Enhanced air domain awareness for the national security community

Key attributes for national security applications

▸ **Global:** Coverage from floor to 127,500 feet

▸ **Persistent:** 1–8 second update interval

▸ **Low latency:** normally < 2 seconds

▸ **High availability:** ≥ 99.0% end-to-end system

▸ **Resilient:** Overlapping coverage and on-orbit spares

▸ **Enduring:** Historical data set from 2019

▸ **Focused:** RF spectrum coverage (1090MHZ)

▸ **Trusted:** Architecture includes encryption and cyber-spoofing detection capabilities

▸ **Shareable:** Commercially available data is easily shared with coalition partners

▸ **Accessible:** Distributable from Gov Cloud planned in 2024

▸ **Valid:** Independent verification and validation of positional data
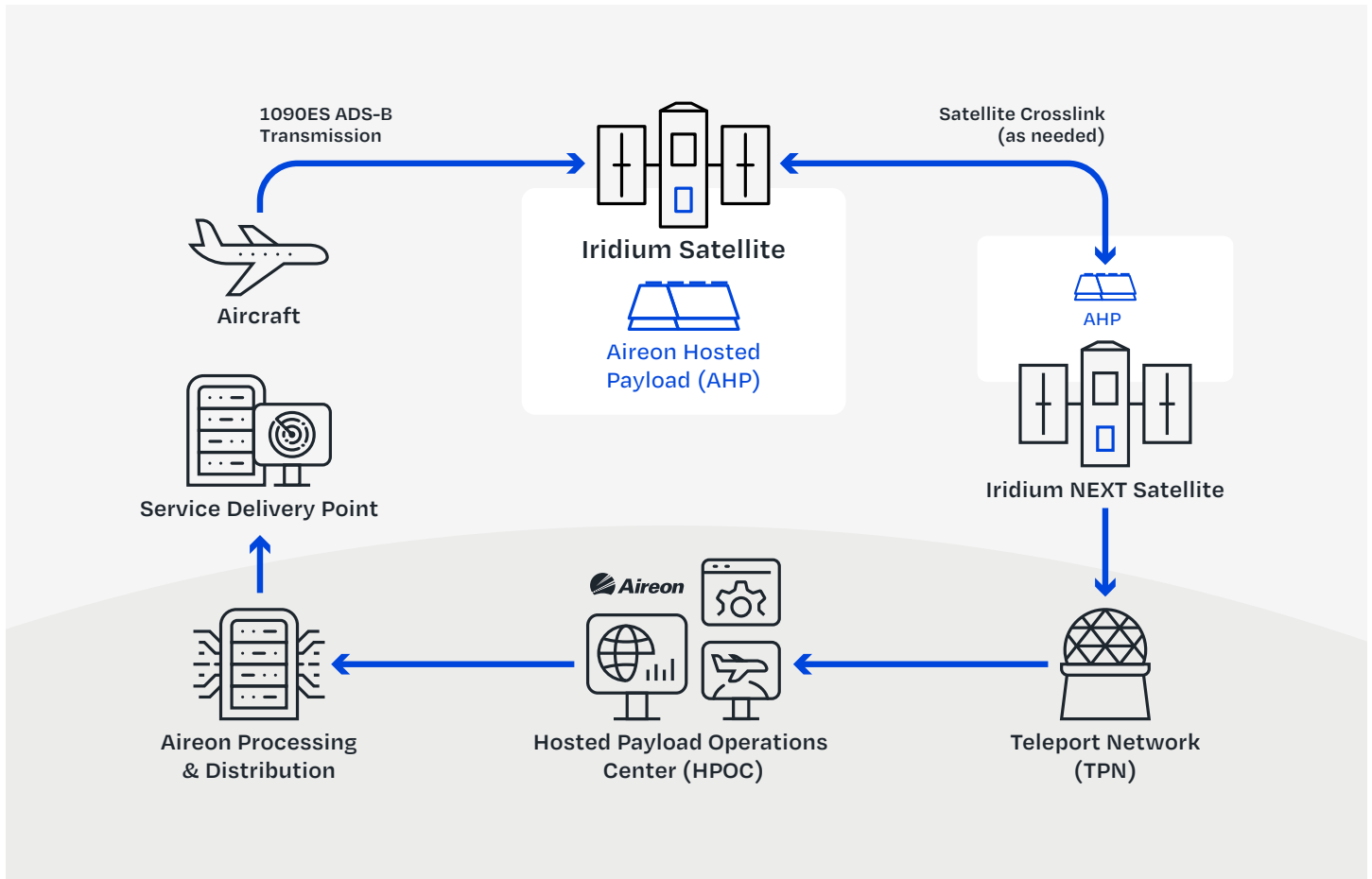
The National Security Community relies on surveillance and intelligence sources that can be trusted, accessed in real time, and analyzed to deliver critical insights and improve decision making. Aireon controls all methods and means of its space-based surveillance, encrypting data from collection to distribution, to ensure its validity.

Aireon's Automatic Dependent Surveillance-Broadcast (ADS-B) service delivers mission-critical, aircraft-derived information — including identity, GPS position, altitude and more. Collected by payloads hosted on the Iridium satellite constellation and delivered in real-time, it provides your surveillance and intelligence operations with an unprecedented layer of reliability, security, and flexibility, anywhere on the globe.

Since becoming operational in 2019, the Aireon system has generated an archive of location and position data of all ADS-B-equipped aircraft worldwide. Scalable to any need, Aireon's data-as-a-service subscription offerings include real-time reporting to enhance track quality, custody, and identification; while improving anomaly detection with historical data sets available to assist pattern-of-life analysis.

▲ Data streamed directly to your preferred delivery point via TCP/IP protocols, or available in file format for historical data sets.

Aireon's space-based surveillance offers unique insights beyond typical plane tracking services. Assessment of GPS quality is a data field inherent in every ADS-B message, allowing Aireon to leverage each target it tracks as a sensor for indications of potential GPS interference. Additionally, Aireon develops a Time Difference of Arrival-aided reference track that validates reported positions, and can enable alerts for possible GPS and position spoofing events.

Potential national security applications

▶ Common Operating Picture (COP) / Common Intelligence Picture (CIP)
  ≫ Data layer for Battle Network sensor grid
▶ "Detect and Avoid" assistance to Beyond Visual Line of Sight remotely piloted aircraft
▶ Indications and warning of GPS interference
▶ Object identification and validation to tip other sensors
▶ Alerting for illicit activity such as suspicious aircraft, anomalous avionics, and position spoofing
▶ "Pattern-of-life" analysis and corroborative tracking source for Activity-Based Intelligence
▶ Airspace safety analysis and pre-flight mission planning
▶ Air traffic surveillance for remote and expeditionary military airfields and offshore training ranges
▶ Search and Rescue (SAR) cueing