



ICAO



ICAO EMERGING SURVEILLANCE TECHNOLOGIES SYMPOSIUM

Surveillance data Sharing – DSNA case

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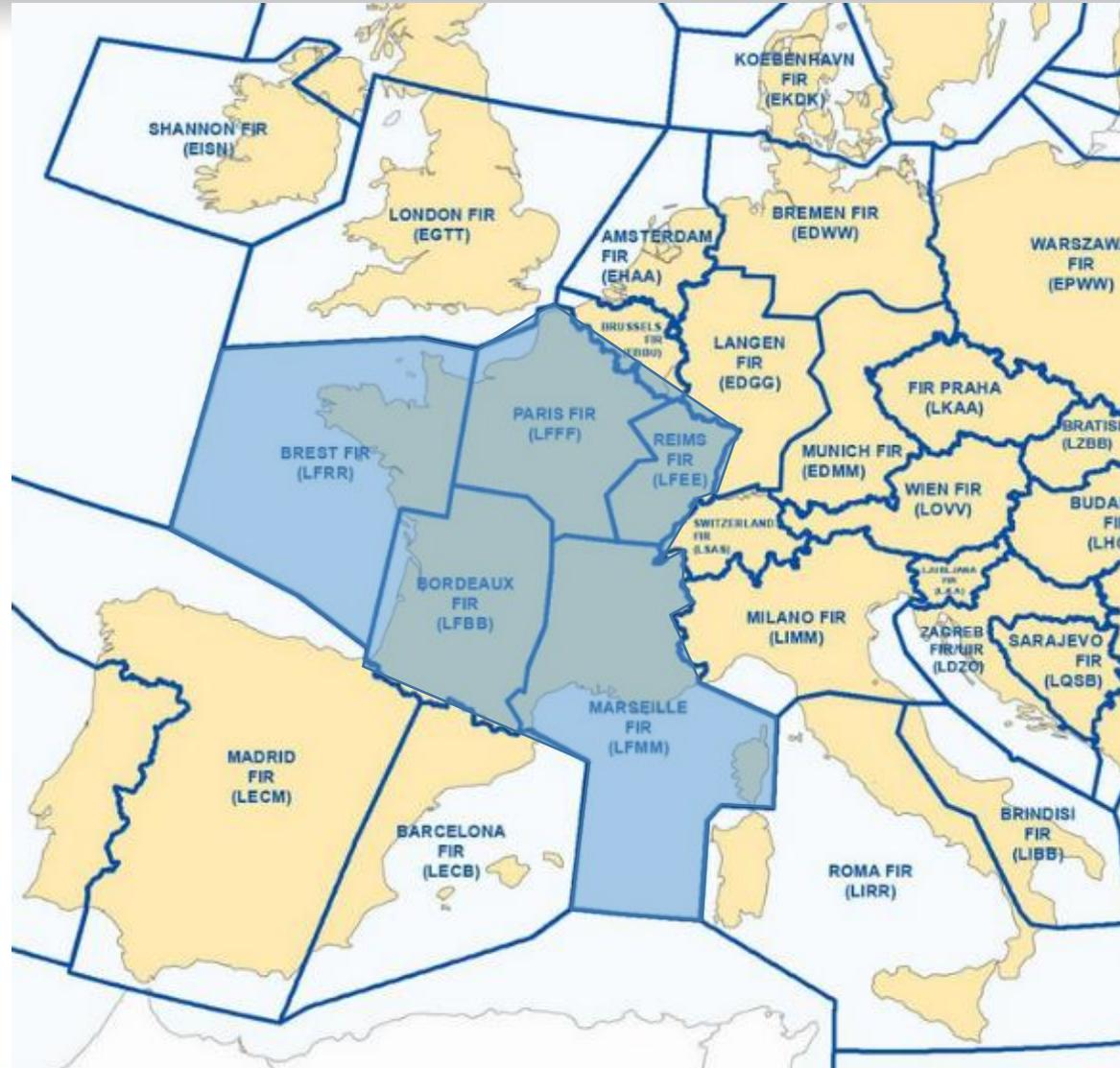
Content

