State of Aireon and Space-based ADS-B

ICAO NACC WG/6 Meeting

08.27.2021

Tysons Corner, VA

Ana Persiani

A Quick Aireon Overview

2011

Aireon created in 2011 to provide global, real-time air traffic surveillance, regardless of location

IRIDIUM CONSTELLATION

Cutting-edge constellation with Aireon's ADS-B receivers on each satellite, completed in January 2019

ALL PAYLOADS IN ORBIT AND OPERATONAL

- All 66 Aireon ADS-B payloads active and operational as of April 2019
- On June 2019 Aireon received EASA certification as ANSP
- Over 413,582,875,283 ADS-B position messages received.

ANSPs

- A total of 20 ANSPs making up 35 countries have signed agreements to deploy space-based ADS-B.
- NATS and NAV CANADA, DC-ANSP, ASECNA, Airports Authority of India (AAI), Isavia COCESNA and Singapore are already operational

Commercial Data Services

- Launched three new products in October 2020:
  - AireonSTREAM
  - AireonINSIGHTS
  - AireonFLOW

# Our Growing Global Customer Base

The Aireon service is deployed in over 248,170,752 km² of airspace, accounting for ~49% of the earth's surface

Commercial Data Services Partners

Space-Based ADS-B Provides Global Seamless Surveillance

Color Legend

- 🔴 0 to 2,000 Feet
- 🟠 2,000 to 5,000 Feet
- 🟡 5,000 to 10,000 Feet
- 🟢 10,000 to 18,000 Feet
- 🔵 18,000 to 40,000 Feet
- 🔵 40,000 Feet & Above

