

Supporting
European
Aviation



EUROCONTROL NETWORK MANAGER USER FORUM 2023

1030/1090 MHz monitoring

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Petr Jonas NMD/INF/CNS

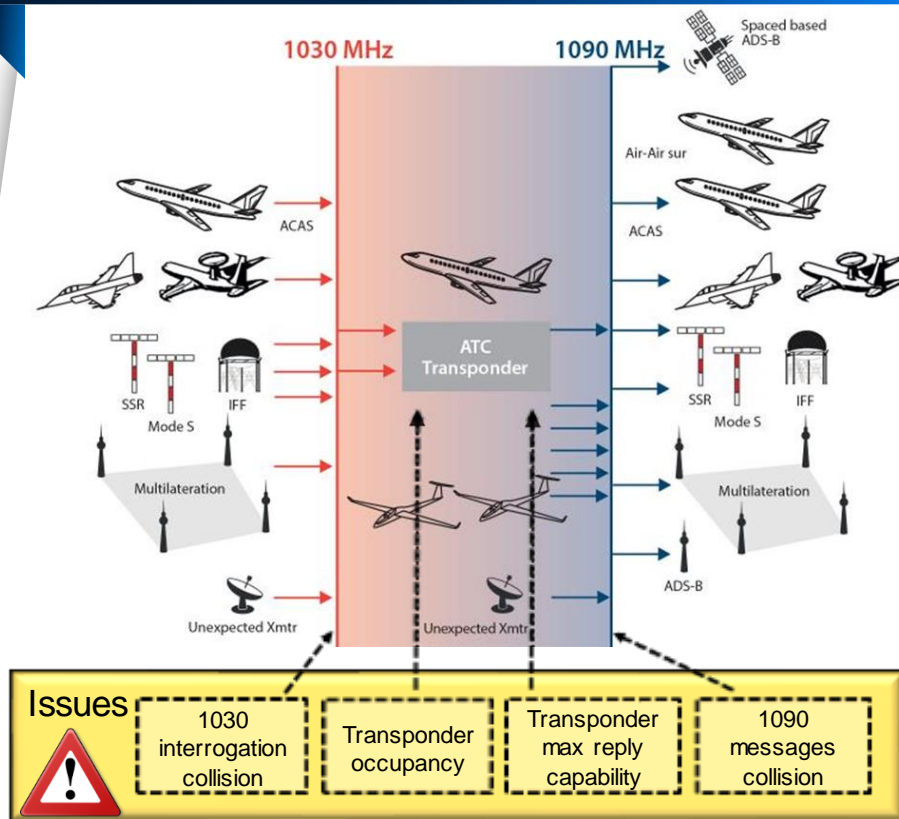


NETWORK
MANAGER



Why?

1030-1090 MHz = a critical resource



RISKS

Loss of surveillance of one or multiple aircraft

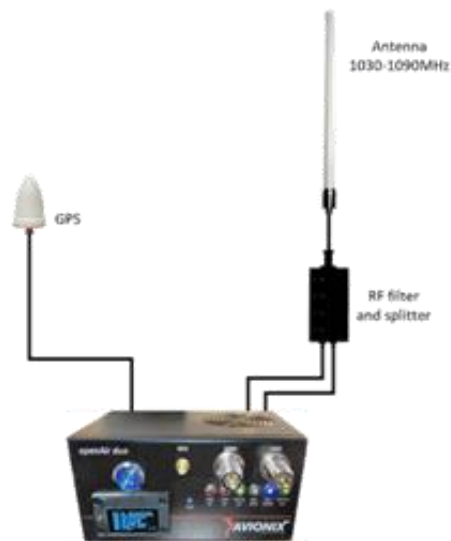
Reduction of surveillance performance requiring additional infrastructure investment

