



**A Safer, More Efficient Airspace  
with Space-Based ADS-B**

**Surveillance all over the globe**

- ▶ **Michele Carandente, Deputy VP,  
Air Traffic Services**

# Aireon Overview



# 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 OPERATIONAL

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

## ANSPs

- A total of 20 ANSPs making up 40 countries have signed agreements to deploy space-based ADS-B.
- NATS and NAV CANADA, DC-ANSP, ASECNA, Airports Authority of India (AAI), Isavia, Singapore and NSPL are already operational

## Commercial Services

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

# Aireon: An Innovative Business Model for ATS Surveillance



No significant project /  
lead time to establish  
full airspace coverage



Hosted payload  
reduces costs

No major upfront  
investment  
requirements for  
ANSPs



By ANSPs for  
ANSPs



Pay per use,  
versus  
traditional  
depreciation  
model

Airline benefits from  
surveillance will  
significantly outweigh costs

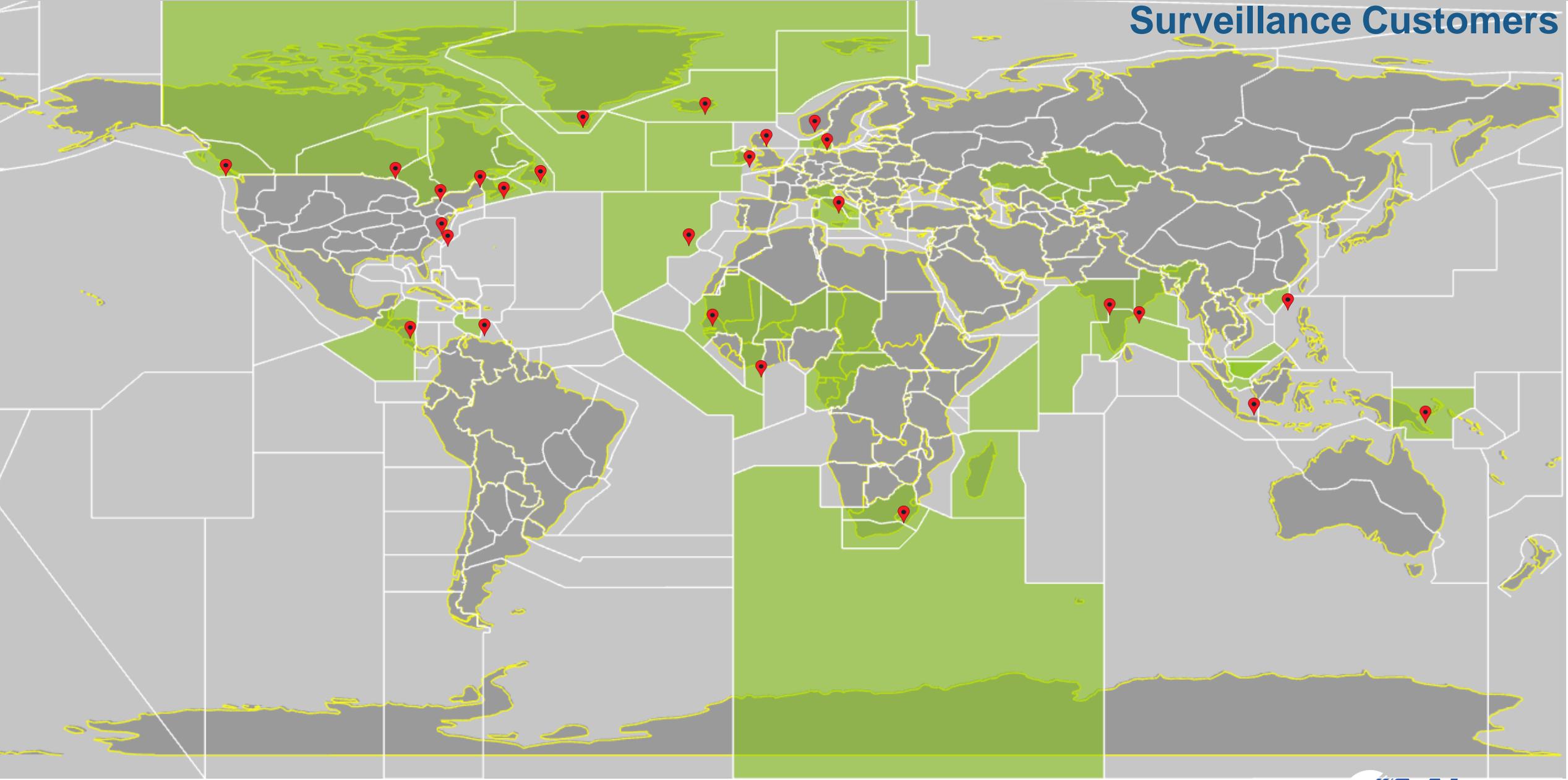


No customer ground-  
based infrastructure

# Global, Pole-to-Pole Coverage

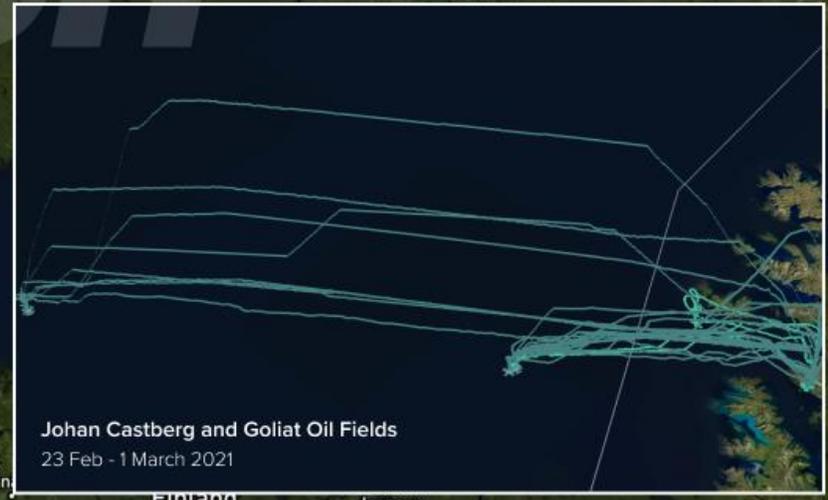
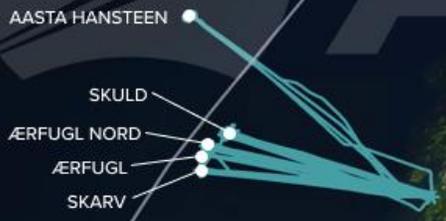


