan activated

Traffic

Problem N°1

- Solved by IFPS Restrictions

Problem N°2

- Solved by ETFMS Regulations

New Problem for AO:

Regulations created delays

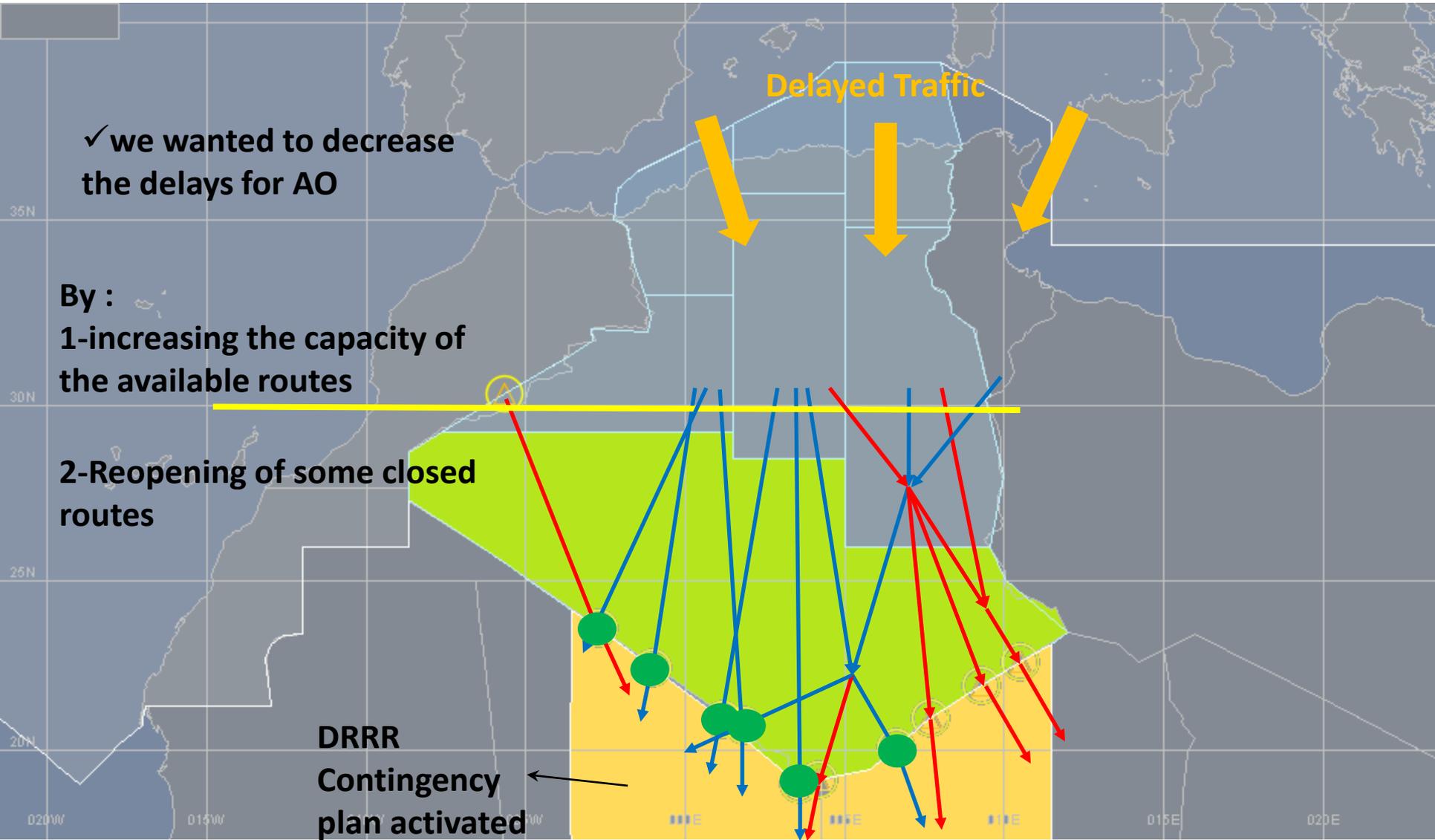
Solution for the New problem

✓ we wanted to decrease the delays for AO

By :
1-increasing the capacity of the available routes

2-Reopening of some closed routes

DRRR
Contingency
plan activated