- France Airspace and Ops requirements
- DSNA surveillance infrastructure and limitations
- Radar data sharing
 - From other ANSP
 - To other ANSP
 - With other organisations
- Regulation and MoC
- Examples of cooperation

European FIRs

The French airspace shares borders with 6 other ANSPs :

- UK–NATS (London FIR)
- Belgium–SKEYES (Brussel FIR)
- Germany–DFS (Langen FIR)
- Switzerland-SKYGUIDE
- Italy-ENAV (Milano and Roma FIR)
- Spain- ENAIRE (Barcelona and Madrid FIR)



DSNA surveillance infrastructure

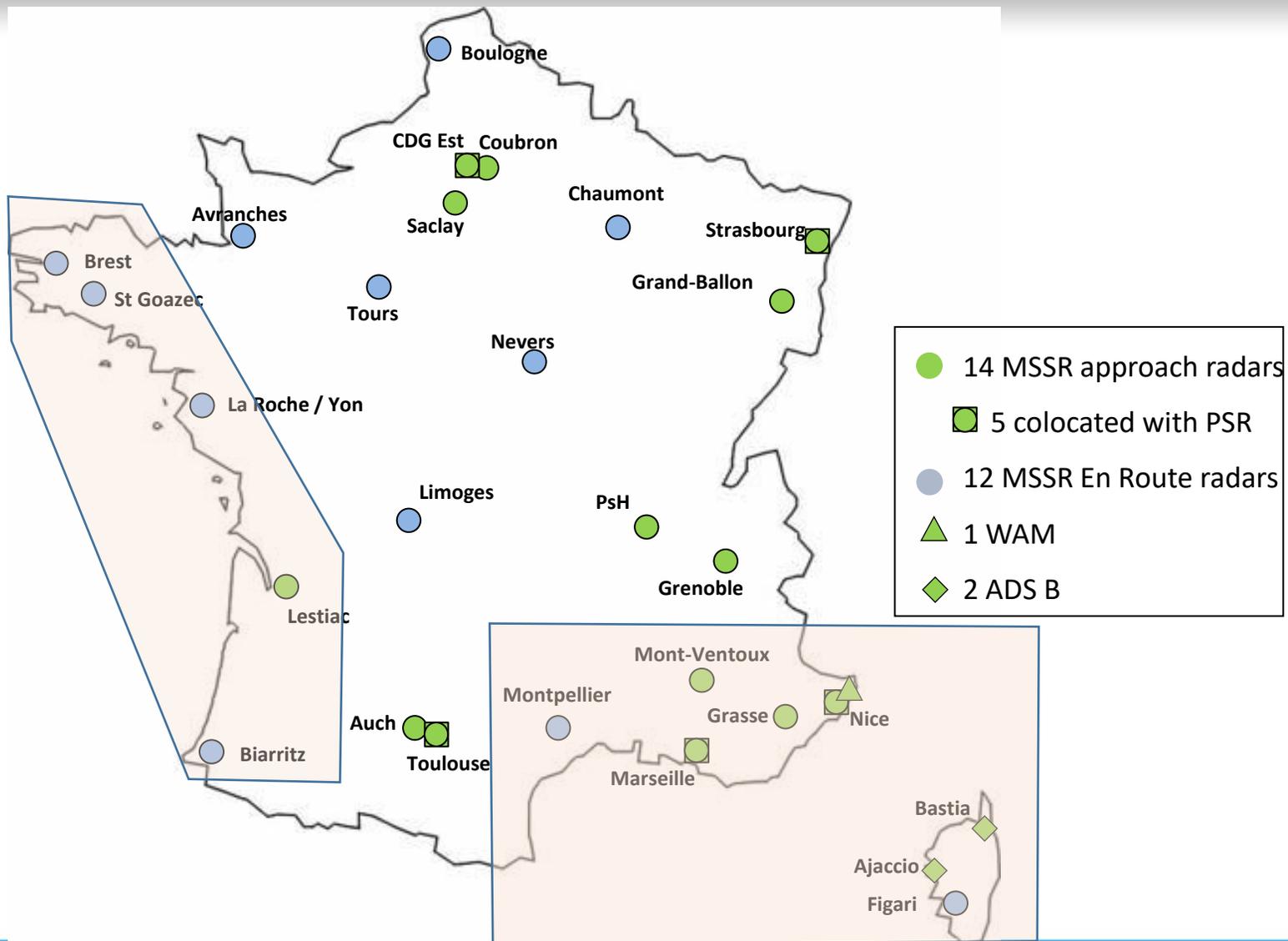
26 MSSR radar

All are Mode S

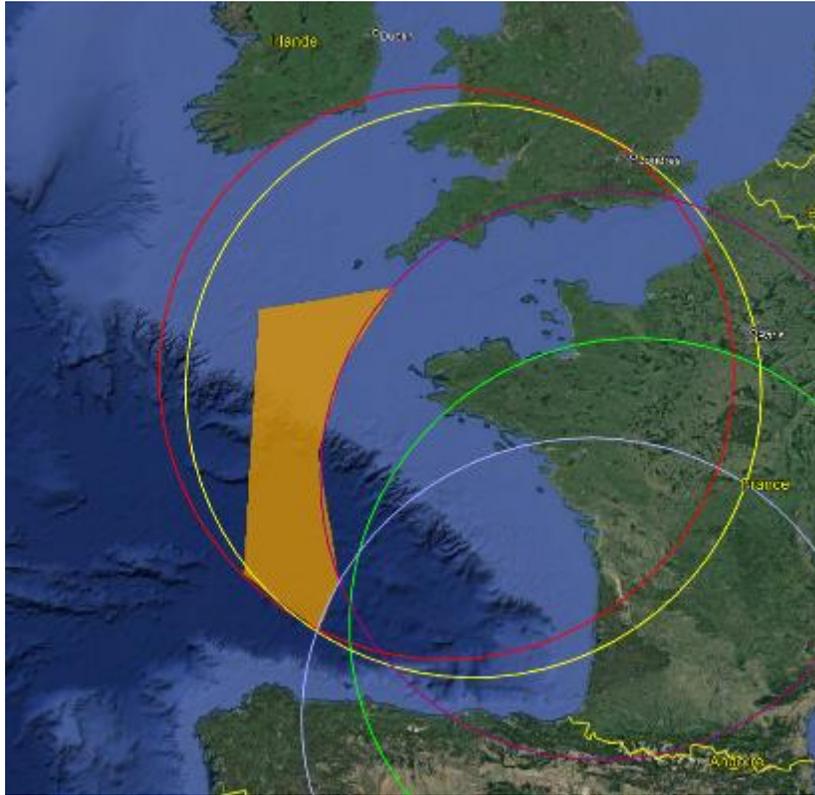
All are operating ELS and EHS

5 dedicated to Atlantic airspace

6 dedicated to Mediterranean airspace

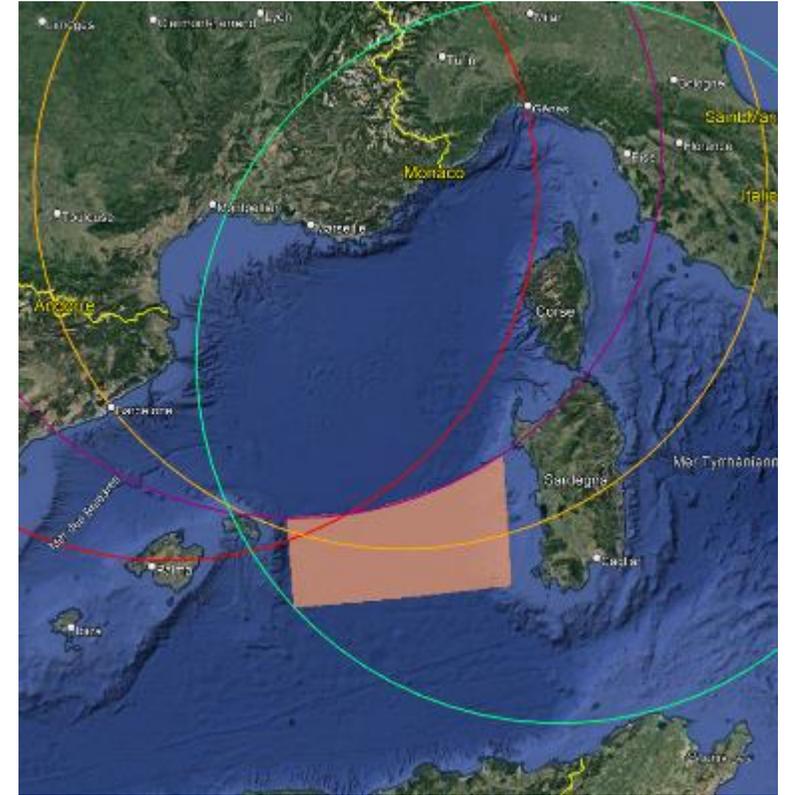


Sea Coverage by DSNR radars



Atlantic coverage

Compliance with
triple radar coverage
of En Route Airspaces