# Aireon ATS Surveillance Customers

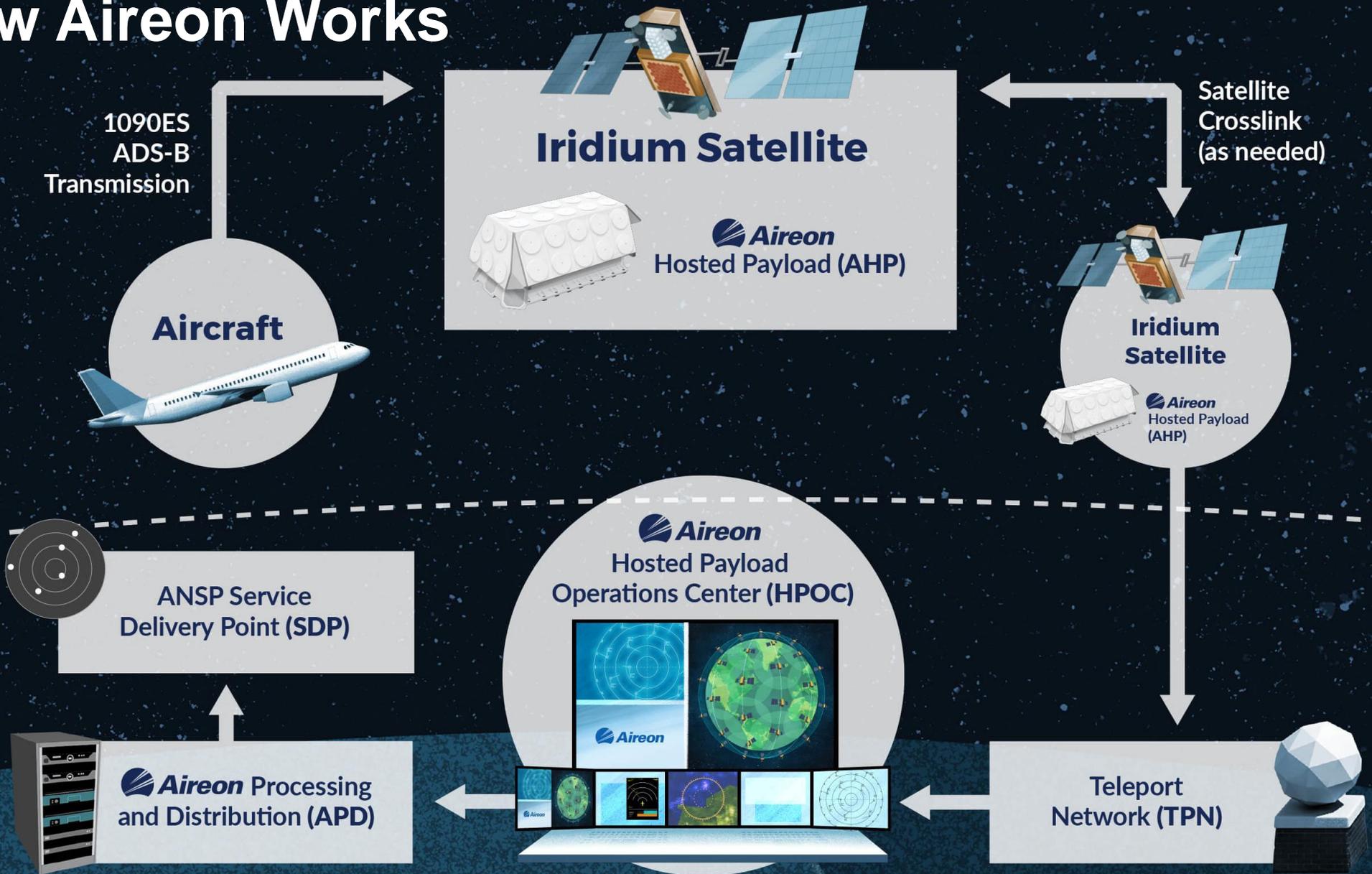


# BODO OCEANIC FIR

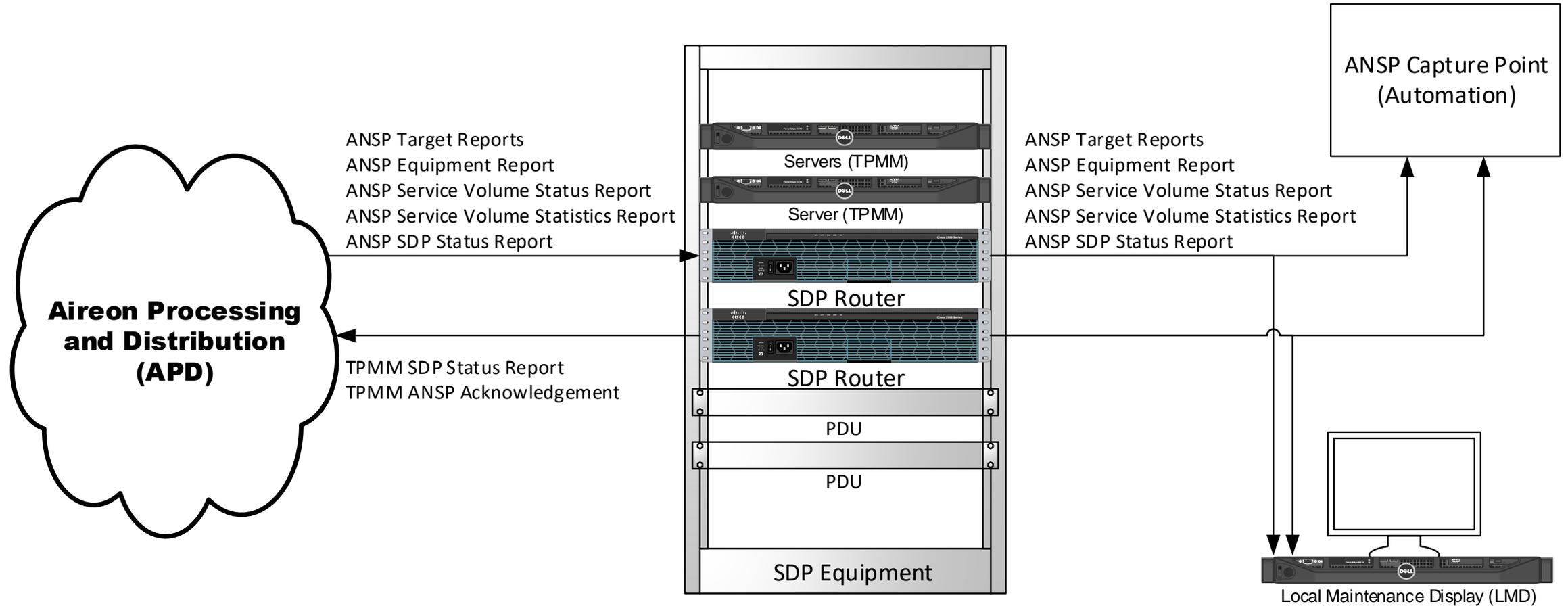
Norwegian Sea



# How Aireon Works



# Typical SDP Architecture



# Commercial Services Product Portfolio

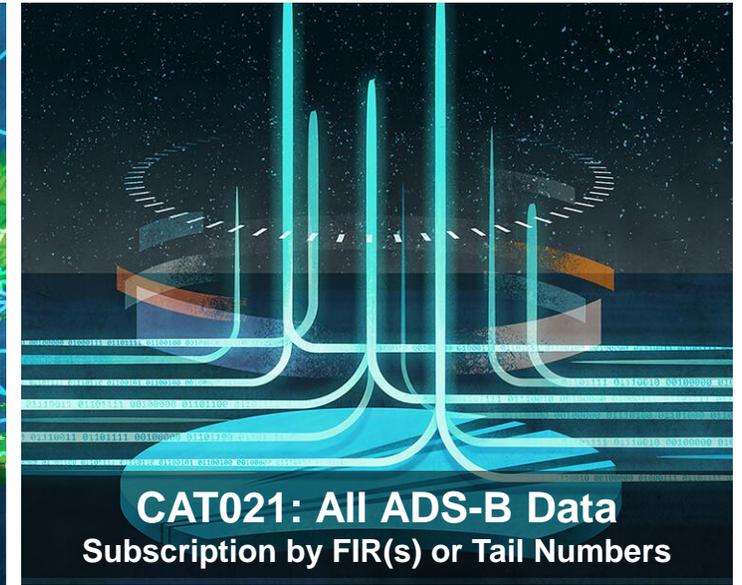


