

Lockheed Martin Air Traffic Control Upgrades Support ADS-B Use In Alaska, Kentucky And The Gulf Of Mexico

Common ARTS and Micro-EARTS Providing Controllers Data from both ADS-B and Radar

Lockheed Martin has enhanced multiple air traffic management platforms to enable the processing of data received from satellite-based navigational aids such as Automatic Dependent Surveillance-Broadcast (ADS-B).

A key foundation of the FAA's Next Generation Air Transportation System, ADS-B enables the transition from ground-based to satellite-based air traffic control. This new infrastructure is set to give pilots, as well as controllers, better information on the position of the aircraft mid flight and on the airport surface.

The upgrades, made to the Microprocessor En Route Automated Tracking System (Micro-EARTS) and Common Automated Radar Terminal System (ARTS), along with enhancements made by the FAA to the Host system in Houston, are helping to improve situational awareness between pilots and air traffic controllers in Alaska, Louisville, Ky., and the Gulf of Mexico. The upgrades are part of the task orders defined in the ADS-B Segment 1 schedule by the FAA's Surveillance and Broadcast Services (SBS) office.

Each upgraded system combines surveillance reports from multiple sensors, including traditional radars and ADS-B into a single track. Resulting tracks give air traffic controllers improved aircraft position and velocity estimates. As a result, air traffic controllers in these regions literally have a better picture of the airspace in use because satellite-based surveillance data can be processed by Lockheed Martin navigational tracking platforms primarily used in terminal air traffic control environments.

"By completing these platform upgrades, our NextGen team is helping pilots and controllers gain better situational awareness in airspace over open water, such as the Gulf of Mexico, and mountainous terrain, such as Alaska, where weather conditions can change rapidly," said Mike Marsili, director of Terminal, Surface, Flight Services and Airline Solutions for Lockheed Martin. "Enabling greater use of ADS-B technology as quickly as possible is a significant step for the FAA, and we're proud to be part of this vital NextGen solution."

When the FAA declared initial operating capability (IOC) at the Anchorage Air Route Traffic Control Center (ARTCC) in late April, it allowed the use of ADS-B for air traffic separation services in Juneau, Alaska, via Micro-EARTS, and enhanced the ADS-B coverage the FAA initiated in Alaska under the Capstone Project five years ago.

"Our Micro-EARTS work in Alaska represents the final IOC defined for air traffic control systems by the SBS office and successfully demonstrates the integration of ADS-B data," noted Richard Nonini, Lockheed Martin's director of Terminal and Surface Solutions.

Upgrading Common ARTS was part of the initial ADS-B Segment 1 task order work at the FAA's Terminal Radar Approach Control (TRACON) facility in Louisville, which achieved the initial ADS-B IOC in November 2009. "Our Common ARTS work in Louisville was the first FAA facility to use fused ADS-B track data for aircraft surveillance in a fully operational air traffic control situation," Nonini said.

According to the FAA, Louisville was chosen as a key site in part because UPS Inc. voluntarily outfitted much of its fleet with ADS-B avionics. The system is being used by controllers in the tower at Louisville International Airport and at the Louisville Terminal Radar Approach Control (TRACON) facility.

The Louisville Common ARTS milestone on November 19, 2009, was followed by an FAA-led change to the Host en route automation system in Houston covering the Gulf of Mexico in December 2009, and the Micro-EARTS improvements in Alaska achieving IOC April 28. ADS-B is expected to be available nationwide by 2013.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 136,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation reported 2009 sales of \$45.2 billion.

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