



SURVEILLANCE and BROADCAST SERVICES OVERVIEW

11/13/2018

Harris Proprietary Information
Non-Export Controlled

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HARRIS[®] TECHNOLOGY TO CONNECT,
INFORM AND PROTECT[™]

The SBS Program:

- FAA contract awarded to Harris on 8/30/07, extending over 18 years to 8/30/2025
- Leased Subscription Based Service contract providing SBS services in FAA-defined Service Volumes
- Harris designed, developed, installed and operates the network
- System has passed FAA safety case
- System has achieved security accreditation through independent audit from FAA security office

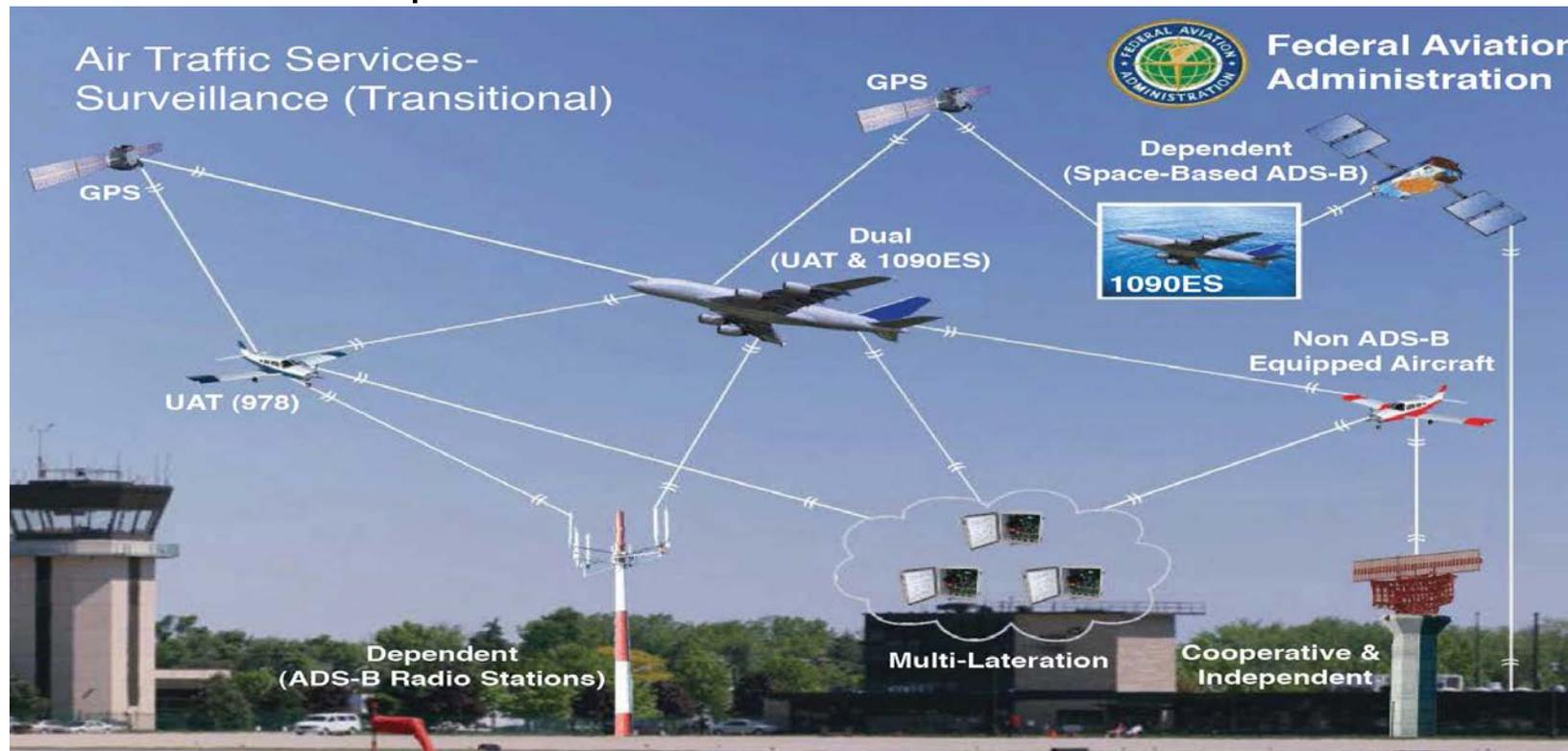
ADS-B Benefits

- Significantly more accurate surveillance
- At significantly lower cost
- Common situational awareness picture to Air Traffic Control, Pilots, Airlines/Airports, and other stakeholders for improved safety & efficiency

