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ADS-B: European Regions Airlines Association perspective

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Digital Sky and Beyond Workshop - future downstream services

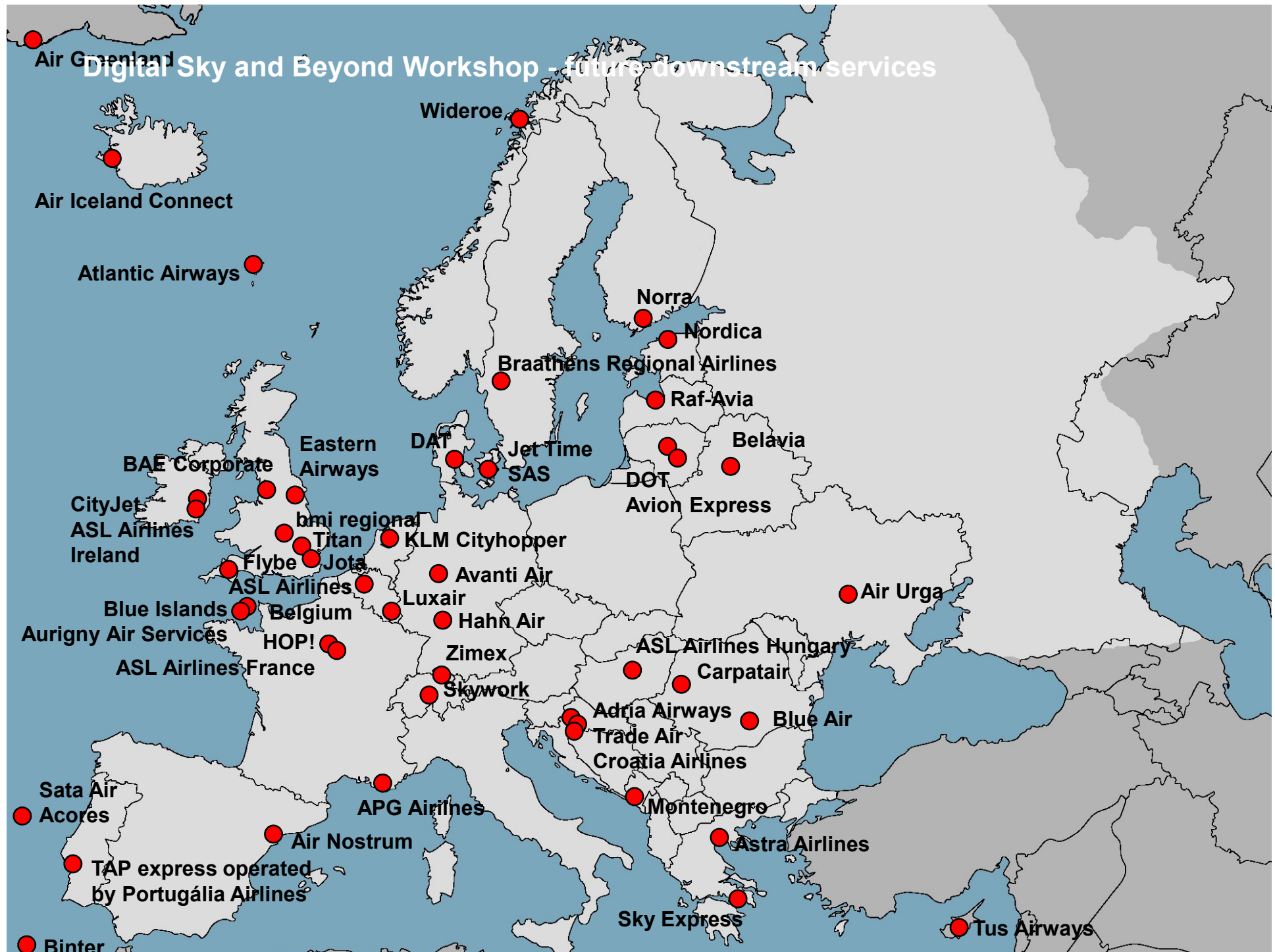


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What is ADS-B?

ADS-B is a surveillance technique that relies on aircraft broadcasting their identity, a precise GPS position and other information derived from on-board systems.

Automatic as no work is required from the pilot or Air Traffic Controller (ATC)

Dependent because it relies on on-board avionics

Surveillance information is provided to other parties. Data is broadcast every half a second from the aircraft and can be received without a contract.

ADS-B is seen as a key enabler of advanced global surveillance. It is cheaper than traditional radar infrastructure while providing a more frequent and accurate position to the controller, including enhanced data fields. There are two commonly recognised types of ADS for aircraft applications:

ADS-addressed (ADS-A), also known as ADS-Contract (ADS-C) and **ADS-B**.

Airspace User View:

Airspace users support the earliest possible use of ADS-B implementation, where there is a clear **operational, business or safety benefit** or an **improved customer value**.

Regulation (EU) 1207/2011 - Requirements for the performance and the interoperability of surveillance for the SES and its revisions 1028/2014 and 2017/386 mandate airborne equipage by **7 June 2020**

The Regulation applies to the surveillance chain consisting of:

- ➔ Airborne surveillance systems, their constituents and associated procedures;
- ➔ Ground-based surveillance systems, their constituents and associated procedures;
- ➔ Surveillance data processing systems, their constituents and associated procedures;
- ➔ Ground-to-ground communications systems used for distribution of surveillance data, their constituents and associated procedures.

Obstacles for Regional Airlines:

- ➔ Cost for Regional airlines to implement ADS-B is disproportionately high – typical estimates approximately **€70 K** per aircraft for DO-260 upgrade
- ➔ Many regional aircraft anticipated to be retired from service in the next ten years
- ➔ EASA have identified no positive cost benefit for airspace users without radar rationalisation and ground based infrastructure maturity (RMT.0679 -Revision of surveillance performance and interoperability)

Additionally, some types are architecturally difficult to retrofit due to legacy avionics and Flight Management System (FMS) interfaces...

Exemptions?



Transitional arrangements?



Who pays?

Airspace users which fly in the controlled airspace of EUROCONTROL's Member States pay for the air traffic services they use.



EUROCONTROL's Central Route Charges Office (CRCO) charges airspace users for these services on behalf of the Member States

To summarise the case for Ground Based ADS-B...

- ✈ Cost for regional airlines to retrofit = High
- ✈ Cost benefit without ground rationalisation = Nil
- ✈ User charges for EU operations = High

A Space-Based Solution?

- ➔ Seems to be a sensible option
- ➔ ADS-B already utilising a space-based GPS/EGNOS positioning signal
- ➔ Wider coverage with greater integrity
- ➔ More cost effective than ground-based infrastructure

A Space-Based Solution.....?

- ➔ A Commercially provided space-based solution will be at a cost to airspace users.
- ➔ Route Charges unlikely to compensate – how will commercially provided ADS-B be differentiated from terrestrial provision?

A Space-Based Solution?

- ➔ A rationalisation of ADS-B service provision might be a solution – space-based ADS-B as primary surveillance enabler for Single European Sky instead of costly ground based infrastructure?
- ➔ User charges adjusted or costs borne by ANSP's?
What is the relationship with ANSP's?

Conclusions

What would we like?

- ➔ A connected approach to a single, standard European Surveillance infrastructure which demonstrates clear operational, business and safety benefits to airspace user stakeholders for no additional cost or at least a flexible charging scheme for operators to avoid paying twice.

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Thank you

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