Excellent Performance Levels in LATAM/CAR

Latin America 8 Second Probability of Update
2019-12-17, 24 Hours

Latin America Update Interval (50th%)
2019-12-17, 24 Hours

Latin America Update Interval (95th%)
2019-12-17, 24 Hours
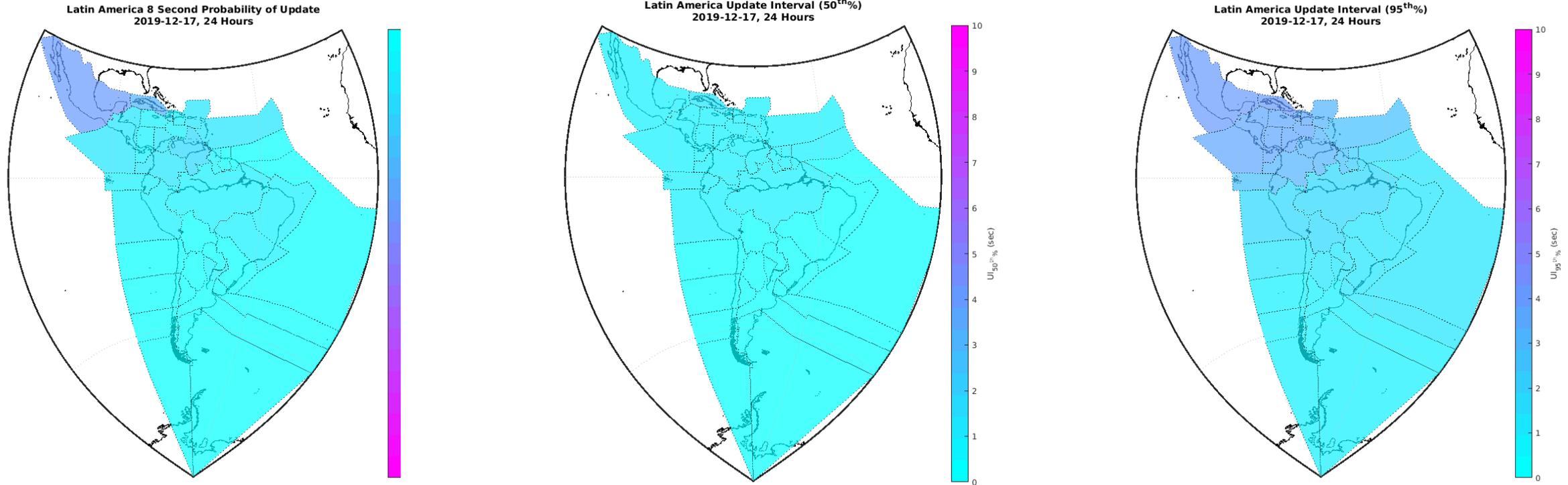
Aireon and CANSO Partner to Support ATM with Global Data Analysis During COVID-19
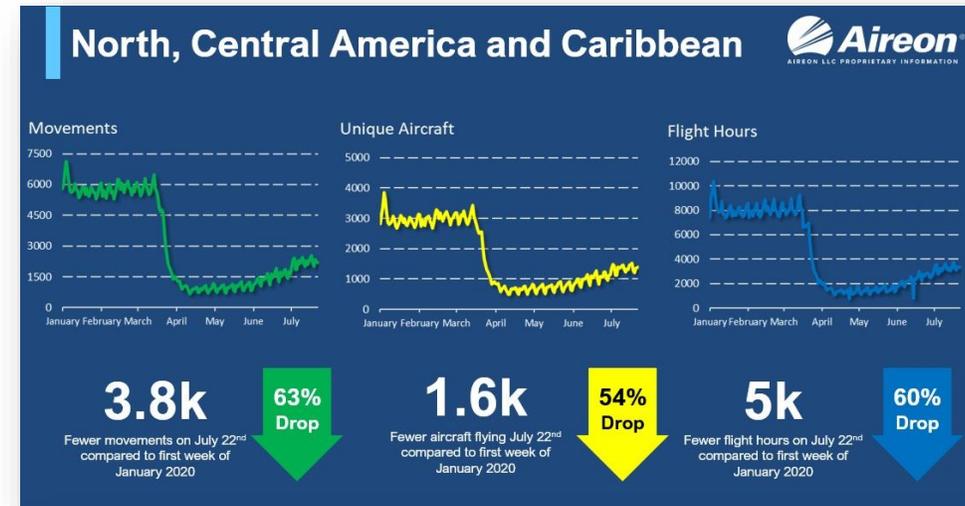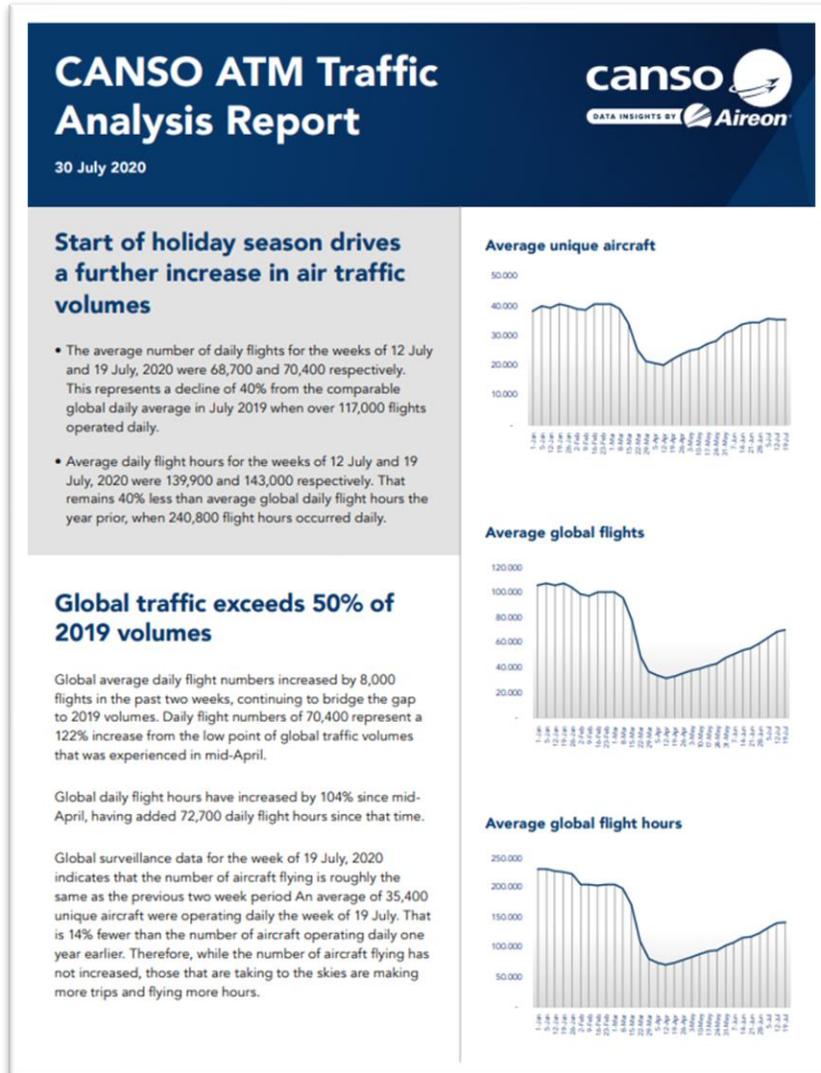
Current regional air traffic trends