1-increasing the capacity of the available routes

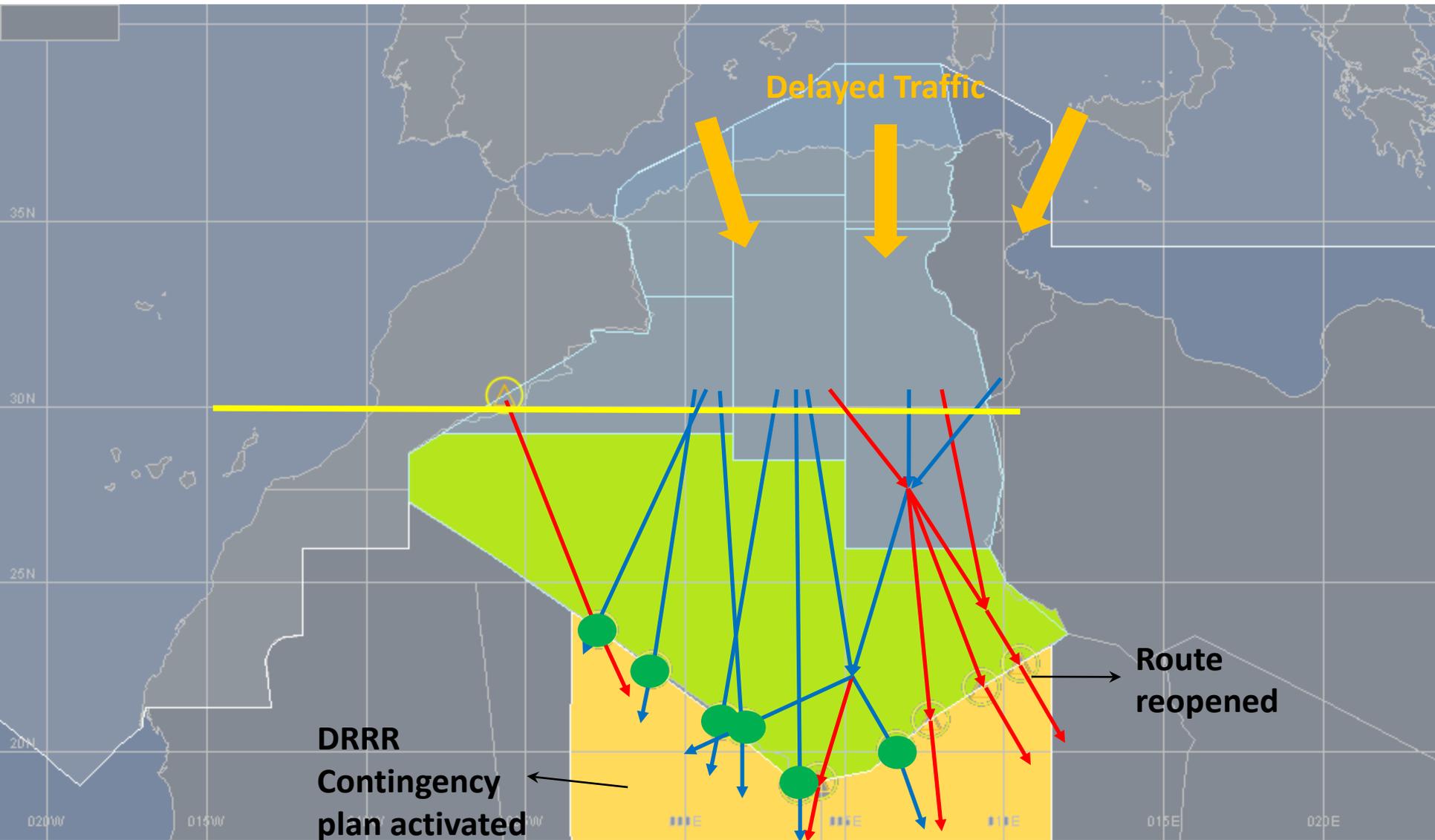
$$\text{Capacity} = \underbrace{(60)}_{\text{Increase}} / \underbrace{\text{Standard Separation}}_{\text{Decrease}} \times \underbrace{(\text{Number of Available FL})}_{\text{Increase}}$$

And/Or

After coordination with ASCECNA, standard separation was decreased from **20mn** to **10mn**, therefore capacity doubled