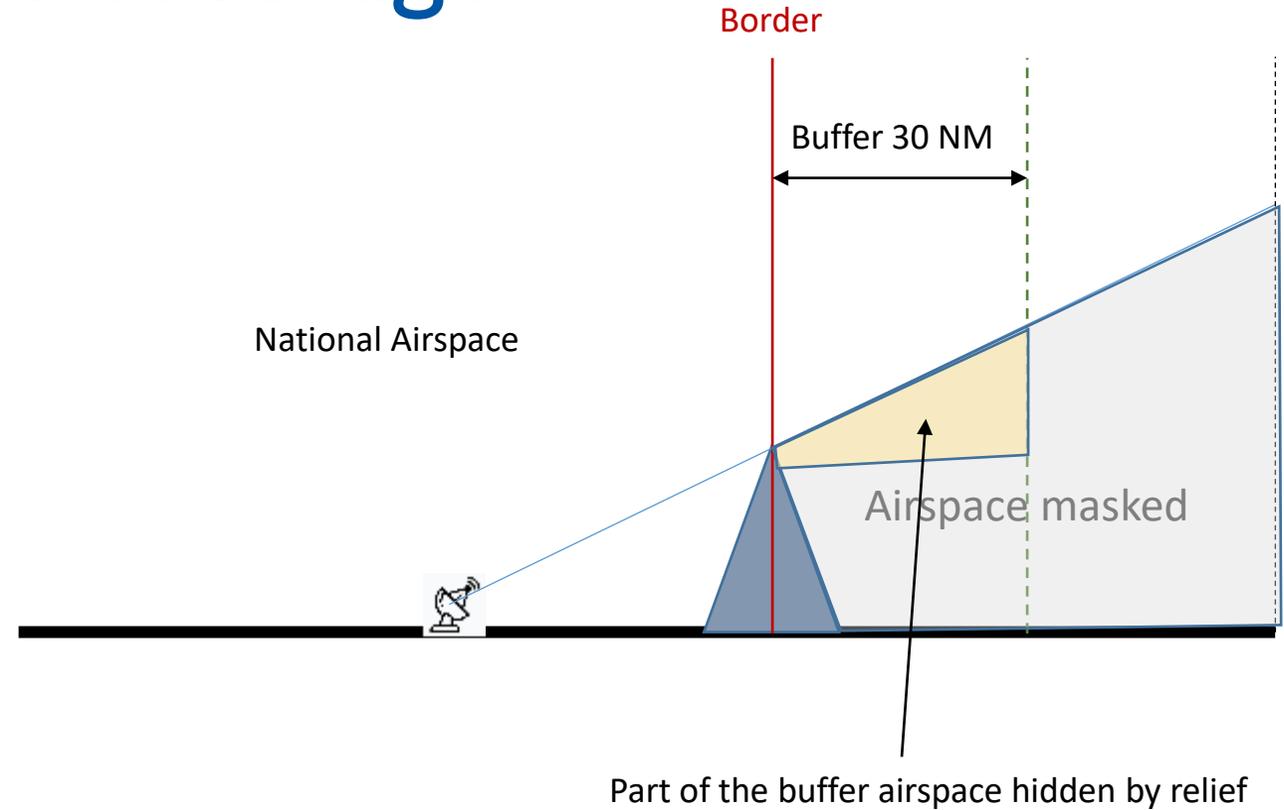


Mediterranean coverage

Mountain ridge border coverage

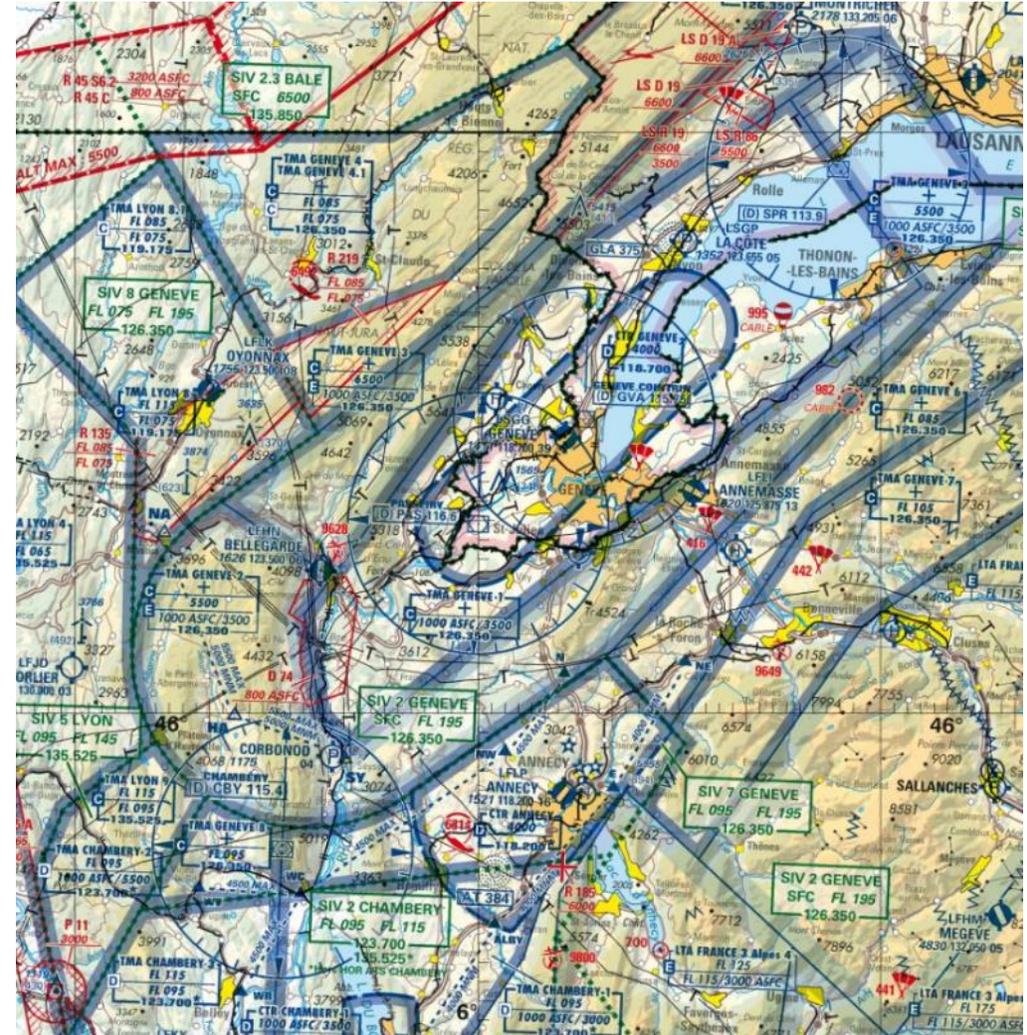
Poor coverage of buffer airspaces at medium altitude behind the relief.

→ Possible mitigation using data from a foreign radar located on the other side of the ridge



Geneva TMA

- French airspace delegated to Skyguide
 - close coordination between DSNA and Skyguide
- ➔ Mutualization of skyguide and DSNA surveillance coverage in the region



Radar data from other ANSPs

- Spain (ENAIRE) : 6
 - 3 → Brest ACC (Atlantic)
 - 3 → Marseille ACC (Mediterranean sea)
- Ireland (IAA) : 1 → Brest ACC (Atlantic)
- Jersey : 2 → Brest and Paris ACC
- Belgium (Skeyes) : 3 → Paris, Reims ACC + Lilles
- Germany (DFS) : 2 → Paris, Reims ACC + 2 TMA
- Switzerland (Skyguide) 2 → Paris, Reims, Marseille ACC + 2 TMA
- Italy (ENAV) : 3 → Marseille ACC