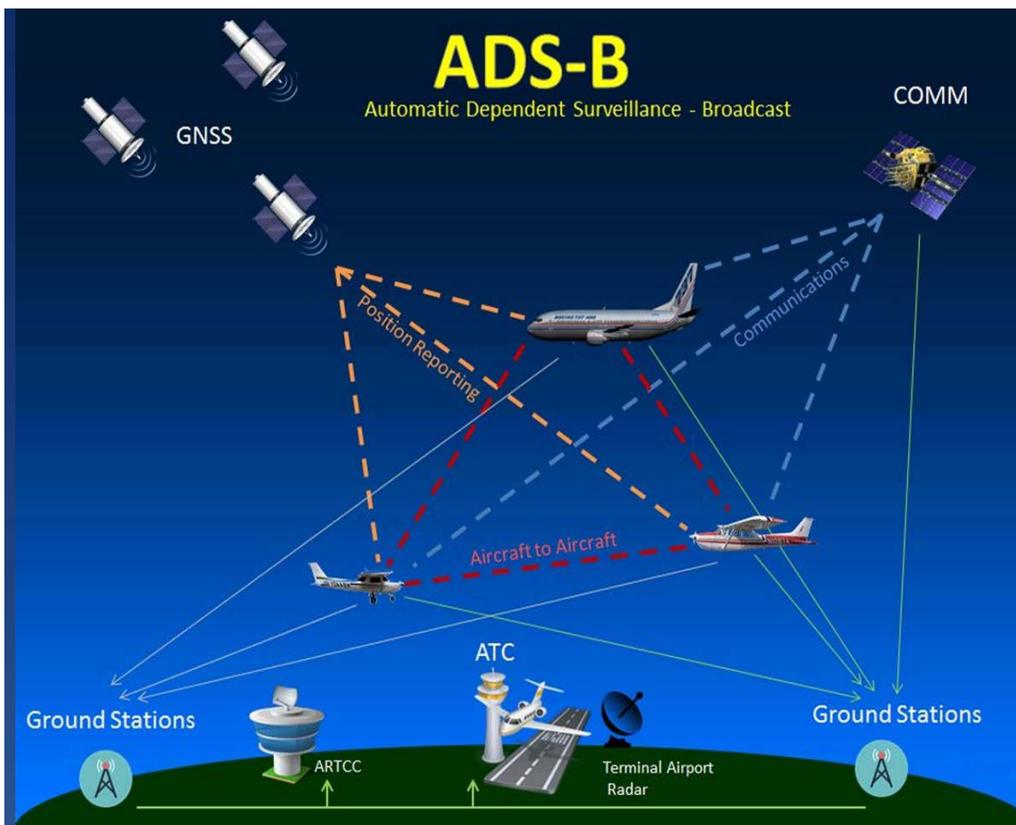
Automatic Dependent Surveillance - Broadcast:

