Session 6: Regional Projects in Air Navigation

## Radar Data Sharing on a Regional Basis

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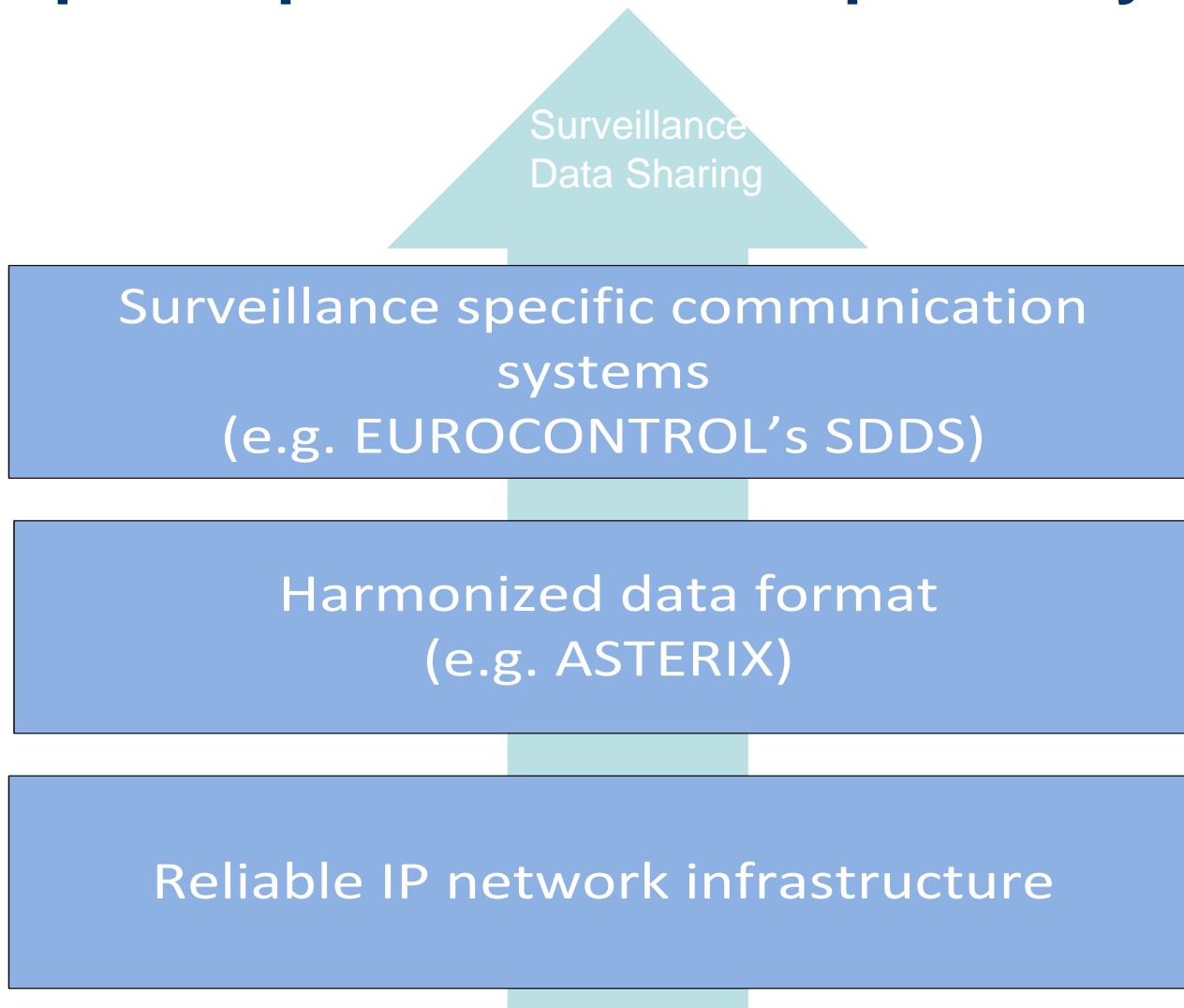Riyadh, 30 August 2016

Surveillance data sharing Why ?