# Quick Reference



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

# Commercial Services Product Portfolio



# AireonSTREAM™ Data Coverage and Connection

## Data Coverage

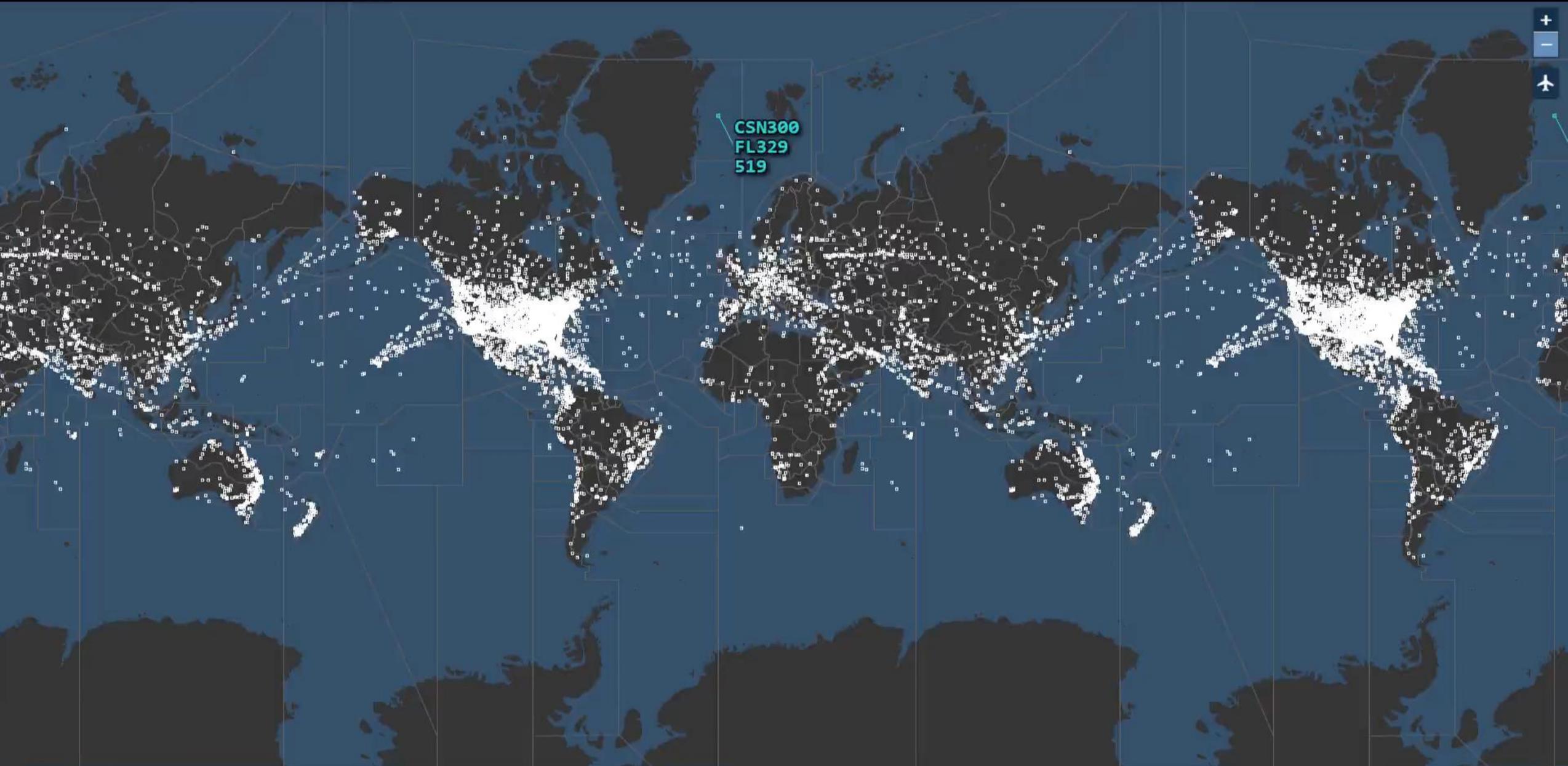
- AireonSTREAM data includes all ADS-B equipped aircraft available to the Aireon receivers (i.e. 1090 MHz Extended Squitter (1090ES), 125W diverse/ top-mounted antenna)
- AireonSTREAM data is available from the ground to ceiling of FL600, globally
  - 60,000' to 126,000' available for high altitude operations
- Latency from satellite to customer delivery is up to < 5 seconds, 99%