*Is most importantly a **Safety of Life** program*

ADS-B provides a Common situational awareness



ADS-B is a Vital Element of the NextGen System

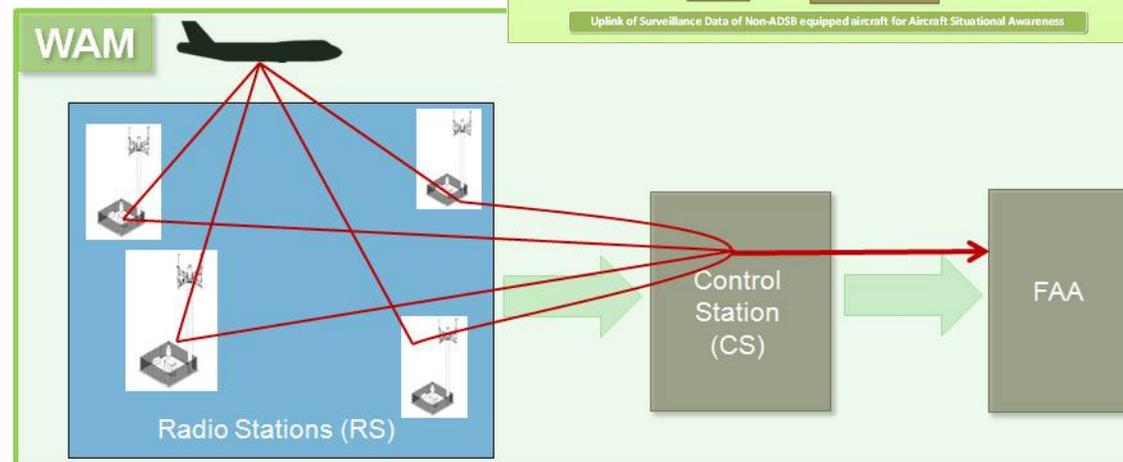
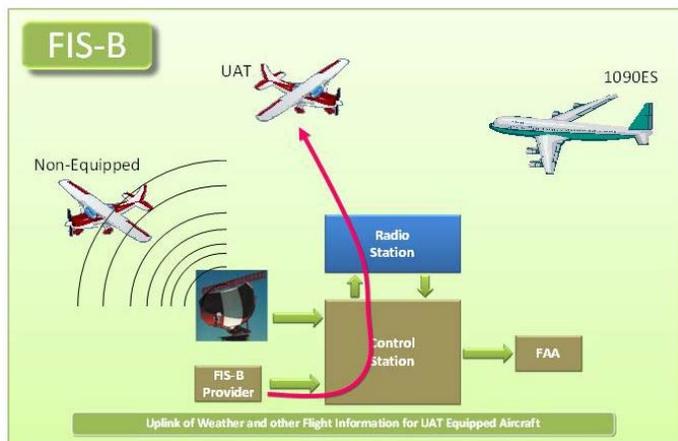
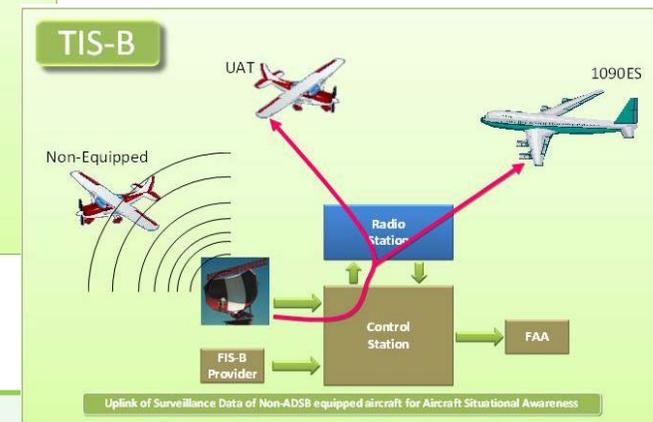
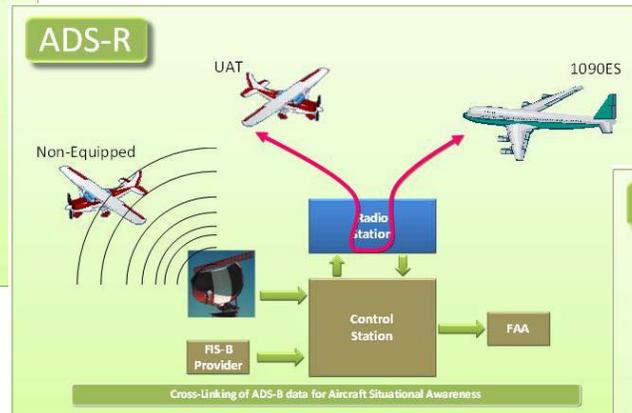
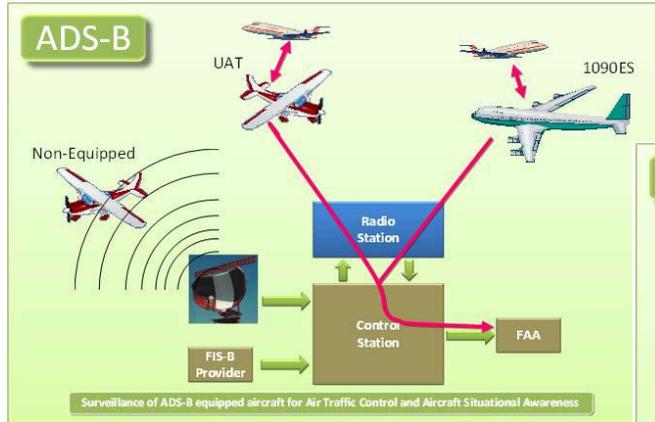