North America, Central America and Caribbean
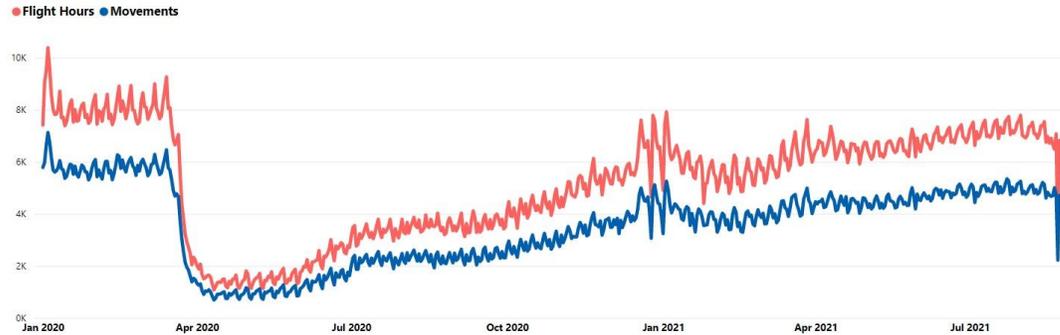
Europe
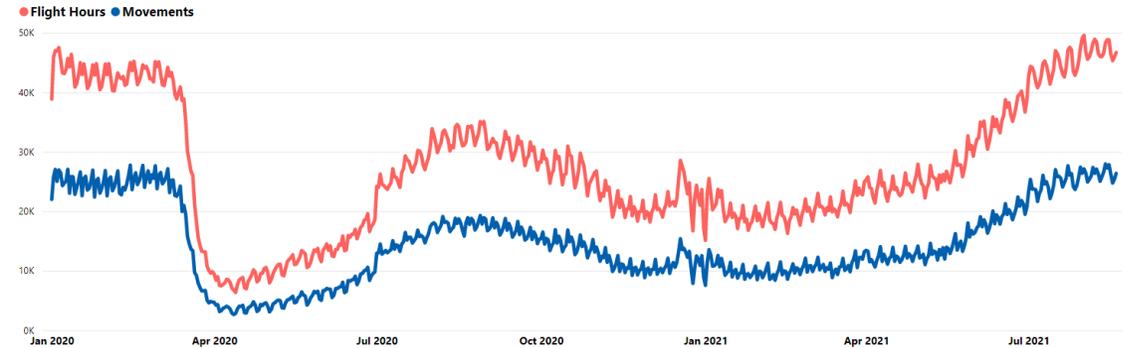