Radar data to other ANSPs

- Spain (ENAIRES) : 3
 - 1 → Madrid ACC
 - 2 → Barcelona ACC
- Ireland (IAA) : 1 → Shannon ACC (Atlantic)
- Jersey : 1 → Jersey ACC
- Belgium (Skeyes) : 2 → Brussel ACC
- Germany (DFS) : 2 → Karlsruhe ACC
- Switzerland (Skyguide) 4 → Geneva, Zurich ACC
- Eurocontrol : 4 → MUAC
- LVNL : 1 → Amsterdam



Radar data exchanges with other organisations

- French Air Force
 - All DSNA radars data are distributed to DoD
 - No military radar connected to DSNA network
 - Plans for mutualization of 2 or 3 military radars
- Airport systems
 - Noise monitoring systems
 - Parking/blocks management systems
 - Arrival time estimation

Regulation and Memorandum Of Cooperation

- SPI IR (European regulation 1207/2011)
 - Article 5, § 2 + annex IV
 - Annex IV modified by IR 2020/587
 - ➔ Suppression of figures related to performances
- Essential data and procedure for operating a foreign radar
 - Integration – technical data
 - Type of radar
 - Position of the radar
 - coverage
 - Technical characteristics (range, period of revolution, etc..)
 - ELS/EHS
 - Asterix format
 - Network connection information
 - Operations : procedures and contacts
 - Service /Center in charge of radar operation
 - Phone numbers, emails of focal points (in case of problem)
 - procedure for notifying both parties of maintenance operations

- (a) the parties to the arrangements;
- (b) the period of validity of the arrangements;
- (c) the scope of the surveillance data;
- (d) the sources of the surveillance data;
- (e) the exchange format of the surveillance data;
- (f) ~~the communications means used to exchange the surveillance data;~~
- (g) ~~the service delivery point of the surveillance data;~~
- (h) ~~quality requirements for the surveillance data in terms of the following:~~
 - ~~— performance indicators or parameters used to monitor the quality of the surveillance data;~~
 - ~~— the methods and tools to be applied to the measurement of the quality of the surveillance data;~~
 - ~~— the frequency of measurement of the quality of the surveillance data;~~
 - ~~— data quality reporting procedures;~~
 - ~~— for each performance indicator the acceptable range of values shall be defined together with a procedure to be applied if the value falls outside that defined range;~~
 - ~~— identification of the party responsible for checking and ensuring quality requirements are met;~~
- (i) ~~agreed service levels in terms of the following:~~
 - ~~— hours of availability;~~
 - ~~— continuity;~~
 - ~~— integrity;~~
 - ~~— mean time between failures;~~
 - ~~— reaction times for outages;~~
 - ~~— procedures for planning and conducting preventative maintenance;~~
- (j) ~~change management procedures;~~
- (k) ~~reporting arrangements with respect to performance and availability including unforeseen outages;~~
- (l) ~~management and coordination arrangements;~~
- (m) ~~ground-based surveillance chain safeguarding and notification arrangements.~~