ADS-B offers:

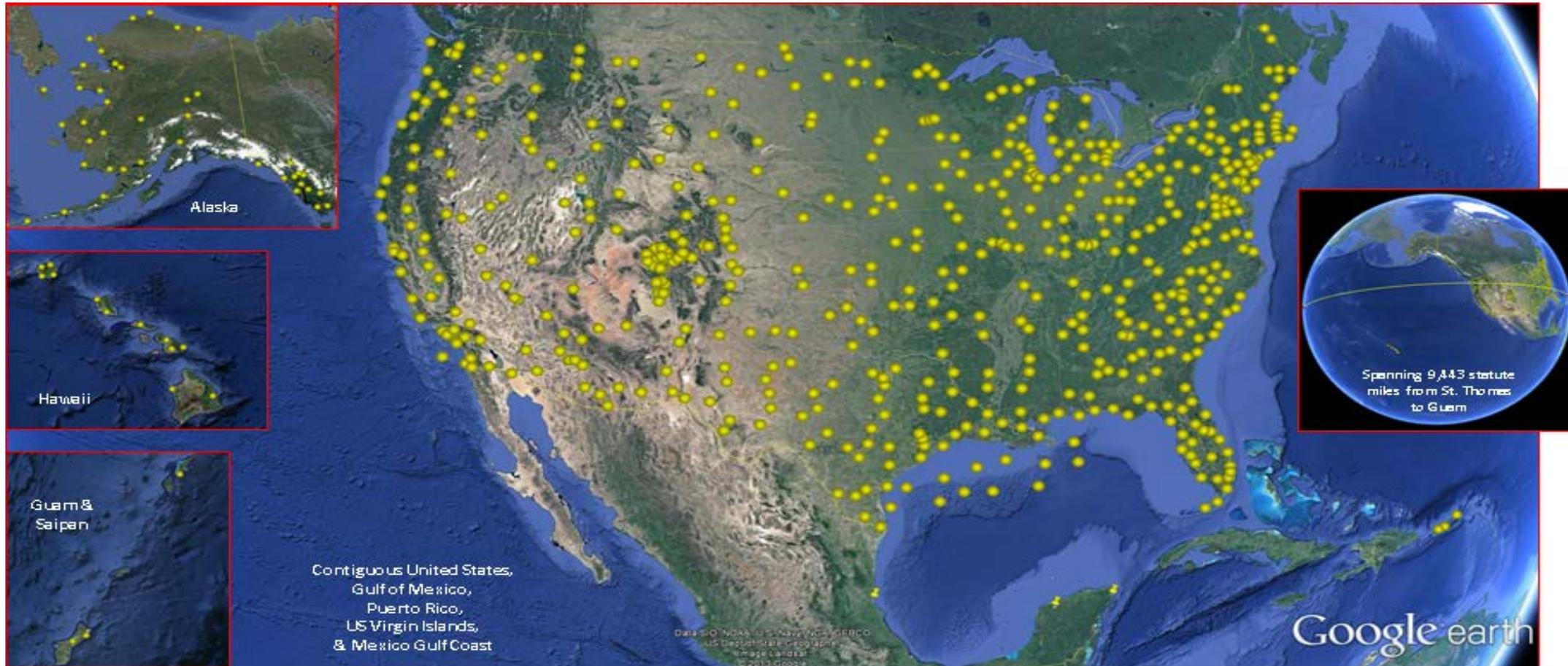
- Lower cost, more accurate, and more frequent update of surveillance infrastructure
- Allows surveillance deployment where previously not possible - e.g. Gulf of Mexico
- Delivers safety services to the cockpit
- Unprecedented pilot situational awareness
- Enabler of air traffic control procedures that will provide increased airspace capacity and efficiency