## Tailored Subscription

- Feed configurable based on aircraft of interest, area of interest, or by departure/arrival aerodrome

# Commercial Services Product Portfolio





CSN300  
FL329  
519

# AireonINSIGHTS™ Logbook

**/ AAL2332 - Hop 4**

JSON: [View] [Download]

2021-03-09 16:34:15 2021-03-09 20:39:03

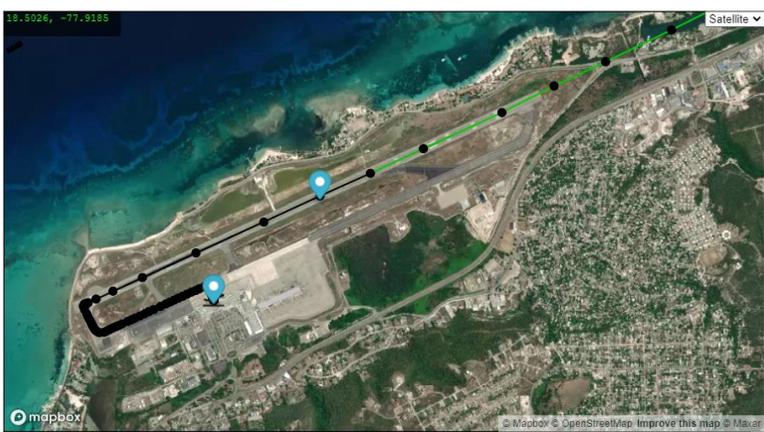
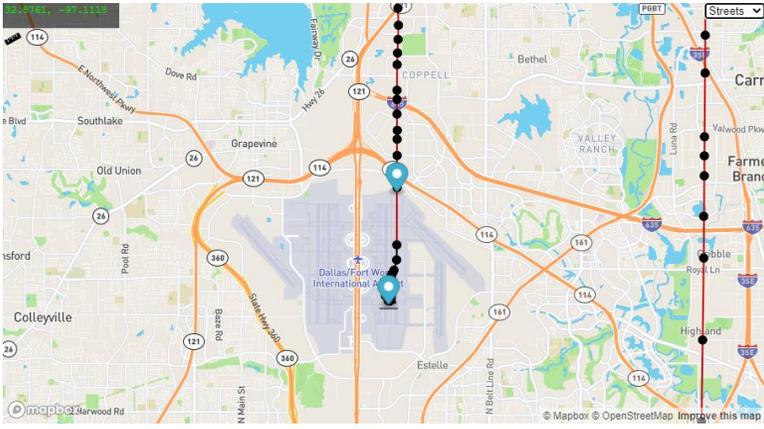
MKJS / 07 KDFW / 13L