- To improve continuity, quality and position accuracy of multi sensor tracks;

- To refine trajectory prediction and conflict detection;

- To achieve the establishment of the prescribed separation throughout the airspace, in particular over the borders.
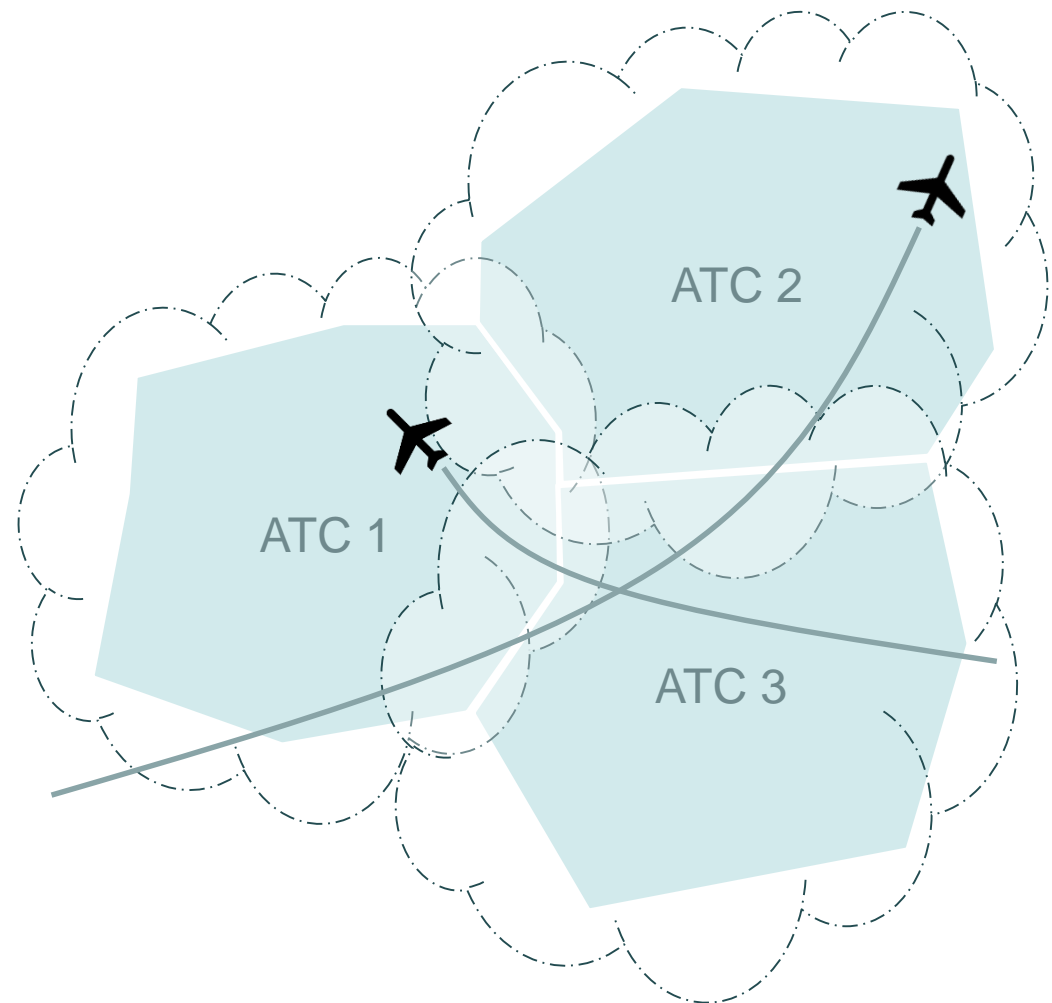
Setting-up Surveillance data sharing
How ? pre-requisites for interoperability

Surveillance
Data Sharing

Surveillance specific communication systems
(e.g. EUROCONTROL's SDDS)

Harmonized data format
(e.g. ASTERIX)