Five Aviation Services provided by SBS



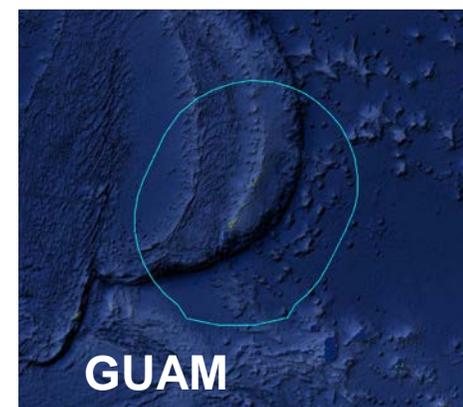
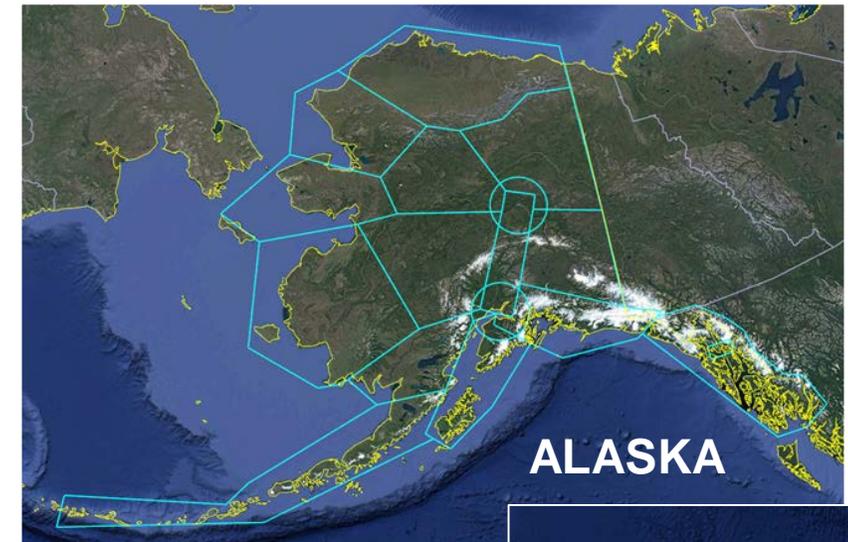
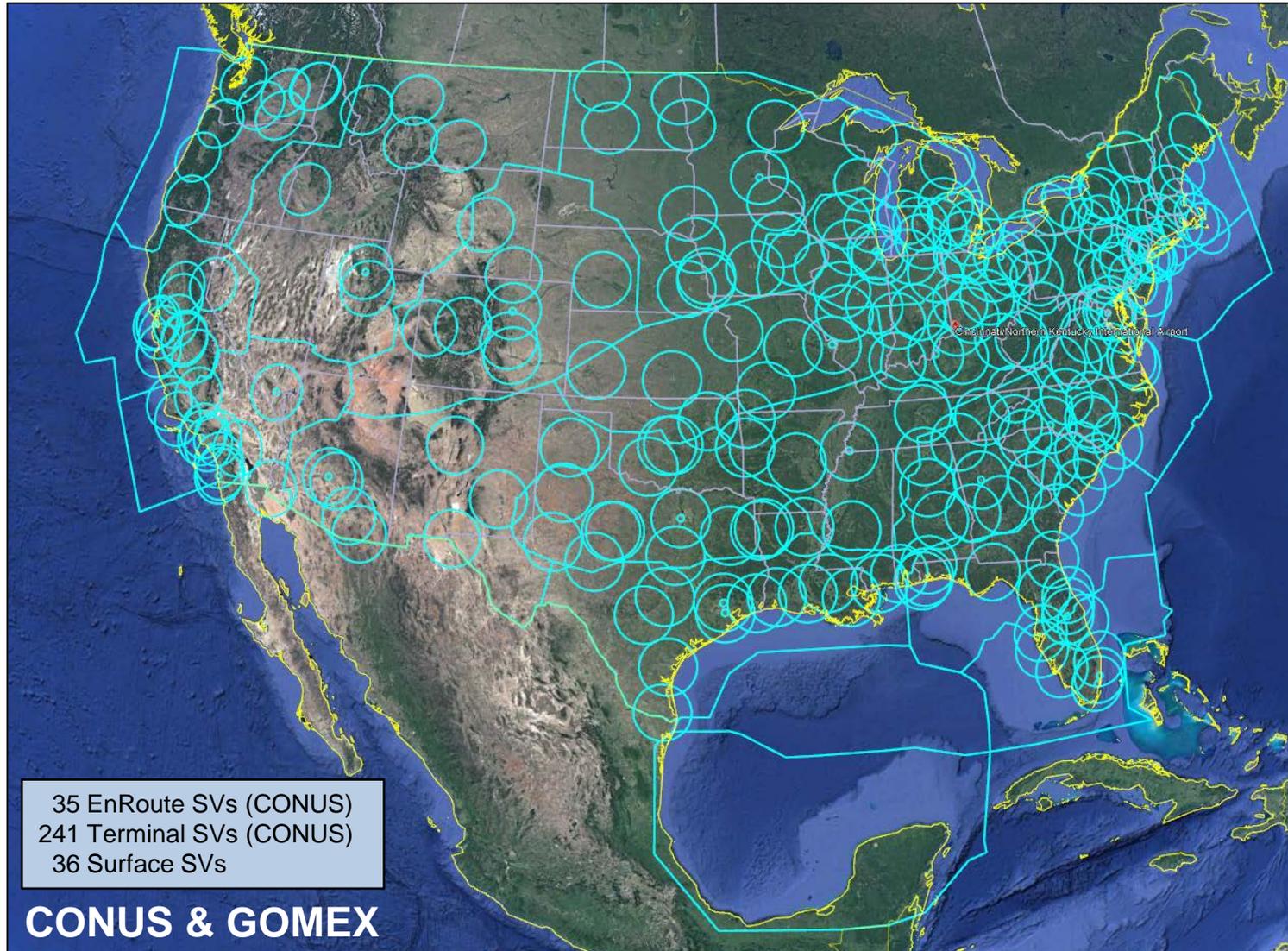
SBS Radio Station & Radar Network



