



Update on Space-Based ADS-B

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NACC ADS-B IMPLEMENTATION MEETING (ADS-B/IMP) April 2015

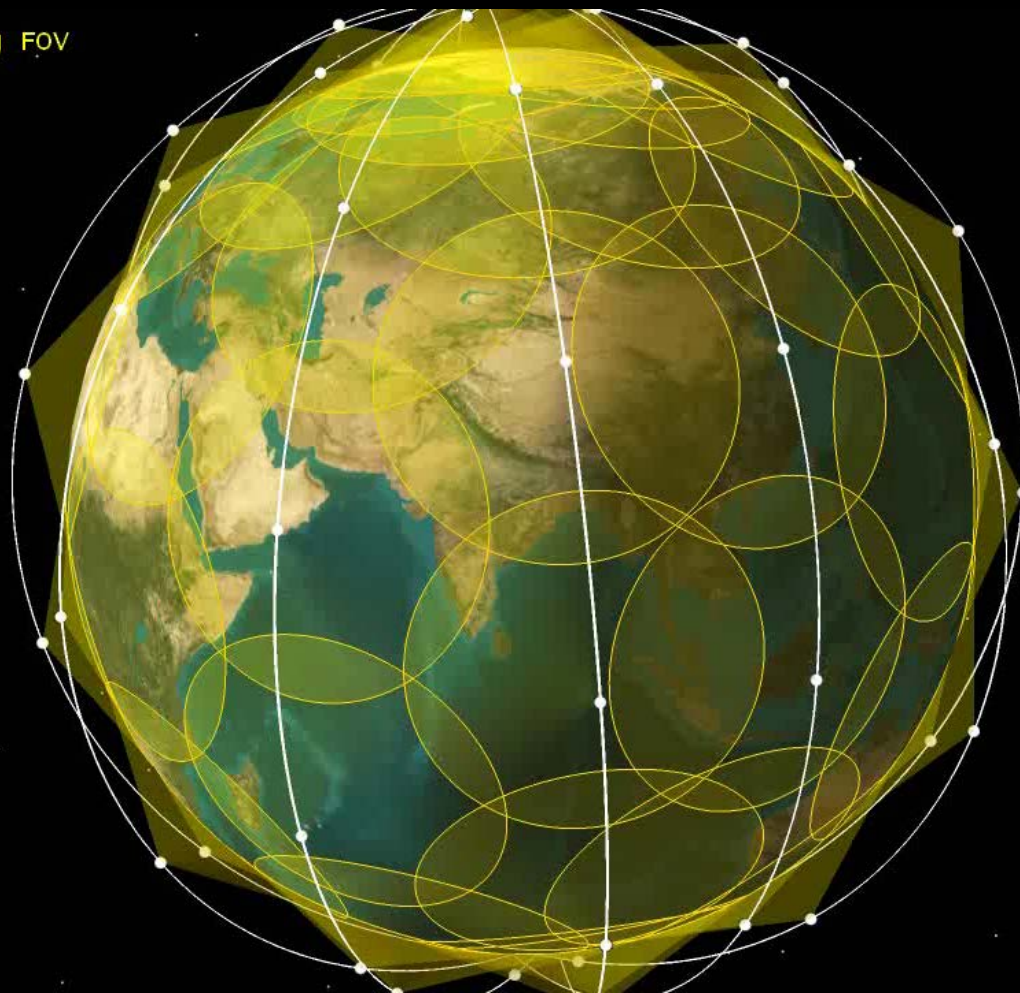
NAV CANADA

AU SERVICE D'UN MONDE EN MOUVEMENT



Global ATS surveillance coverage

