TECHNICAL OVERVIEW

Aireon's space-based Automatic Dependent Surveillance-Broadcast (ADS-B) system will provide unprecedented 100 percent global surveillance coverage to all aviation stakeholders. The system will receive and process ADS-B signals broadcast from aircraft equipped with 1090 MHz ADS-B transponders, without requiring additional Air Navigation Service Provider (ANSP) surveillance infrastructure or airline equipage.

The Aireon system has been designed to address the safety, efficiency, availability and performance requirements that have been mandated by many air traffic organizations worldwide.

Aireon's ADS-B system is made up of two segments: the Aireon space segment and Aireon ground segment.

THE AIREON SPACE SEGMENT

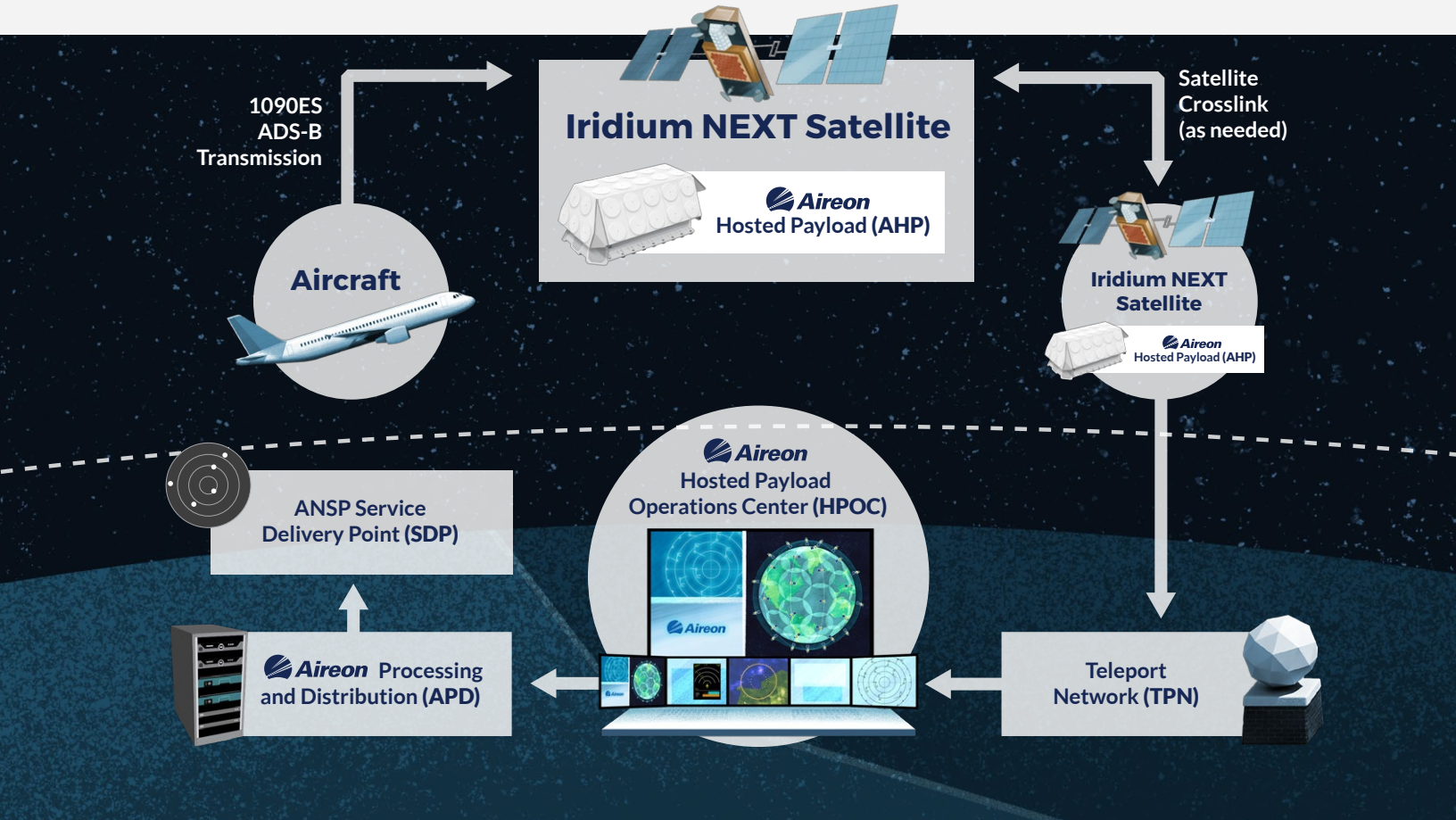
Iridium NEXT is hosting the Aireon system and is the only satellite constellation with the capability and reach to enable global air traffic surveillance due to its orbital configuration. This configuration provides complete global coverage, including oceanic and polar regions, without the need for ground stations. No other system, existing or planned, will enable such an opportunity for aviation stakeholders.