🕒 4h 8m 5s ✈️ 1420 nm

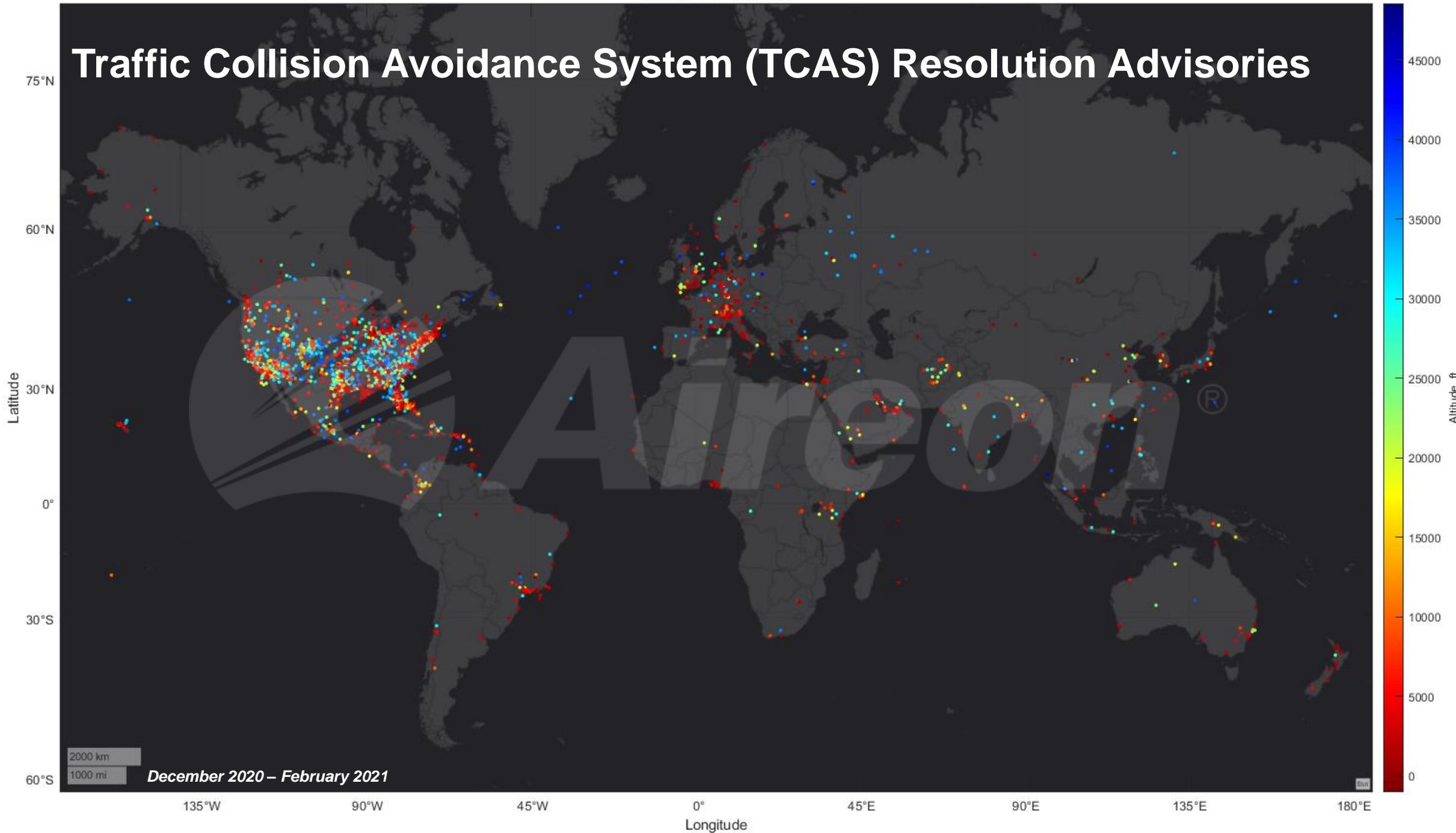
➔ 3h 11m 14s ⬆️ 20m ⬇️ 33m 34s 🔄 3m 17s

**Events**

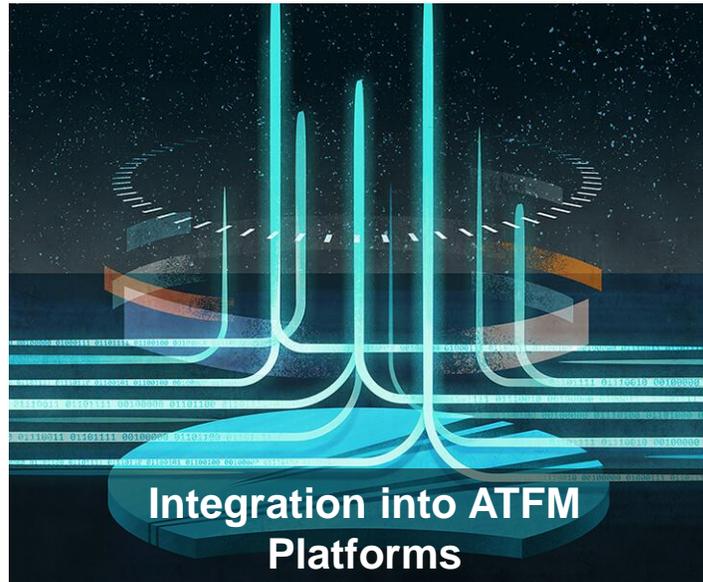
Date/Time	Type	AID	Latitude	Longitude	Altitude (B/G)	Speed (G/T)	Vertical	Heading	Ground Bit	Min Altitude	Airport	Distance	Altitude
2021-03-09 16:34:15	Transponder On	AAL2332	18.4990	-77.9180					Yes				
2021-03-09 16:53:58	Airborne	AAL2332	18.5040	-77.9126	-175 / -50 ft	129 kt		65°					
2021-03-09 20:34:29	Landing	AAL2332	32.9208	-97.0259	500 / 625 ft	118 kt		179°					
2021-03-09 20:39:03	Transponder Off	AAL2332	32.8860	-97.0291					Yes				