Airborne **safety net** protection **degradation**

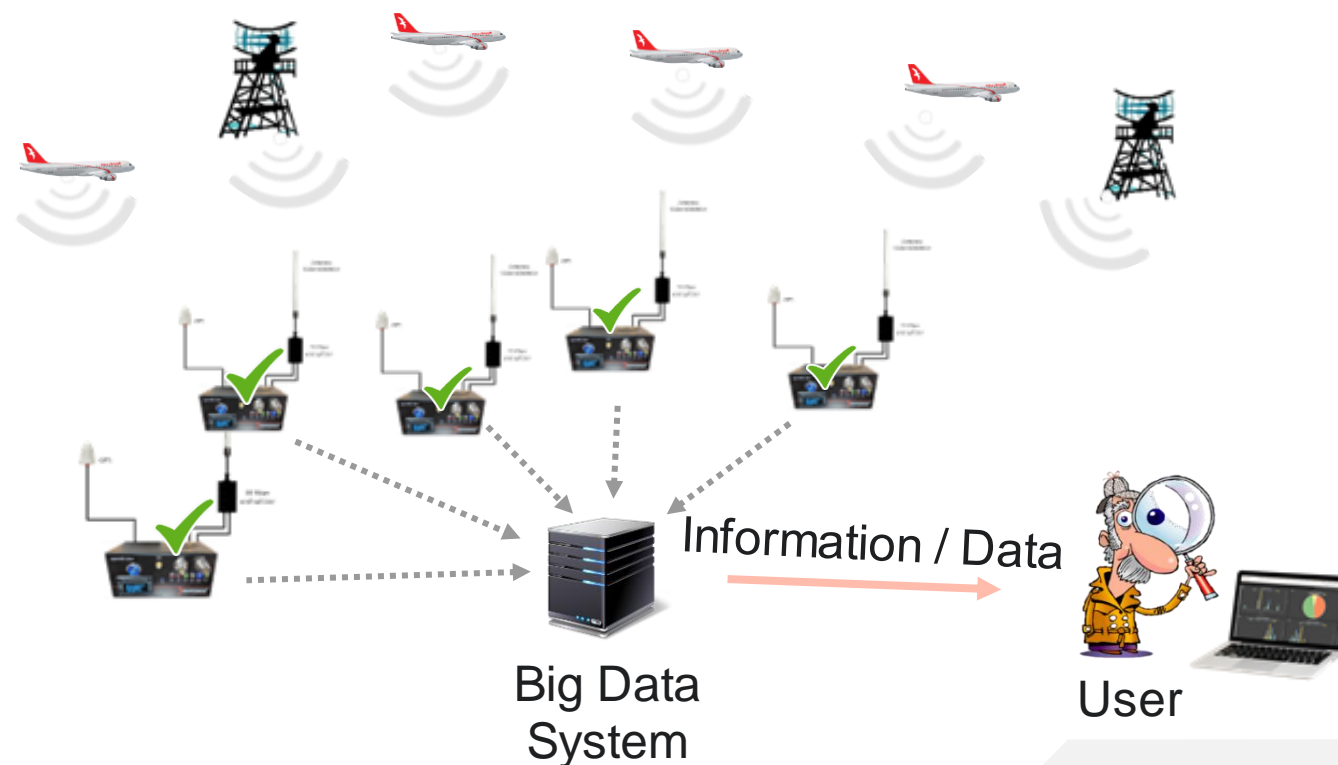
No possible traffic equipage increase

Monitoring of 1030/1090 MHz

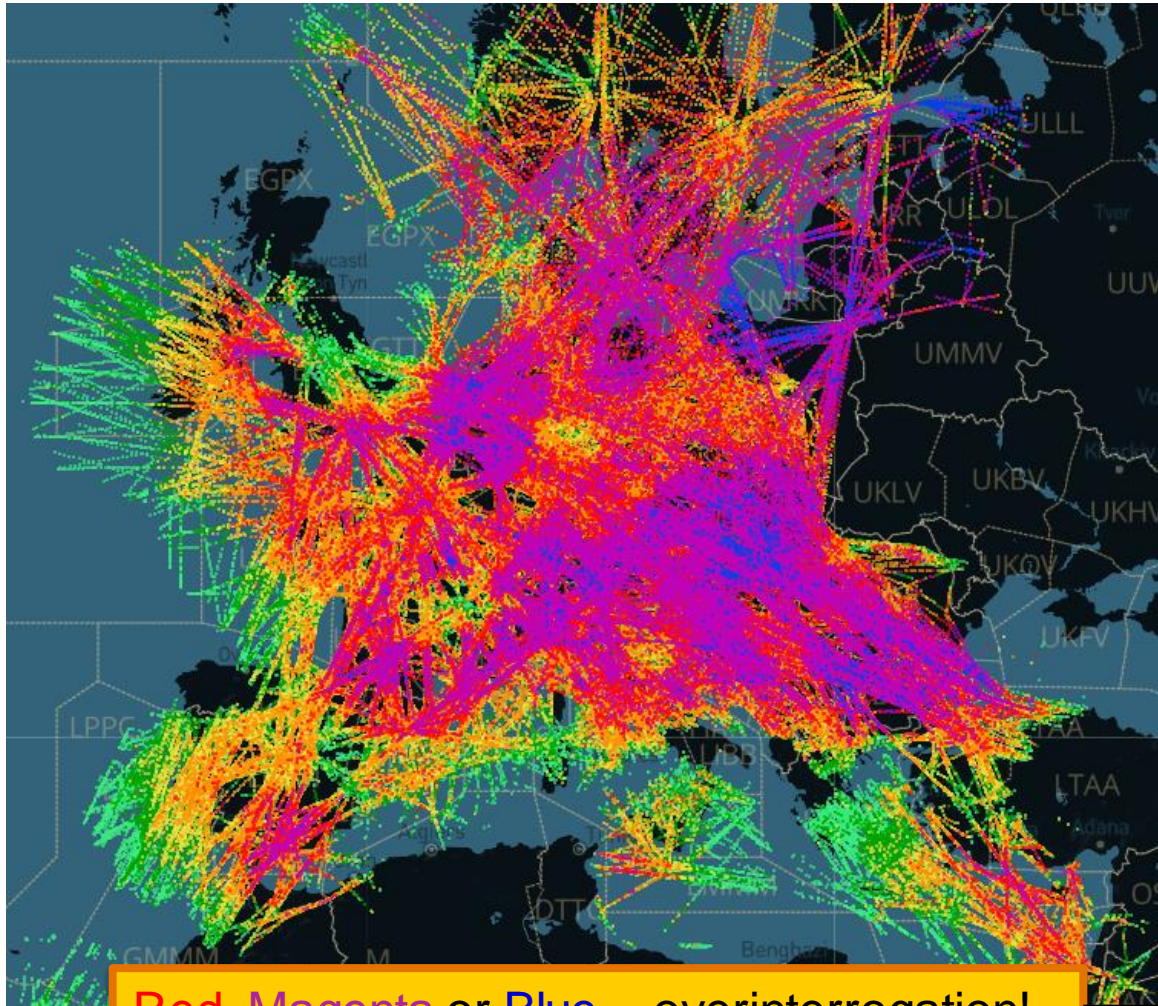
- Dual channel 1030+1090 MHz receiver
- 70 receivers installed in cooperation with local partners (e.g. ANSPs)
- Same receiver used for airborne monitoring



Flight monitoring



Mode S utilisation in Europe



Red, Magenta or Blue – overinterrogation!

Enhanced Surveillance

...is **GOOD**

- Useful aircraft parameters
- (Selected altitude, HDG, IAS, MACH, ROTD...)

...but has a **COST**

- Transponder utilisation
- RF channel occupancy

Selected altitude is extracted 4-5x each second from each aircraft in core Europe

NEED FOR ACTION

Actions

Short term

- Quick reaction and investigation of extreme events

Medium term

- Good configuration of sensors
 - Guidelines
 - Mode S interrogator configuration
 - 1030 MHz management
 - Reduction of all-calls
 - Operational Excellence Programme
 - WST 14.6 Address over-interrogation in 1030/1090 bands

OEP work with operators including military

Long term

- System modifications
- Sensor upgrades
- Data sharing
- New types of modulation
- ...

Improvement of the 1030/1090 MHz utilisation is possible while maintaining the performance and support to operations
We can MEASURE this improvement!

SUPPORTING EUROPEAN AVIATION

