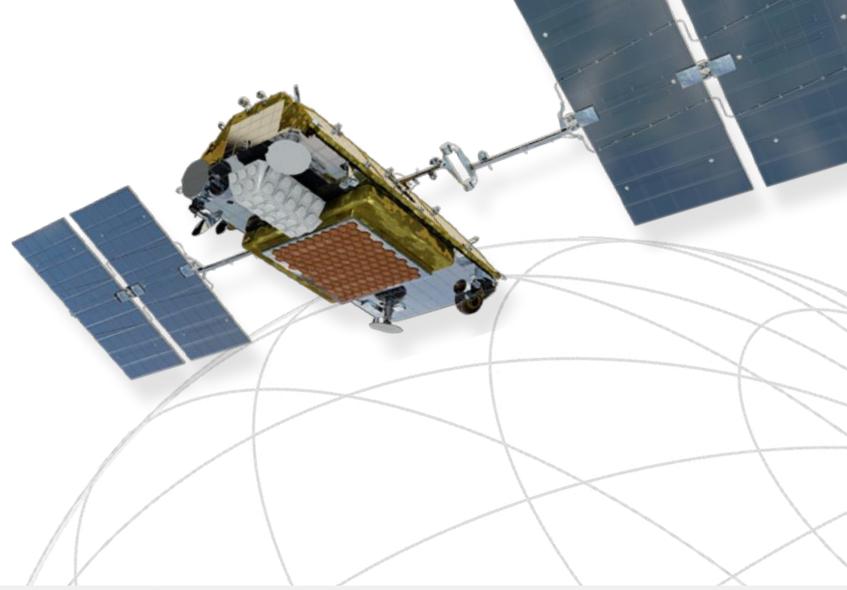




# OPERATIONAL SURVEILLANCE SOLUTIONS



Aireon's space-based, global surveillance system is Automatic Dependent Surveillance-Broadcast (ADS-B) on a satellite. Instead of utilizing traditional radio towers on the ground, Aireon has redesigned them into flexible and highly-effective, space-grade receivers hosted on the global satellite constellation, Iridium NEXT. This will allow for 100 percent air traffic surveillance using the same ADS-B avionics already installed on aircraft.

Space-based ADS-B will be a turn-key surveillance solution, delivering traditional ADS-B messages directly to the Air Navigation Service Provider (ANSP) like traditional ADS-B radio would do. The major difference is that the Aireon delivery point will provide a single source for all 1090ES aircraft for the entire Flight Information Region (FIR) and beyond.

## Integration with Existing ATM Platforms

Today's Air Traffic Management (ATM) automation platforms already have the capabilities to layer a multitude of surveillance sources, through radar, Wide Area Multilateration (WAM), ADS-B and even conformance monitoring through Automatic Dependent Surveillance-Contract (ADS-C) tracking. The Aireon system will not require any major hardware changes or ground installations, and allow for minimal disruption of automation platforms that already handle ADS-B. Advanced ATM automation platforms and trackers can prioritize targets and present the best and most reliable target to the controller.

With current surveillance procedures, each individual source of surveillance data needs its own telecommunications connection, hardwired into the system. Aireon will be a single, continuous layer of surveillance data into the automation platform. This source can be used as a sole-source of surveillance with Very High Frequency (VHF) to achieve 5NM separation, the same way traditional ADS-B can be used. It can also be augmented with radar or WAM to fill gaps, eliminate line-of-sight issues or provide an independent redundancy for the entire surveillance system.

Due to the low cost of space-based ADS-B, the signal can be easily duplicated in towers, contingency centers and even between ANSPs to improve cross-border safety and redundancy.

## Next-Generation Capabilities

Over oceans and remote terrains, Aireon will provide surveillance in areas where procedural separation can currently only be enhanced with ADS-C, leaving significant challenges with crossing traffic, routes, climbs and speed. By combining the use of space-based ADS-B with Controller-Pilot Data-Link Communications (CPDLC), Aireon customers will have the potential to lower oceanic separation to 15NM as early as 2018, unlocking and delivering significant benefits to the end users of the system.