# Traffic Collision Avoidance System (TCAS) Resolution Advisories



# Commercial Services Product Portfolio



# AireonFLOW™ Data Coverage and Connection

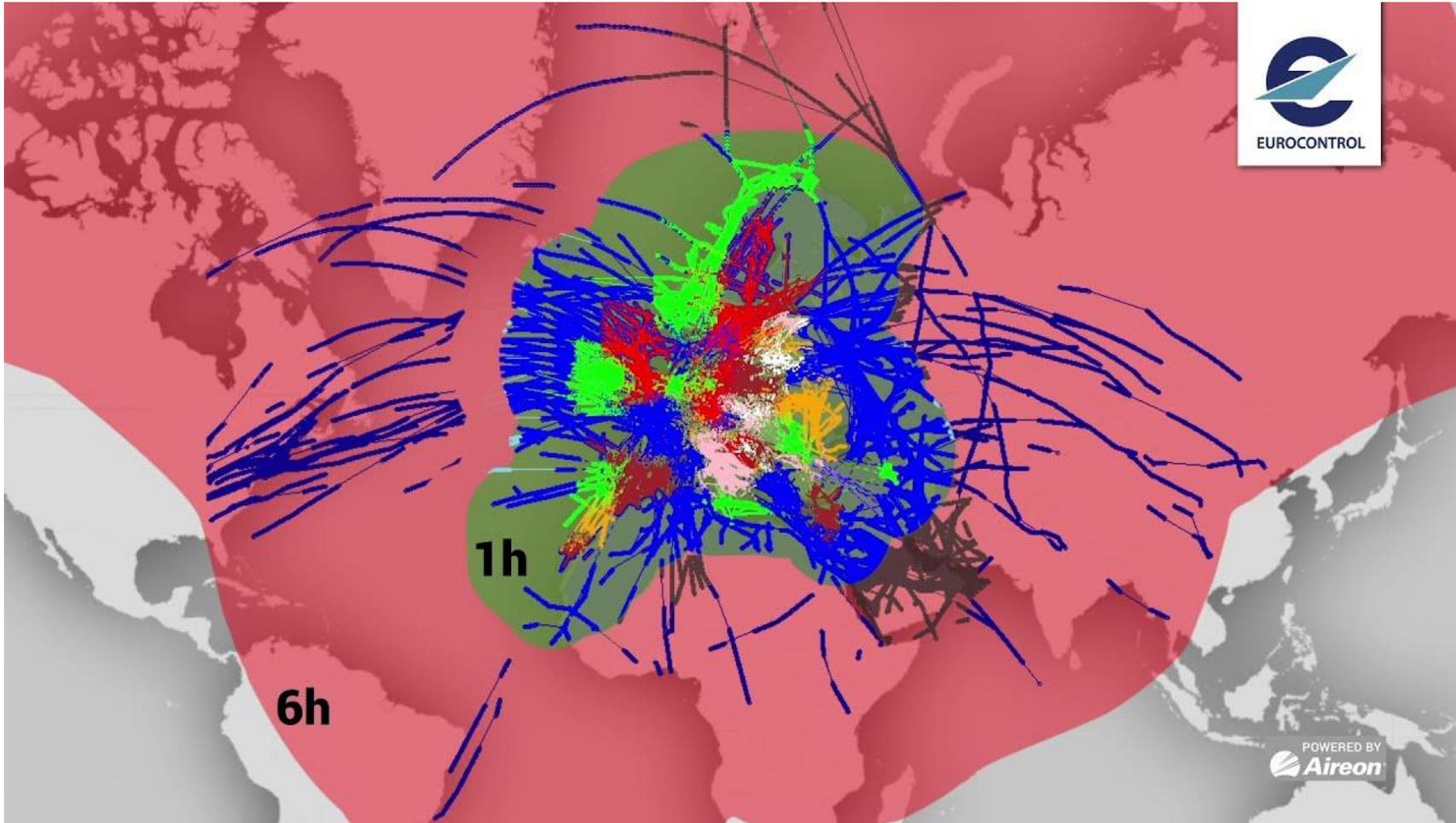
## Data Coverage

- AireonFLOW data includes all ADS-B equipped aircraft available to the Aireon receivers (i.e., 1090 MHz Extended Squitter (1090ES), 125W diverse/ top-mounted antenna)
- AireonFLOW data is available from the ground to ceiling of FL600, globally
- Customers receive all position reports of subscribed aircraft with a standard update rate of 60 seconds
- Latency from satellite to customer delivery is up to < 5 seconds, 99%