62deg FOV



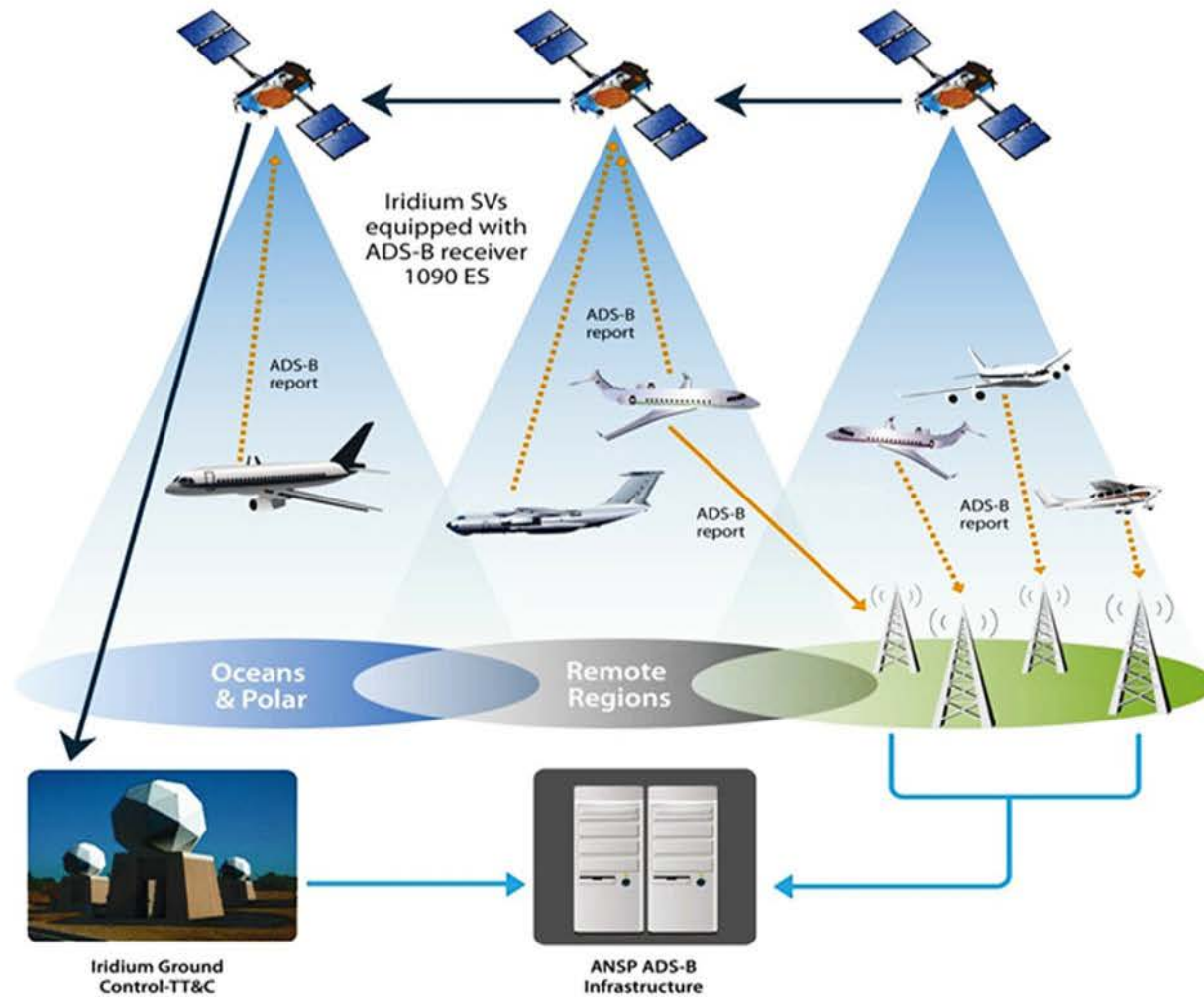


Real benefits

- Real-time, global surveillance
- Improved situational awareness
- Improved conflict detection
- More flexibility in routings and altitudes
- Significant fuel and GHG savings
- Global aircraft tracking