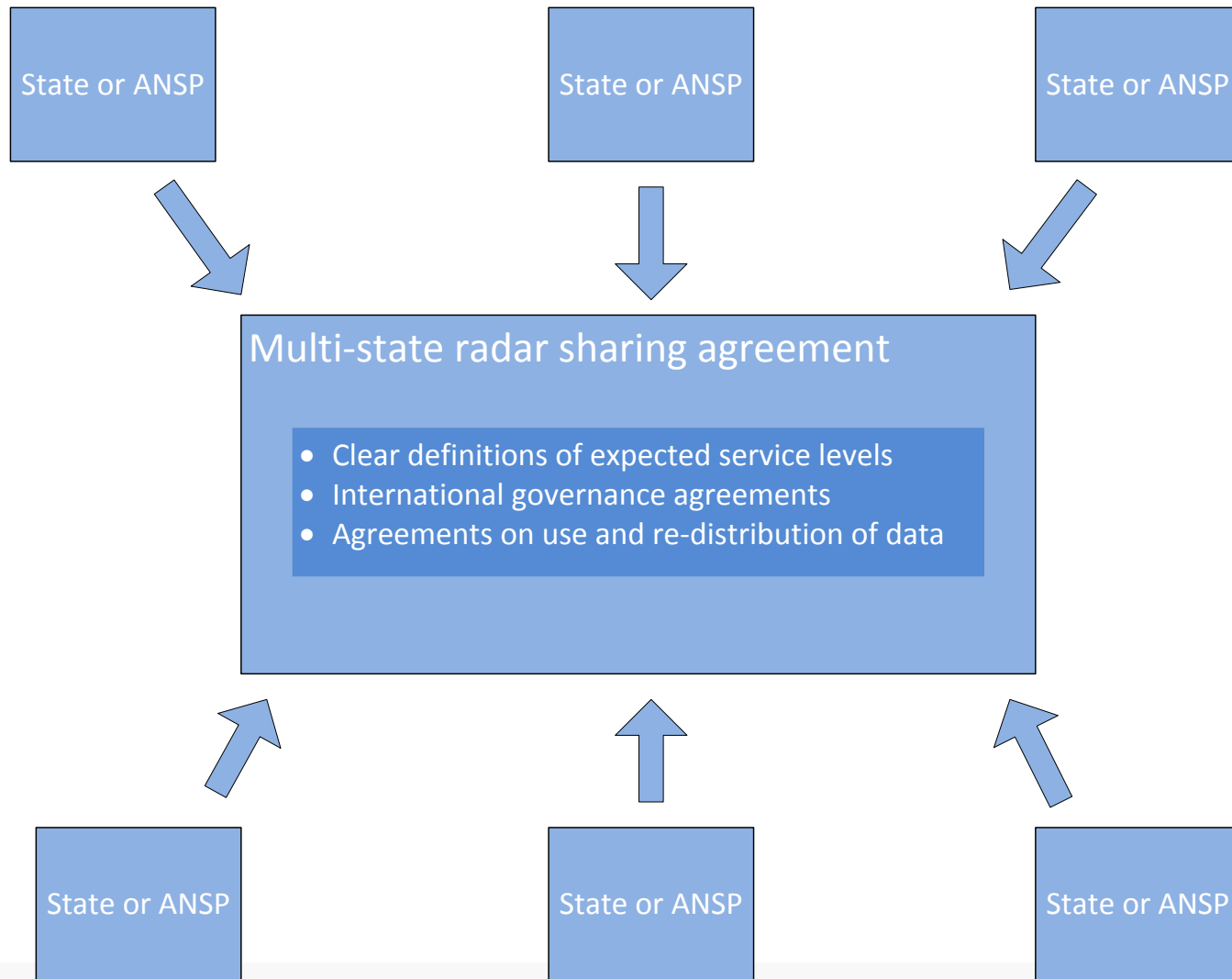Reliable IP network infrastructure

Setting-up Surveillance data sharing
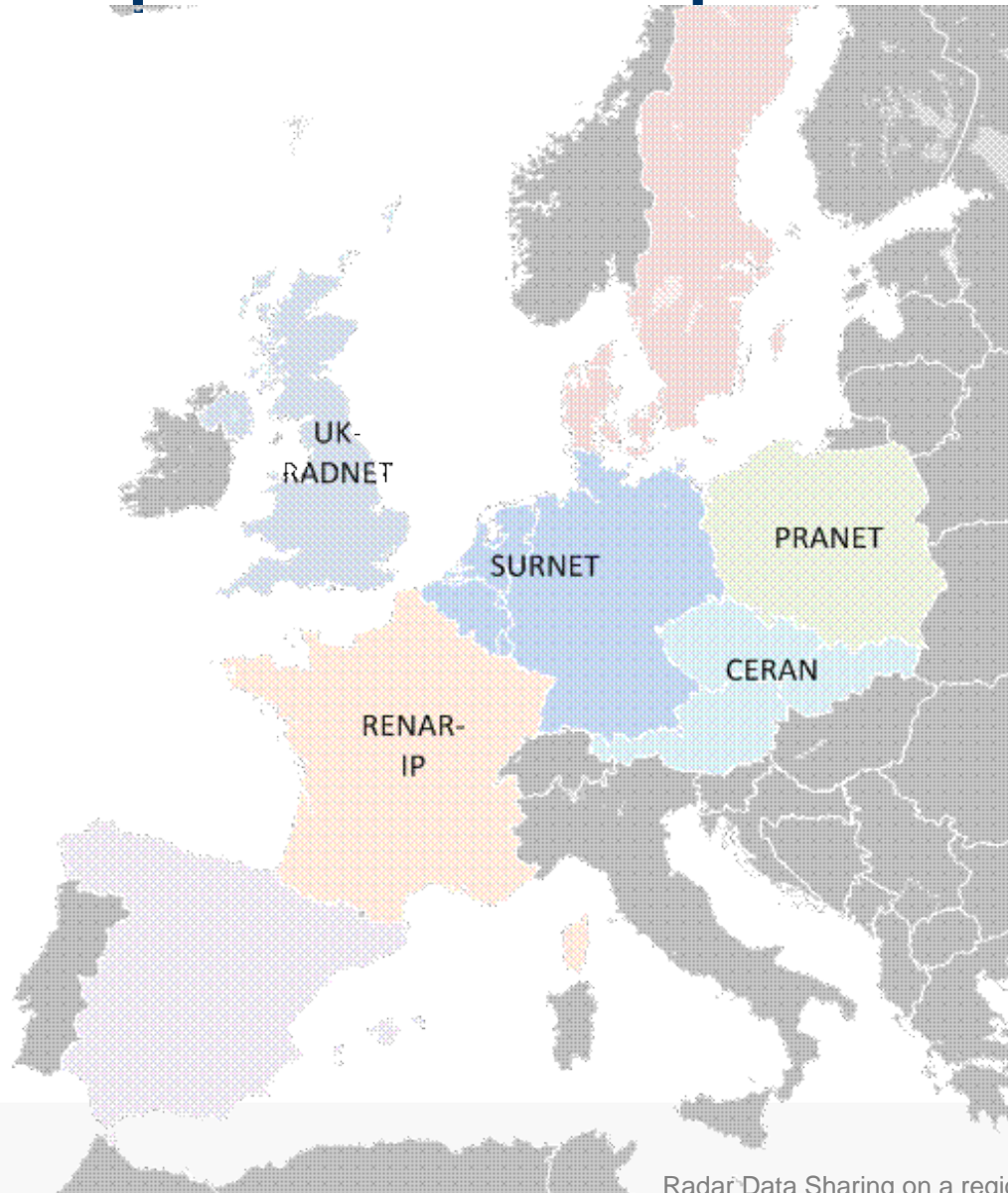# How ? Network infrastructure requirements

- Radar applications are time critical: network delay must be small

- The Network must:
  - support existing and future equipment
  - be able to use network communication bandwidth efficiently
  - provide modern standard communication protocols
  - adapt to user requirements: maximum flexibility

Setting-up Surveillance data sharing
How ? Multistate agreement(s)

State or ANSP

State or ANSP

State or ANSP

Multi-state radar sharing agreement

- Clear definitions of expected service levels
- International governance agreements
- Agreements on use and re-distribution of data

State or ANSP

State or ANSP

State or ANSP

# Surveillance data sharing Experience in Europe

- Regional surveillance data exchange practised since the early 1990's

- First network was RADNET which initially provided surveillance data to the EUROCONTROL Upper Area Control Centre from ANSPs in Belgium, Netherlands, Luxembourg and Germany