## Tailored Subscription

- Feed configurable based on aircraft of interest, area of interest, or by departure/arrival aerodrome

# Eurocontrol use case

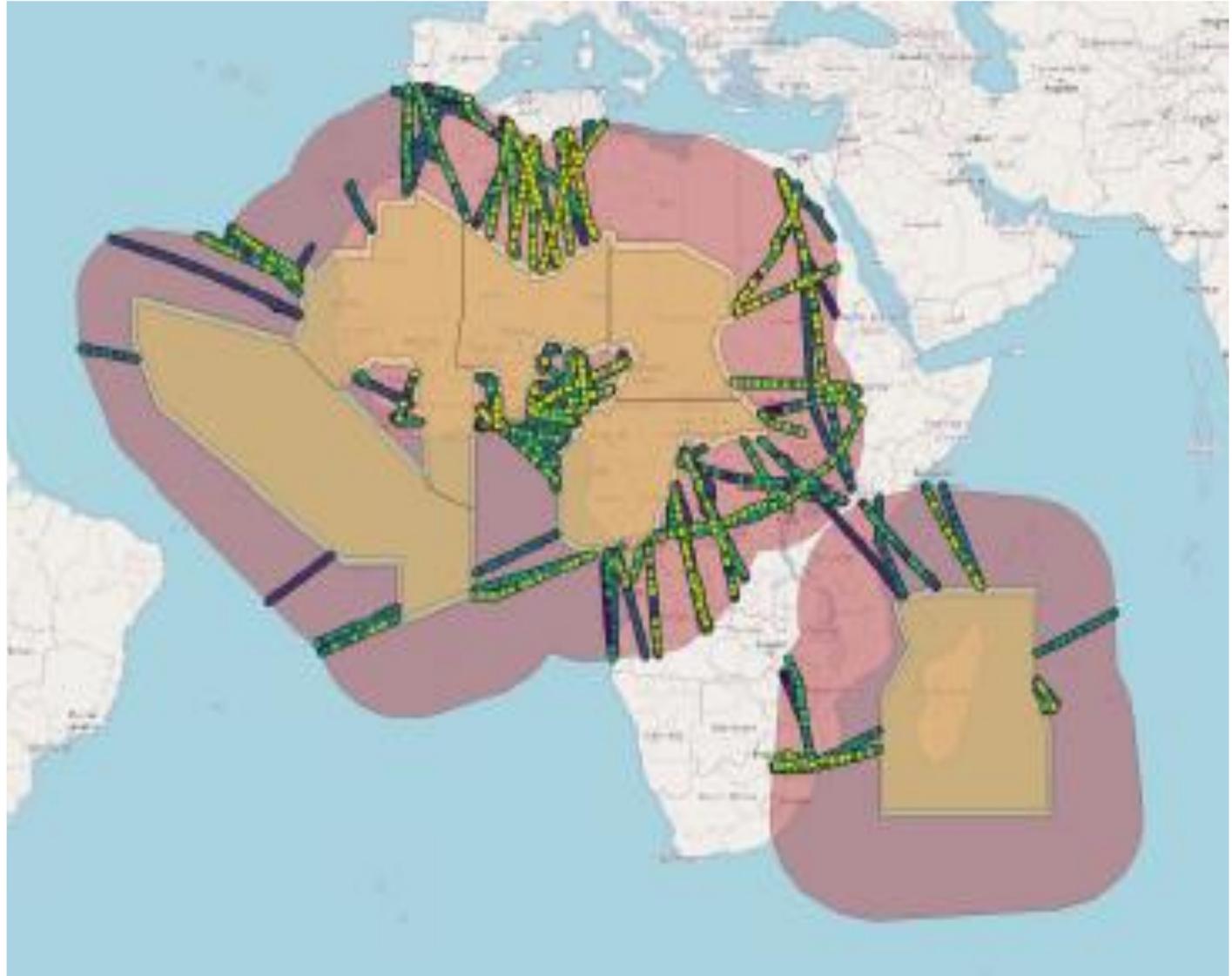


*The new data will significantly boost air traffic predictability by up to 20%, improving operational efficiency and resilience while unlocking capacity for the future that will help reduce environmental impacts.*

*Eurocontrol*

# ASECNA use case

- Inbound traffic predictability
- Completely customizable horizon
- Flight plan sharing under test





# Thank you!

 +39 3351938192

 [michele.carandente@aireon.com](mailto:michele.carandente@aireon.com)

 Aireon Swiss Office