

Flight Events

High-fidelity, event-focused flight records that provide a complete flight story without continuous positional tracking



AireonINSIGHTS Flight Events provides event-focused flight records derived from Aireon's space-based ADS-B network. As part of the AireonINSIGHTS product line, Flight Events delivers a complete flight story — from Transponder On to Transponder Off — without requiring continuous positional tracking or analysis of every ADS-B message. Users gain the high-fidelity accuracy of Aireon's space-based ADS-B data, in an event-centric format that pinpoints critical moments in each aircraft's journey, offering a streamlined alternative to full-time location feeds.

To generate each flight's story, Aireon applies a structured process that converts ADS-B data into meaningful event records.

Satellite ADS-B reception — Aireon's space-based receivers pick up ADS-B broadcasts from equipped aircraft worldwide.

These broadcasts contain critical flight parameters (latitude, longitude, altitude, velocity, and aircraft identification data). Aireon's unique global coverage ensures that flight data is captured anywhere on the planet, including remote oceanic and polar regions.

Key benefits of flight events

Event-based insights
for a complete flight picture without full-time tracking

Global gate-to-gate coverage
including remote, oceanic, and polar regions

Secure and verifiable data
with immutable records and encrypted storage

Streamlined integration
via Azure Cloud with JSON-formatted outputs

Custom data bundles
including OOOI, flight cycles, and full flight profiles

Secure data transfer — Once Aireon satellites collect the ADS-B messages, the data is securely transmitted to ground stations and subsequently relayed to our Flight Events infrastructure.

Data integrity and custody — Our system maintains an immutable record of each ADS-B message, ensuring transparency and traceability. We employ encrypted data storage, industry-standard access controls, and rigorous backup procedures to safeguard data integrity and reliability.

Message parsing — Once the ADS-B messages are ingested, our platform parses each broadcast to extract essential fields (e.g., flight identifier, timestamps, coordinates, altitude, heading, speed).

Flight correlation — The system then correlates individual messages to form a continuous flight profile. By linking consecutive ADS-B messages, we can identify when an aircraft takes off, enters the cruise phase, approaches its destination, and lands.

Automated event detection — Leveraging advanced algorithms, Flight Events analyzes the data stream and generates timestamps and details for key flight events.

Data delivery options

Flight Events data is packaged into JSON files and securely uploaded to a customer-specific Azure Blob Storage account. Access to these JSON files is strictly controlled by assigning read privileges to the intended customer users, ensuring sensitive information remains protected and confidential.

Flight Events can be delivered in various data bundles tailored to different operational needs. Data bundles include flight cycles, OOOI data, ground movements, and full flight profile.

From gate to gate, AireonINSIGHTS Flight Events captures every critical event — without the need for continuous data feeds.