South America
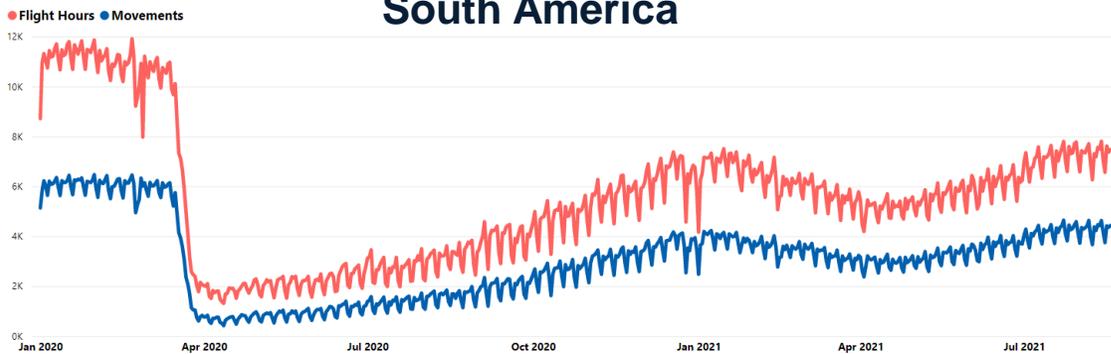
Asia
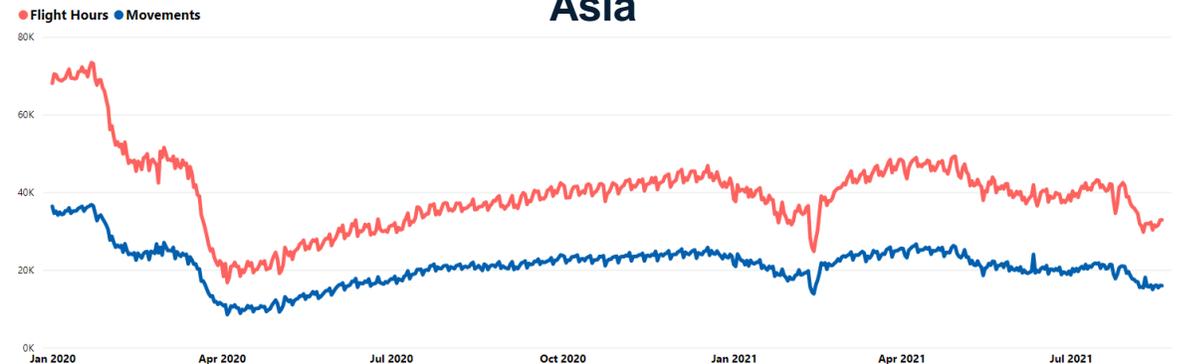
Aireon®

Commercial
Data Services

Aireon leverages the same ATS surveillance quality space-based data to provide commercial customers with the highest fidelity, global dataset available
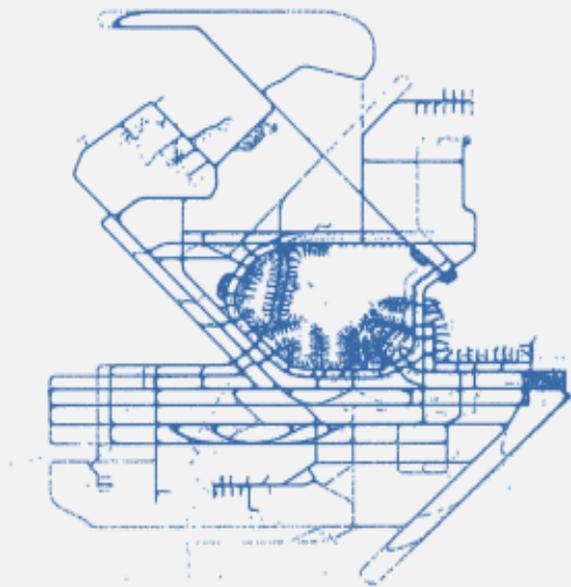
from Surface
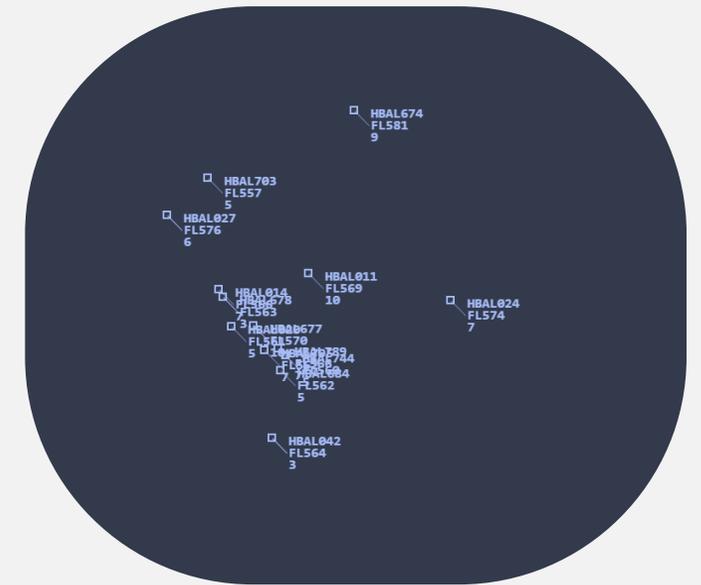
to High Altitude Operations

Why Aireon?