Delays decreased

2-Reopening of some closed routes



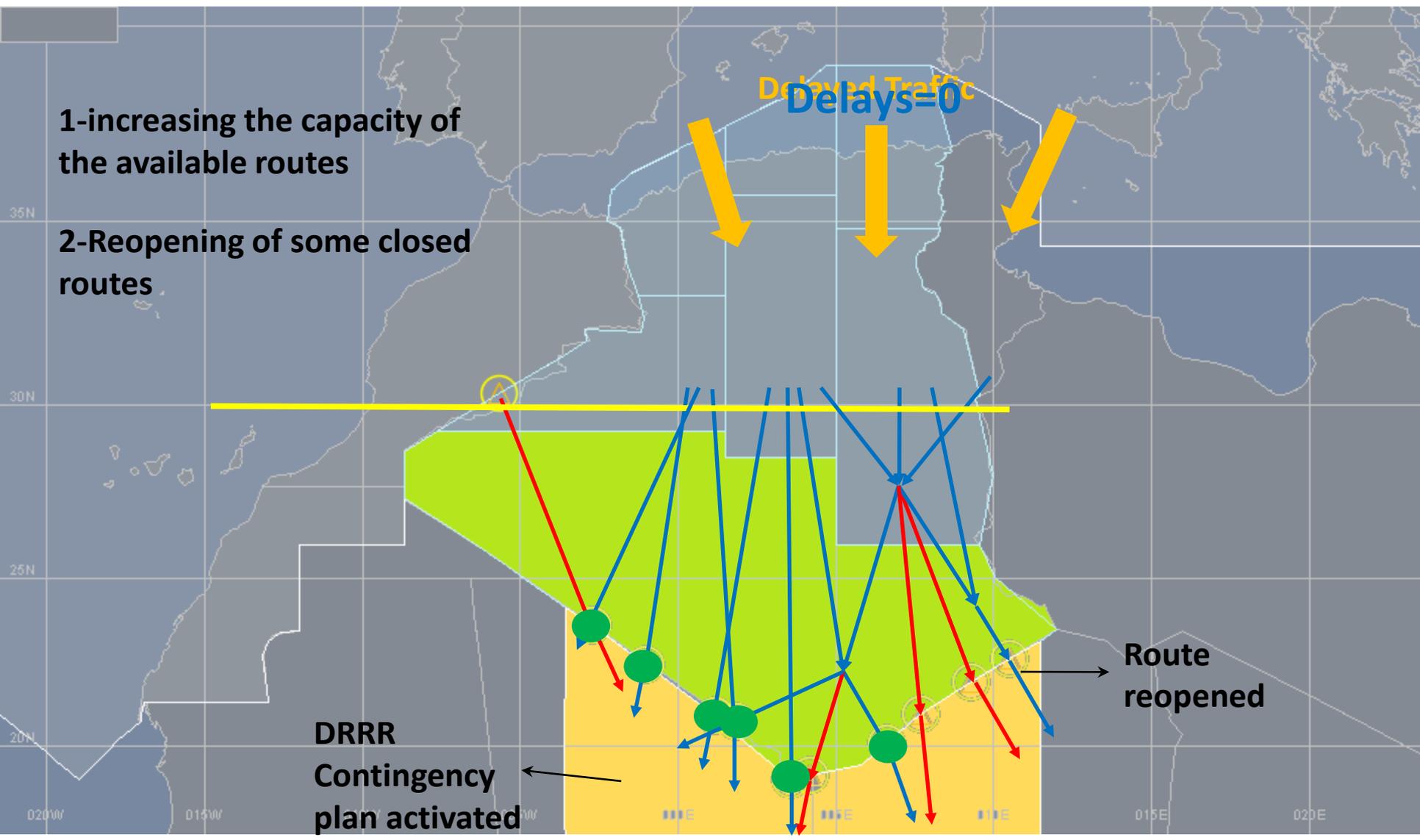
1-increasing the capacity of the available routes

2-Reopening of some closed routes

Delayed Traffic
Delays=0

DRRR
Contingency
plan activated

Route
reopened



Conclusion

ATFM is a **Necessary Element
In any **Efficient** ATM System**

**ATFM is Beneficial
for both **ANSPs** and **AOs****

THANK YOU