Update on Space-Based ADS-B

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Global ATS surveillance coverage
Real benefits

- Real-time, global surveillance
- Improved situational awareness
- Improved conflict detection
- More flexibility in routings and altitudes
- Significant fuel and GHG savings
- Global aircraft tracking
Aireon ADS-B via Low Earth Orbit (LEO) Satellites
Second ICAO High Level Safety Conference

- GADSS
- Voluntary implementation of global tracking
- ICAO-led demonstration of global flight tracking implementation
- WRC-15 to provide spectrum allocations for global ATS surveillance
- Montreal Declaration by DGCAs
Global ATS surveillance = Global tracking
Payload by Harris Corporation
• Harris selected to build 81 space-qualified ADS-B receivers
• 50+ years designing and manufacturing space hardware and major FAA contractor
• Design phase complete; production on-going

Hosted Payload Operations Center supported by Iridium
• Developed by an Iridium/Boeing team in Virginia and Arizona

Systems engineering and ground data processing system by Exelis
• Exelis has significant expertise and existing infrastructure supporting the FAA ADS-B terrestrial system deployment
• Successful Preliminary Design Review completed
Aireon ALERT

- Aircraft Locating and Emergency Response Tracking
- Global emergency tracking service
- Free of charge, offered as a public service
- Rescue agencies can request location and last flight track
- Available for any ADS-B transmitting aircraft
- www.aireon.com/ALERT
Aircraft equipage

- DO-260, DO-260A and DO-260B are all suitable
- System will accept DO-260C when appropriate
- Top-mounted antenna
  - Also required for ACAS
ANSP Considerations

- Communications capability
- Mixed mode or mandatory equipage
- ATM automation
  - Track display
  - Conflict prediction
NAV CANADA’s approach
Implementation plan
Focus first on procedural separation in the NAT

- 1,000 – 1,300 flights per day
- Over 400,000 flights per year
- 92% are already ADS-B equipped
- 86% are FANS 1/A equipped
- 88% are capable and use CPDLC
Phased implementation

- Phase One: 15 NM longitudinal separation
- Phase Two: 15 NM lateral separation
- Phase Three: 15 NM centre to centre separation
Questions?

Everything should be made as simple as possible, but not simpler

(Albert Einstein)

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Thank you