- Single source of certified ATS surveillance data.
- 100% global coverage at all altitudes.
- Surveillance-certified data to support safety studies.
- Gate-to-gate, high-fidelity, low-latency data.
- Access to key safety and performance indicators.
- Reduce costs in managing disparate datasets.
- Supports mission-critical infrastructure.
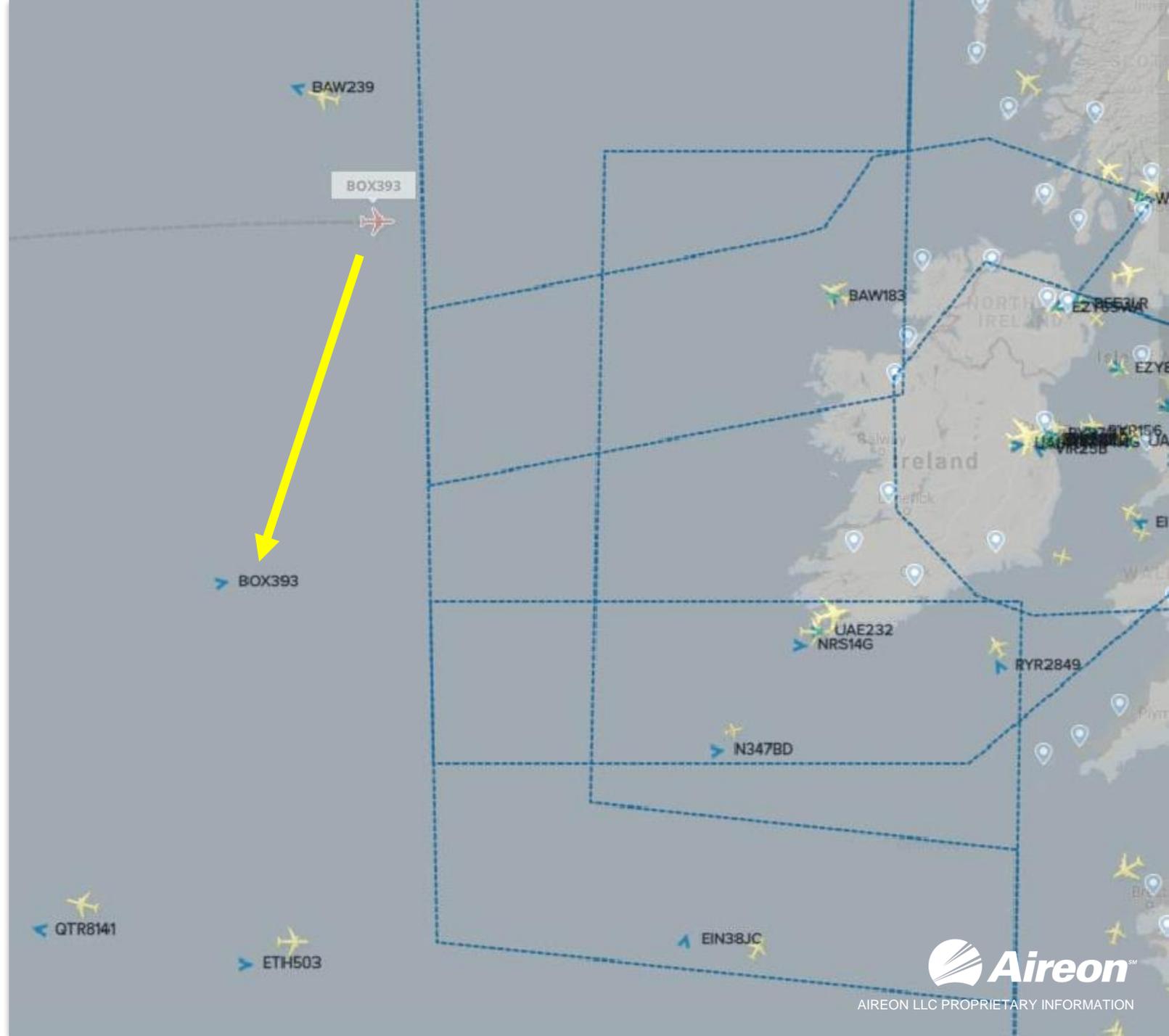
Aireon Commercial Data System
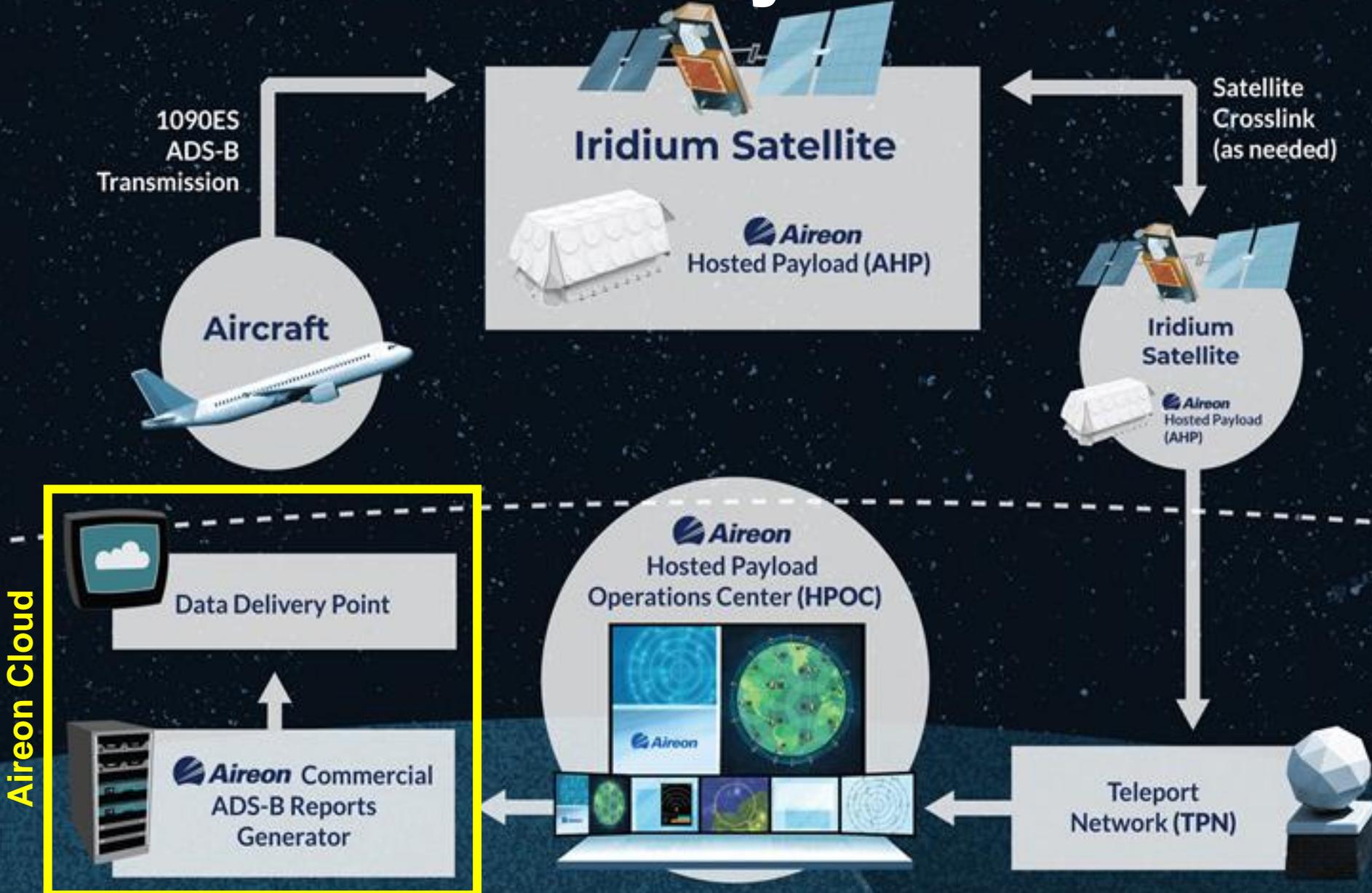
CDS Product Portfolio