The Aireon space segment consists of the Aireon receiver, known as the Aireon Hosted Payload (AHP), which will be located on each of the 66 Iridium NEXT satellites and distributed over six polar orbital planes. The AHP will receive, demodulate and transfer received ADS-B messages through the Iridium NEXT main mission payload, which will be routed over crosslinks between Iridium NEXT satellites and downlinked to an Iridium teleport network before reaching the Aireon ground segment.

THE AIREON GROUND SEGMENT

The Aireon ground segment will be comprised of the Hosted Payload Operations Center (HPOC) and the Aireon Processing and Distribution (APD) system. The HPOC will provide all the functions required to monitor and control the AHP, including telemetry monitoring, failure recovery and remote con guration. The HPOC will process data to/from the Iridium Teleport Network and manage link bandwidth.

The APD will process all ADS-B mission data, provide mission planning and payload tasking functions (such as antenna and target scheduling) and deliver mission and status data to the ANSPs. The APD will acquire ADS-B targets and check for duplicates, generate ANSP reports, calculate and store Technical Performance Measures (TPM) and archive system data. The APD will also provide the operator interface for system monitoring, control and analysis.



KEY TECHNICAL AND PERFORMANCE PARAMETERS

Surveillance Datalink	1090ES ADS-B (DO-260 versions 0,1,2)
Aircraft Transmitter Classes Supported	A1 or higher with a top-mount antenna
Data Format to ANSP	ASTERIX CAT021, CAT023, CAT025, CAT238 and FAA CAT033 and CAT023
System Coverage	Continuously Global
Availability	≥ 99.9% (ICAO GOLD Standard for surveillance)
Latency	≤ 2s to Service Delivery Point (SDP)
Update Interval	95% of reports ≤ 8s in most areas

ADS-B DATA

The Aireon system will receive and process data from all three versions of 1090 MHz ADS-B transponders. The supported standards are DO-260, DO-260A, and DO-260B (Link Versions 0, 1, and 2, respectively). The current standard is DO-260B/ED-102A and has the highest integrity value of the three versions of ADS-B.

Aireon will derive ADS-B data from onboard aircraft sensors and equipment, including information such as horizontal position and altitude, velocity, navigation quality metrics, aircraft identification and call sign, as well as other parameters, such as selected heading and altitude from a flight management system.

Traditional radar equipment provides aircraft position information every five to 12 seconds, with accuracy determined by the type of radar and the range of the aircraft to the radar. ADS-B systems provide more frequent position updates at up to twice per second, with satellite-based GPS far more accurate than traditional radar surveillance.

RELIABILITY, REDUNDANCY AND PERFORMANCE

The Aireon system, Iridium NEXT and Aireon's ground data processing system are all designed and built with a redundant, fault-tolerant system architecture to provide high availability and resiliency.

Due to the polar orbit of Iridium's satellite constellation, Aireon's ADS-B system will provide continuously overlapping surveillance coverage throughout global airspace as latitude increases. Additionally, because the Iridium NEXT Low Earth Orbit (LEO) satellites will travel over the circumference of the earth in about 100 minutes (moving at about 3NM/s), the impact of any single satellite outage would be significantly minimized.

ADS-B position messages can be detected up to as often as they are transmitted by the aircraft (twice per second). The system has been designed to meet the EUROCAE ED-129B and EUROCONTROL GEN SUR SPR specifications to provide a probability of update performance of greater than or equal to 95 percent within an 8-second time window. This surveillance performance exceeds the 12 second rotation period of currently operational en-route radars and potentially meets the application of (5 NM) en-route separation with the appropriate navigation and communications capabilities.

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In partnership with NAV CANADA, the Irish Aviation Authority (IAA), ENAV and Naviair, as well as Iridium Communications, **the Aireon space-based ADS-B system will extend ADS-B capabilities to every FIR in the world** – including current procedural oceanic, polar, desert and mountainous airspace and provide accurate, real-time visibility of ADS-B equipped aircraft.