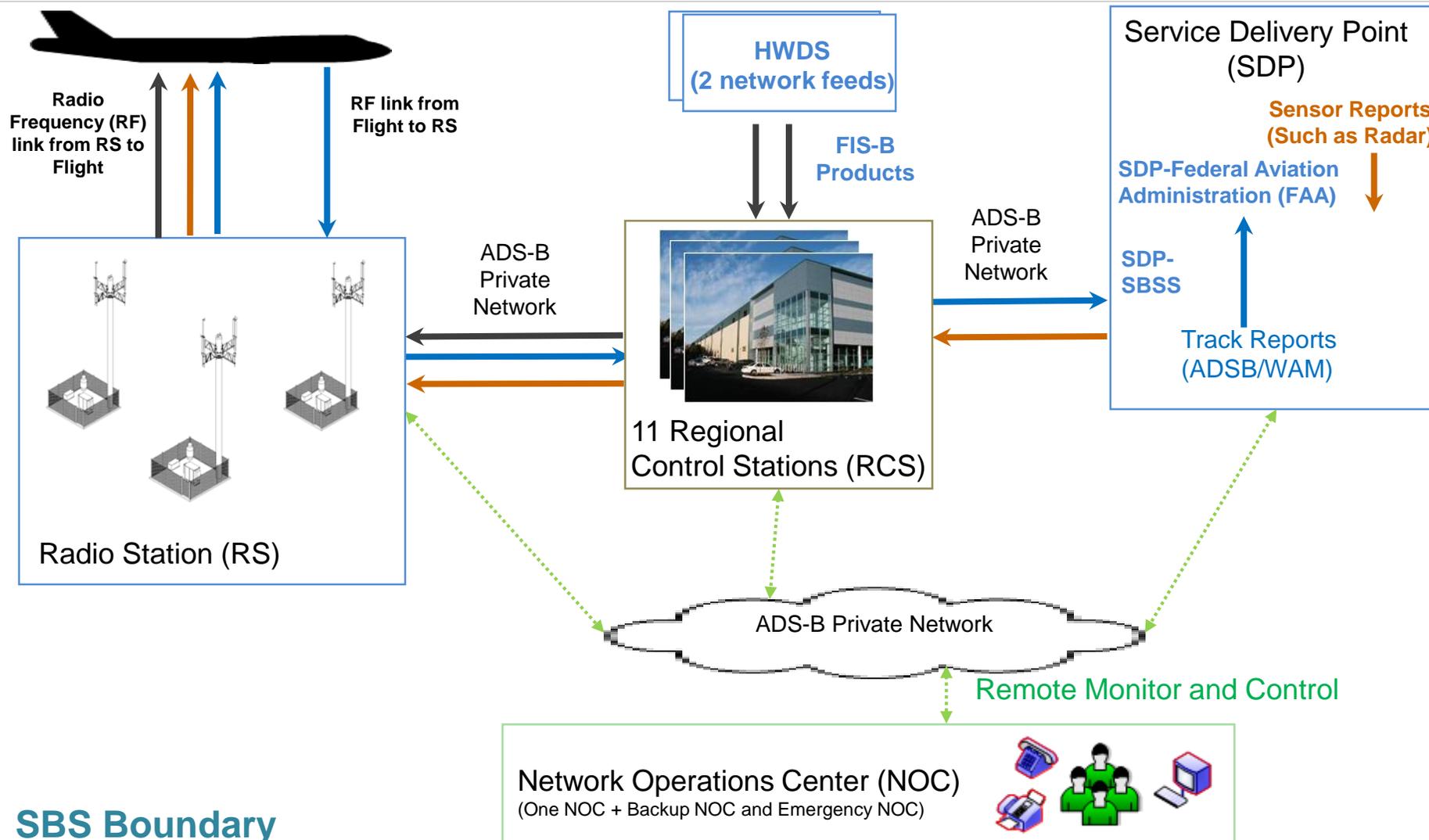
Harris Operates the Largest Air Traffic Control Surveillance Network in the World