Streaming, real-time data via API. Currently subsets of CAT021 data elements tailored to three use cases:

1) Aircraft Tracking
2) Airport Analytics
3) Full-fidelity Data

Added value contextual data about the flight like infrastructure, weather, avionics, aircraft registry and scheduling data.

Tailored data feed for ANSPs or Traffic Flow Management System Integrators, beyond their Area of Responsibility with regular position updates on traffic of interest.

Use Cases
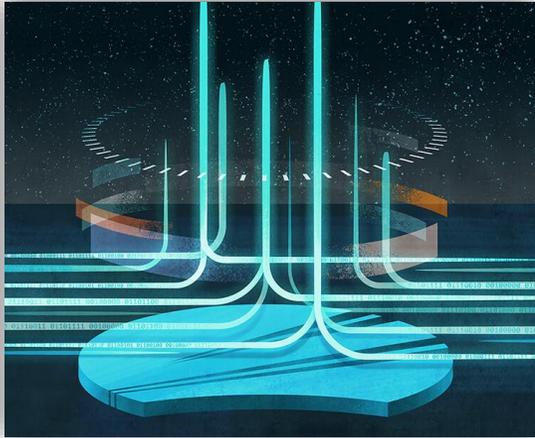
APIs for Tracking Tools, Applications

Airports
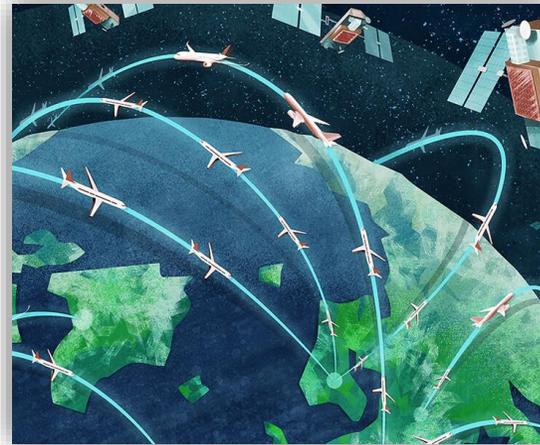
ATFM

Unmanned Aircraft Systems (UAS), Unmanned Traffic Management (UTM)

Safety Analysis, Airspace Analysis, Environmental Analysis

Financial Institutions, Leasing Companies, Insurance Providers

Air Navigation Service Providers (ANSPs)

Search and Rescue (SAR)

Product Comparison Chart

	AireonFLOW	AireonSTREAM	AireonINSIGHTS
Data Designed for ATFM	X		
Real-Time Position Data Stream	X	X	
Includes Additional Contextual Data		X	X
Historical Data Available			X
Data Filtering	Proximity to Area of Responsibility (AoR) or Flight Information Region (FIR)	Global, Aircraft Tail Numbers, OR Area of Interest	Aircraft Tail Numbers OR Area of Interest
Standard Data Feeds		Aircraft Tracking, Airport/ Airspace Analysis	
Tailored Data Feed	X	X	
Customizable Reports			X
Coverage Area	Global	Global	Global
Update Rate	Customizable, up to once per minute	Customizable, 4s, 8s, 1 min, 5 min	Daily, Weekly, Monthly
Low Latency Data Source	X	X	
AMQP Support	X	X	
Compatible with ATFM, SWIM Node, and A-CDM Systems	X		
Data Provenance	Aireon's high-fidelity, low-latency surveillance-grade data		

THE FUTURE OF AIR TRAFFIC SURVEILLANCE IS HERE.
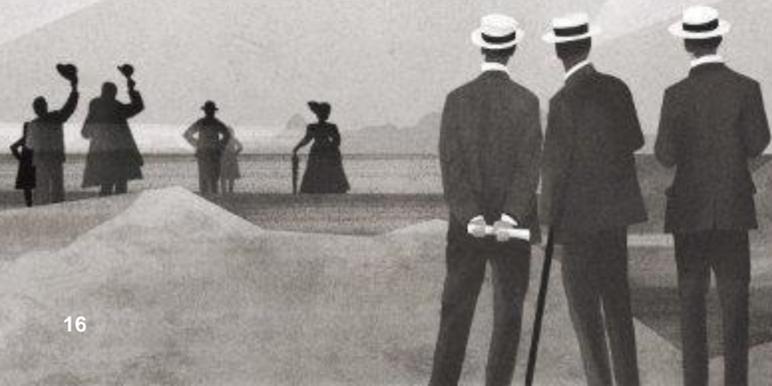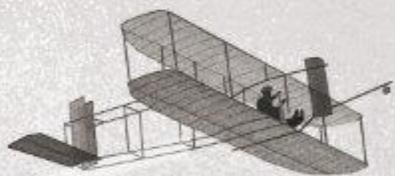
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