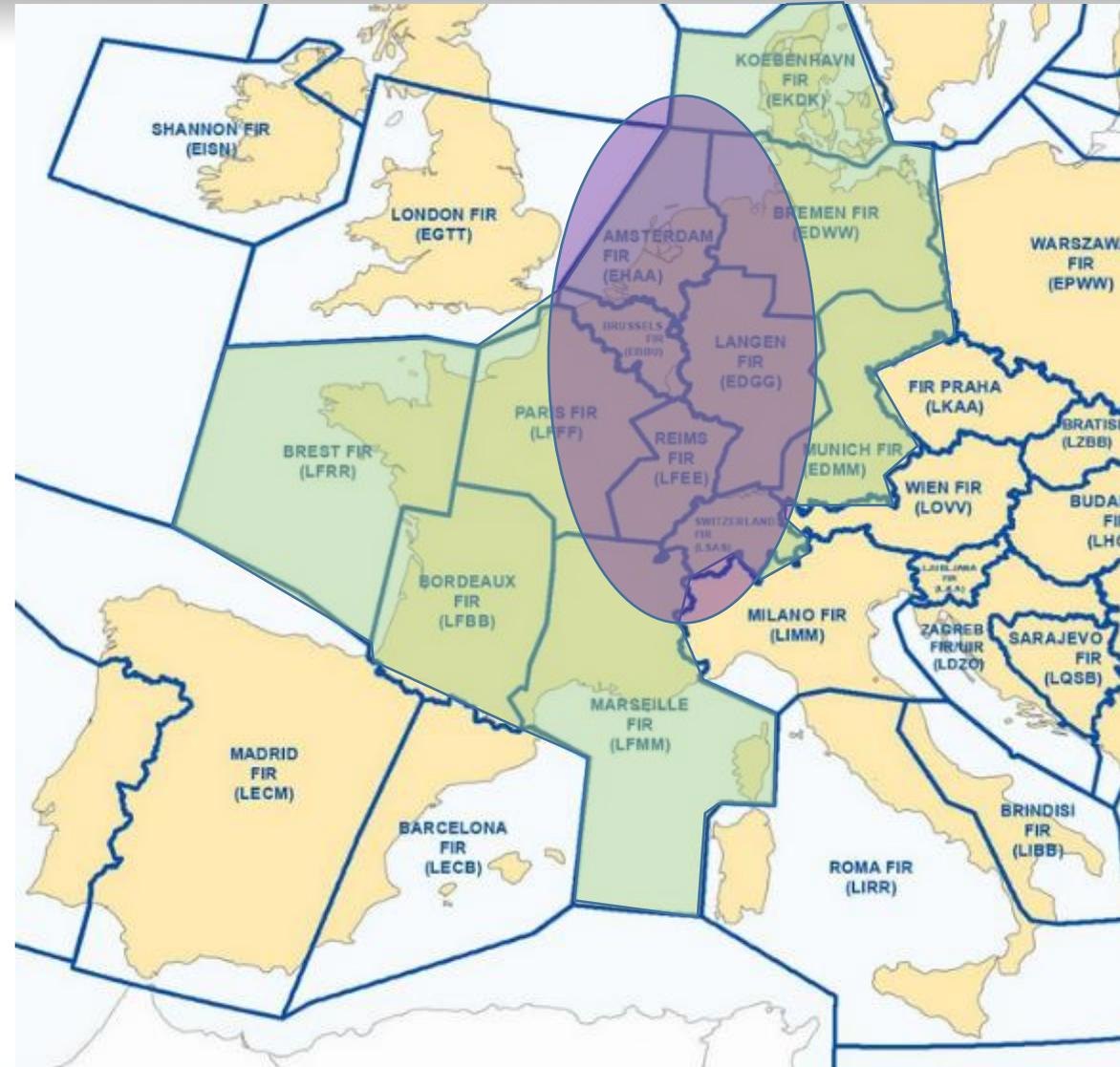
- (a) the parties to the arrangements;
- (b) the period of validity of the arrangements;
- (c) the scope of the surveillance data;
- (d) the sources of the surveillance data;
- (e) the exchange format of the surveillance data;
- (f) the service delivery point of the surveillance data;

- (g) ~~agreed service levels in terms of the following:~~
 - ~~— surveillance data performance as established by Article 4(3)~~
 - ~~— procedures in case of unserviceability~~

- (h) ~~change management procedures;~~
- (i) ~~reporting arrangements with respect to performance and availability including unforeseen outage;~~
- (j) ~~management and coordination arrangements;~~
- (k) ~~ground-based surveillance chain safeguarding and notification arrangements.~~

examples of cooperation : FABEC

- FABEC (Functional Airspace Block Europe Central)
- Belgium, Eurocontrol (MUAC), France, Germany, Luxembourg, Netherland, Switzerland
- Surveillance task Force (SURTF) - 2012
 - Mandate = SUR Infra rationalization
 - ➔ Surveillance data exchanges already in place
 - ➔ No more gain opportunities