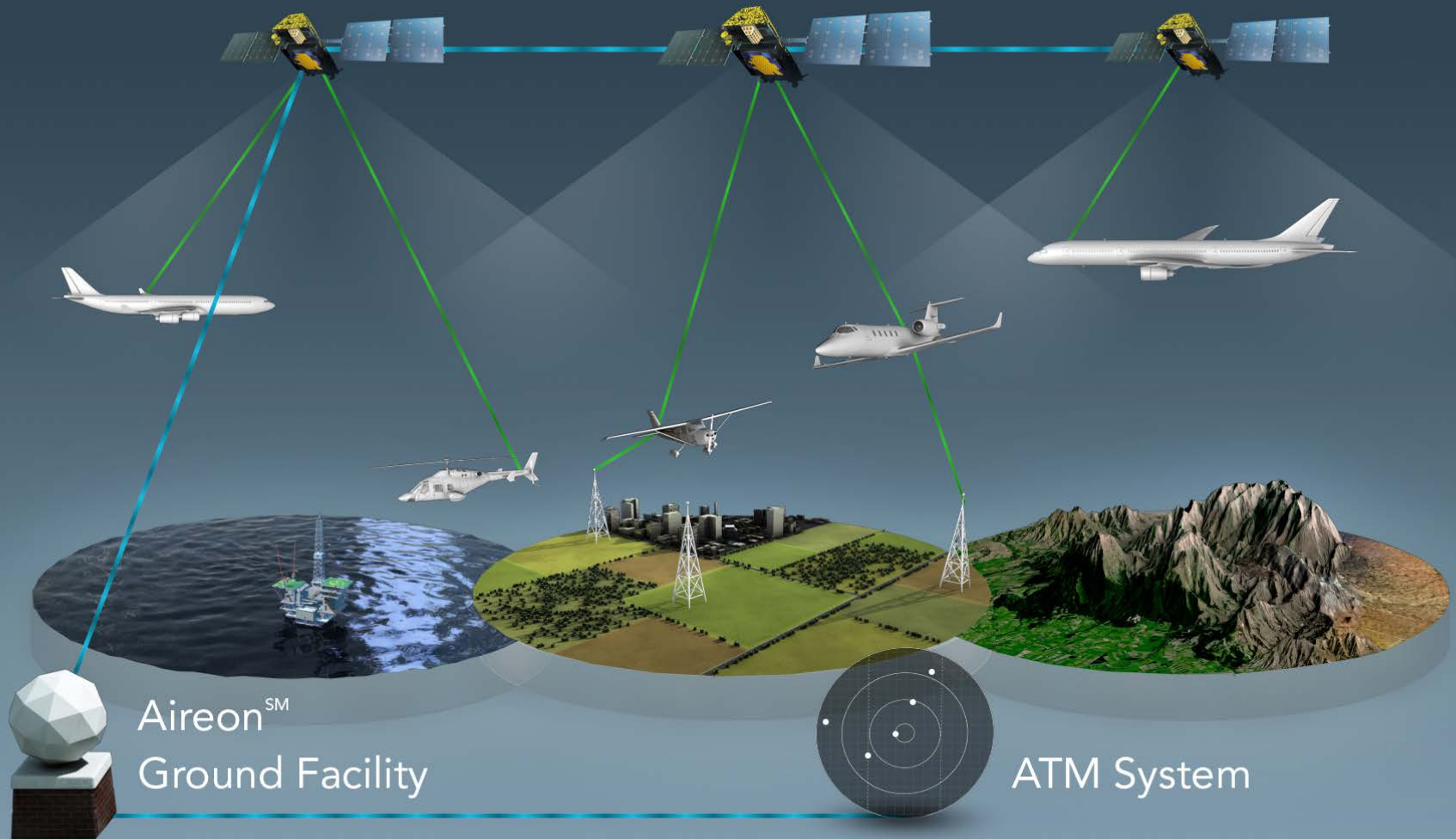
Aireon ADS-B via Low Earth Orbit (LEO) Satellites