Harris' 663 ADS-B radio station network also receives and processes data from 425+ FAA radar systems and 35 ASDE-X Systems
Totaling 1,110 air traffic NextGen Network surveillance sensors

ADS-B Service Volumes: EnRoute, Terminal, and Surface

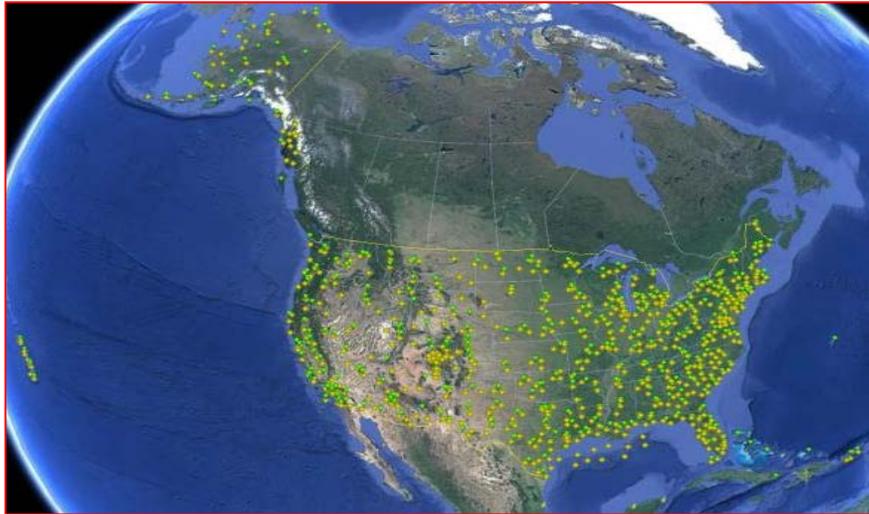


SBS Architectural Overview



SBS Boundary

ADS-B System Infrastructure



650+ Radio Stations spanning 9,443 miles



**Harris Radio Station
Greenfield Site**



29 Automated Weather
Observation Stations



**Radio Station
Leased Tower Site**



200+ Service
Delivery Points



11 Regional Control Stations

Typical Airport Site





Antenna Array – 1090, UAT, GPS



Radio Station Equipment Cabinet & Generator



Radio Enclosure



1090 and UAT Antennas

SBS Network Operations Center (NOC)

24 X 7 X 365



- NOC Functionality
 - Monitor: Automated monitoring systems to
 - Alert operators when equipment and service anomalies occur
 - Ticketing System tracks anomalies to resolution
 - Control: Authorized operators have remote access to SBS Equipment for maintenance and repair
 - Coordination: Authorized operators work with internal and external groups for SBSS maintenance and coordination
- Locations
 - Herndon Monroe St. Building
 - Backup Facility: Glen Drive Facility in Sterling, VA
 - Emergency Facility: Moorestown, NJ