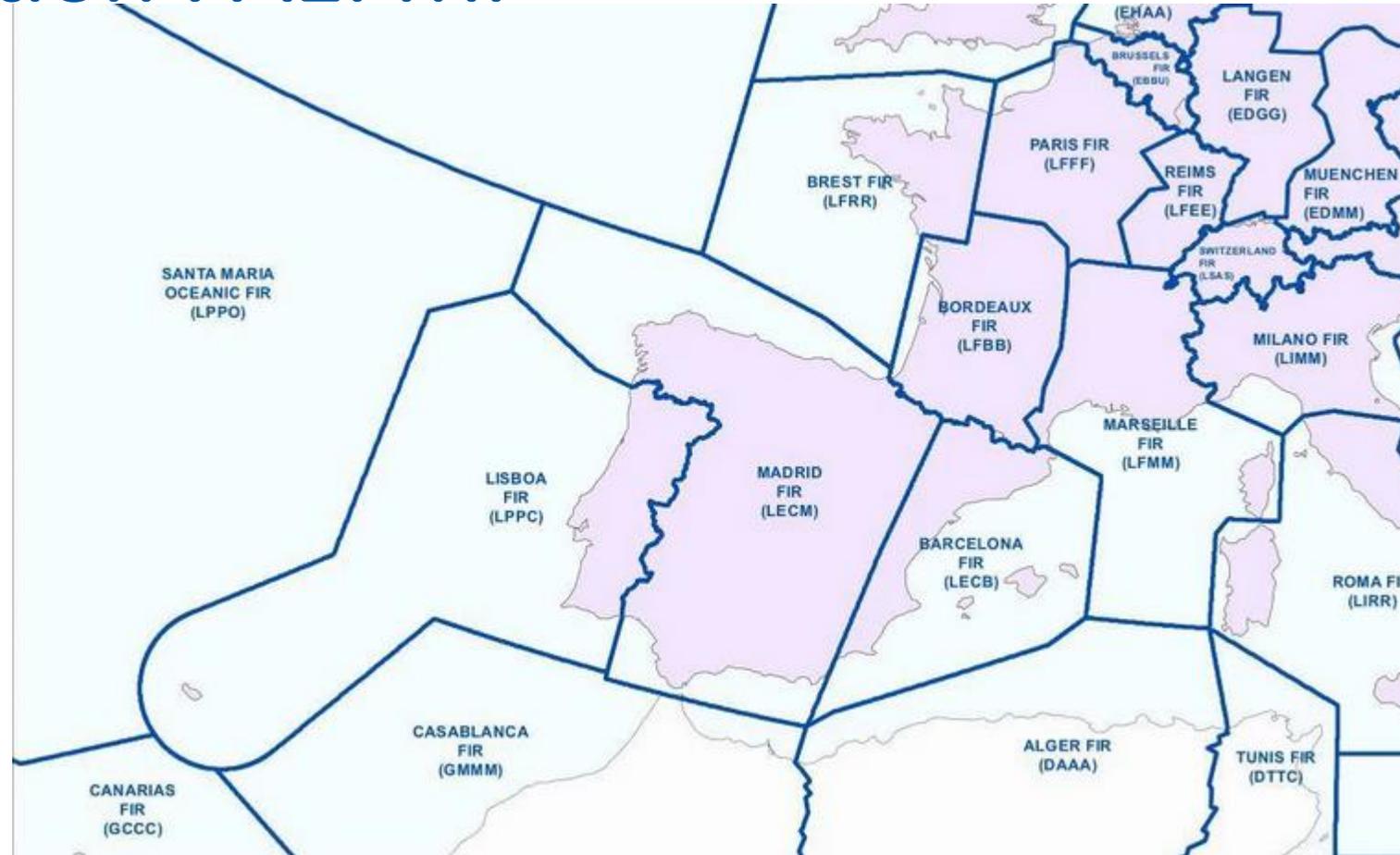
examples of cooperation : AEFMP

Group of coordination including 5 countries

- Algeria
- Espana
- France
- Morocco
- Portugal

AEFMP addresses many topic (WAN, Radiocom and Surveillance)

DSNA interested in Algerian and Tunisian Radars to strengthen the coverage of south of Z sector.



THANK YOU