- Later it was also used for all inter-centre surveillance data exchange

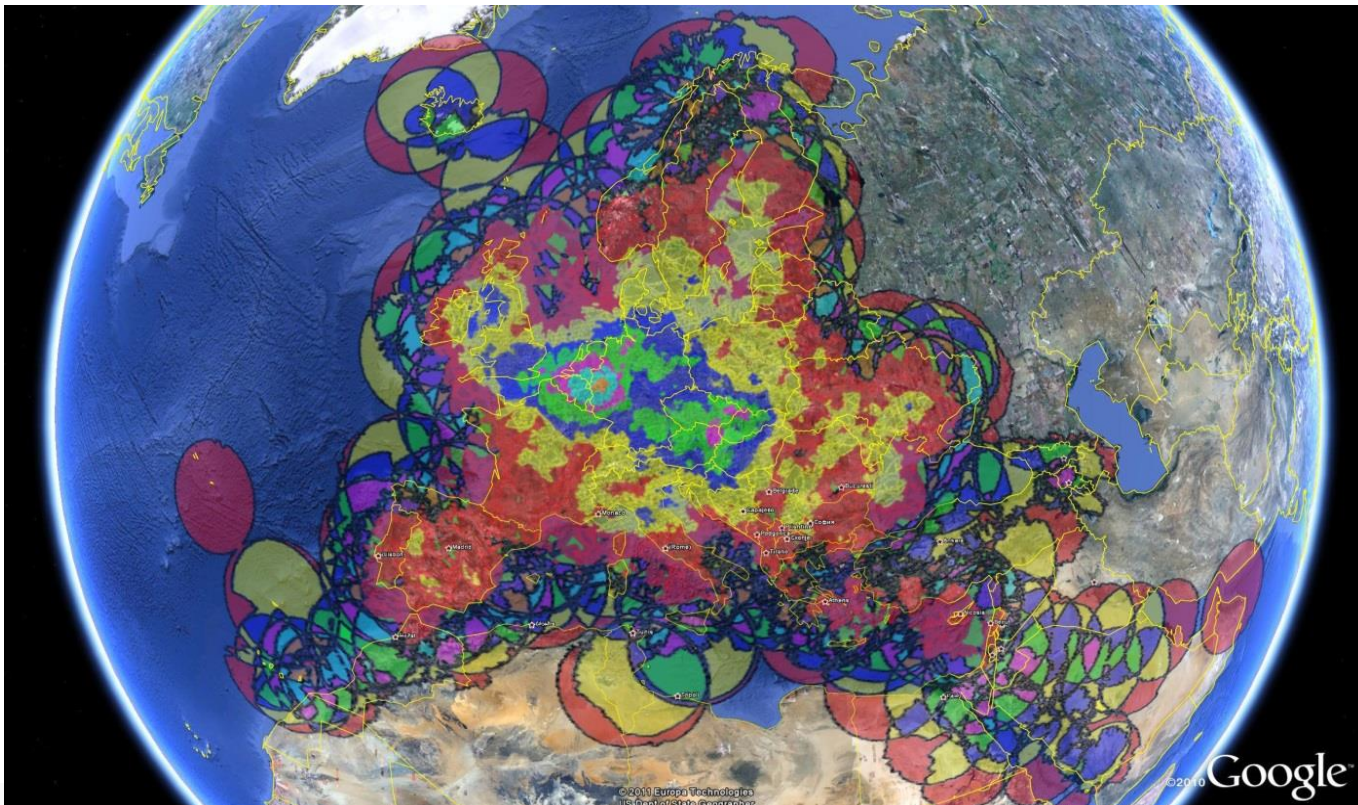# Surveillance data sharing Benefits

- Improved coverage, especially in border areas

- Cost reduction through sensor optimization

- The use of harmonised components and protocol makes interoperability easier

- The international governance structure can be used for regular user experience exchange
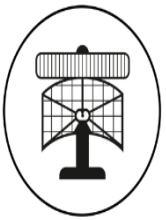
# The European tracker (ETKR) Centralised Service (CS3)

- Create a unique high quality reference of the actual air traffic situation
  - About 3.000 NM from West to East and 3.000 NM from North to South
  - Up to 15.000 surveillance targets simultaneously (incl. all IFR/VFR airborne and airport traffic)
  - Around 500 Radars and 700 Ground Stations for ADS-B and/or WAM
- Distribute required subset to customers