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 DGCAAs

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

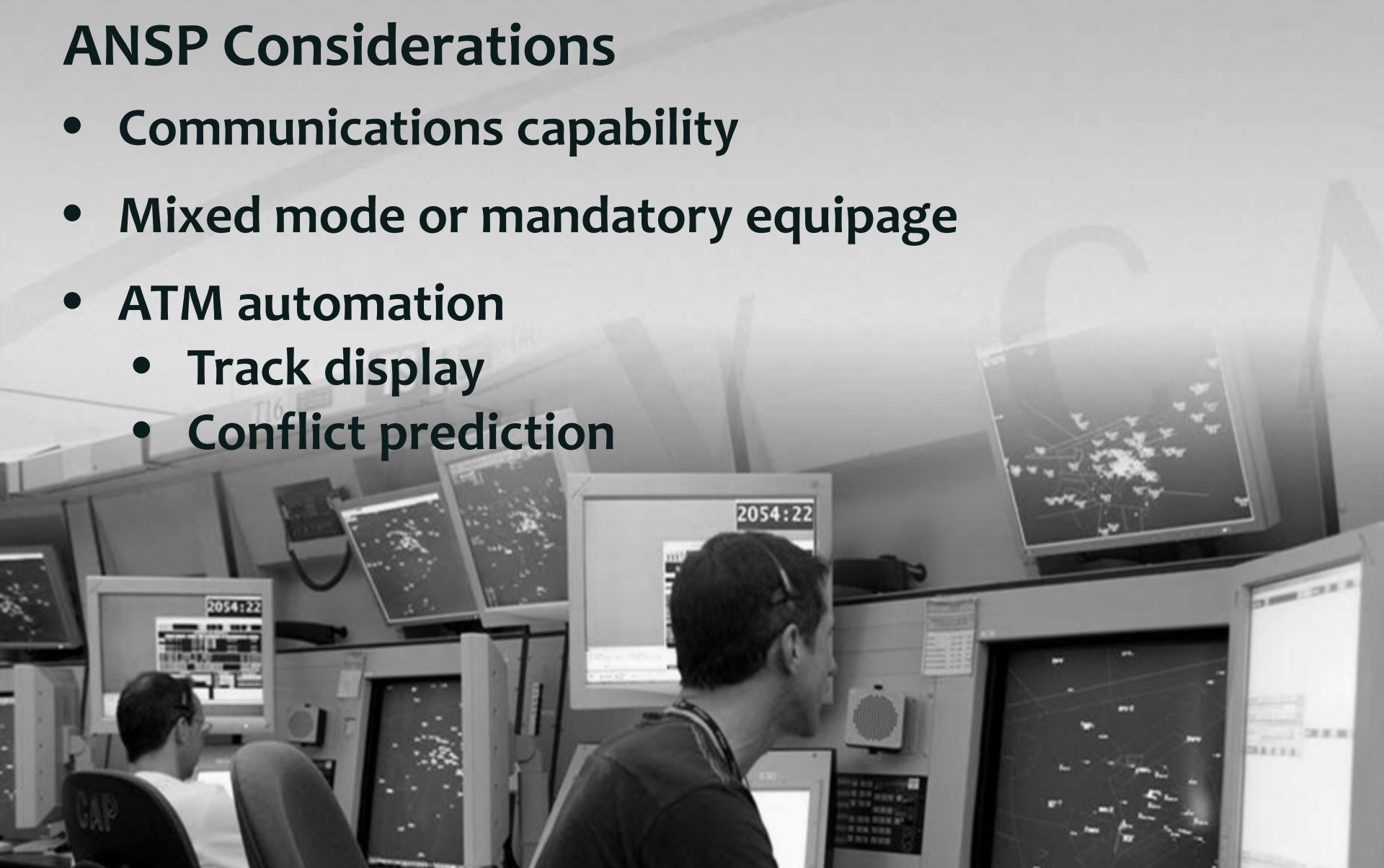
- DO-260, DO-260A and DO-260B are all suitable
- System will accept DO-260C when appropriate
- Top-mounted antenna
 - Also required for ACAS





ANSP Considerations

- **Communications capability**
- **Mixed mode or mandatory equipage**
- **ATM automation**
 - **Track display**
 - **Conflict prediction**





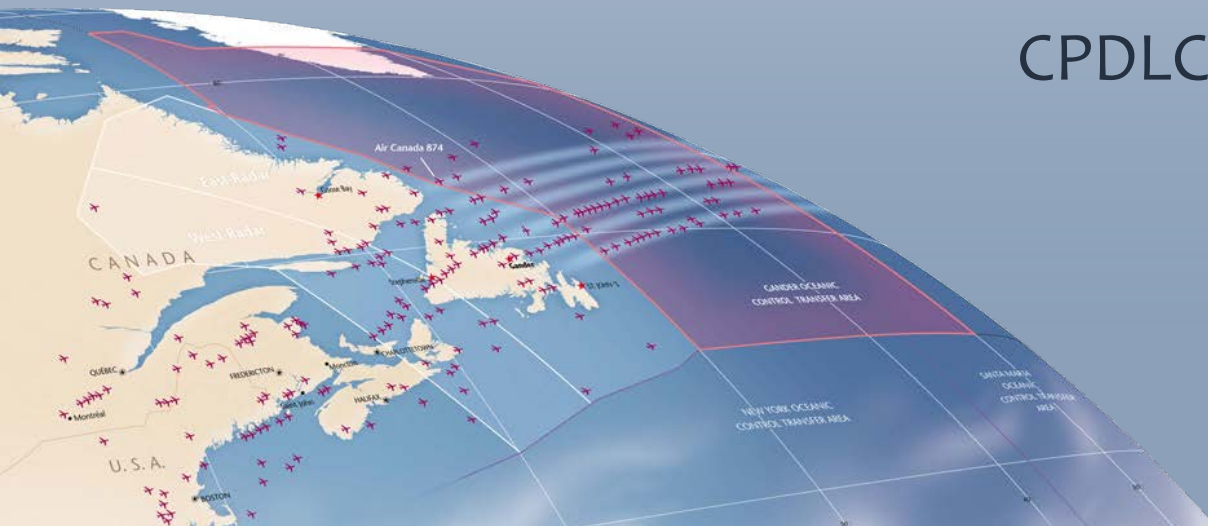
NAV CANADA's approach



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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SERVING A WORLD IN MOTION



Thank you

