



SPACE-BASED ADS-B: BENEFITS

Unlike traditional air traffic surveillance technologies, Aireon's space-based Automatic Dependent Surveillance-Broadcast (ADS-B) extends air traffic surveillance over oceans, mountains, remote areas and polar regions. This bypasses the limitations of ground-based air traffic surveillance, which is often restricted by location, cost and power requirements.

Ground-based systems have an estimated 70 percent of global airspace without any real-time air traffic surveillance coverage. By eliminating these global blind spots, space-based ADS-B allows for increased safety, precise aircraft locations, improved search and rescue response, reduction in gross navigation errors, improved cross-border safety and faster pilot/controller communication.

Space-based ADS-B safety benefits include:

Improved airspace safety by ensuring 100 percent air traffic surveillance coverage in all sectors, and across boundaries

- Lowered risk of data/flight plan loss through continuous surveillance
- Enhanced situational awareness inside/outside a sector
- Reduced breach of neighboring boundaries at incorrect location/time
- Elimination of blind spots and radar stitching across sector boundaries
- Early detection of emergency transponder codes
- Reduced complexity through harmonization of operating environment

Reduced controller response time to abnormal situations

- Early detection of potential gross navigation errors, allowing a controller to intervene sooner and reducing risk of incidents and the possible loss of separation
- Increased controller ability to allow deviations for turbulence hazardous weather
- Enabling earlier rapid decompression descents in a procedural environment

Enhanced search and rescue response over oceans, remote areas and polar regions

- The precise GPS-based air traffic surveillance improves the ability to perform safety-of-life search and rescue missions. Controllers have more accurate information about an aircraft's last position, thereby reducing the critical window of time involved in a search and rescue.

Real-time position reports of all ADS-B equipped aircraft, anywhere in the world

- Augment traditional surveillance for optimum coverage at lower altitudes, oceanic and remote terrain
- Redundant contingency source for legacy surveillance, resulting in fewer surveillance outages due to maintenance, weather and unplanned system occurrences

Improved regulatory compliance

- Early compliance with the ICAO Aviation System Block Upgrades (ASBU) and Global Air Navigation Plan (GANP)
- Compliance with ICAO global flight tracking proposals like Global Aeronautical Distress and Safety System (GADSS) for airlines
- Facilitating compliance for ANSPs to deliver a service consistent with regulatory airspace rules