European Surveillance Road Map

Conclusion
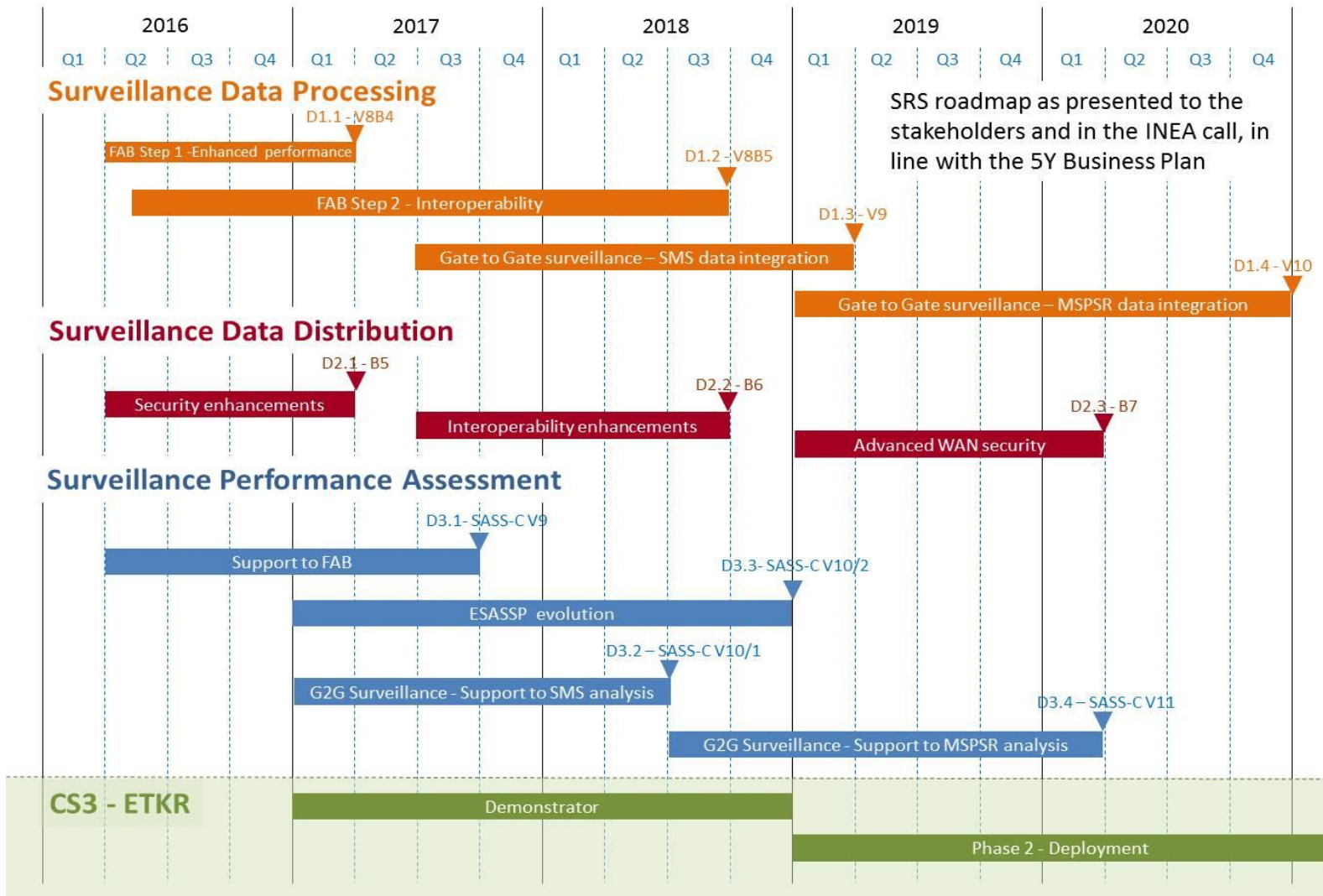
Radar Data Sharing in Europe

An indispensable tool for cost effective European Air Traffic Management