En Route Automation Modernization (ERAM (En Route Automation Modernization))

As of March 27, 2015, En Route Automation Modernization (ERAM) has replaced the 40-year-old En Route Host computer and backup system used at 20 FAA Air Route Traffic Control Centers nationwide. The transition to ERAM was one of the most complex, challenging, and ambitious programs deployed by FAA. In effect, this transition represented a live transplant of the "heart" of today's air traffic control system while maintaining safe and efficient flight operations for the flying public.

ERAM technology is the heart of the Next Generation Air Transportation System (NextGen) and the pulse of the National Airspace System (NAS), helping to advance our transition from a ground-based system of air traffic control to a satellite-based system of air traffic management.

ERAM R-Side Sector

ERAM is vital to the future of air navigation, providing the foundational platform required for FAA to enable NextGen solutions, via modernization programs such as System Wide Information Management, Data Communications, and Automatic Dependent Surveillance- Broadcast.

Going forward ERAM will provide benefits for users and the flying public by increasing air traffic flow and improving automated navigation and conflict detection services, both of which are vital to meeting future demand and preventing gridlock and delays.

ERAM increases capacity and improves efficiency in our skies. En Route controllers are able to track 1,900 aircraft at a time instead of the previous 1,100 flight capability. Additionally, now coverage extends beyond facility boundaries, enabling controllers to handle traffic more efficiently. This extended coverage is possible because ERAM can process data from 64 radars versus the 24 radar processing with the legacy Host system.

For pilots, ERAM increases flexible routing around congestion, weather, and other restrictions. Real-time air traffic management and information-sharing on flight restrictions improves airlines' ability to plan flights with minimal changes. Reduced vectoring and increased radar coverage leads to smoother, faster, and more cost-efficient flights.

For controllers, ERAM provides a user-friendly interface with customizable displays. Trajectory modeling is more accurate, allowing maximum airspace use, better conflict detection and improved decision making. ERAM substantially increases the number of flights that can be tracked. Two functionally-identical channels with dual redundancy eliminate a single point of failure. ERAM also revolutionizes controller training with a realistic, high-fidelity system that challenges developmental practices with complex approaches, maneuvers, and simulated pilot scenarios that are unavailable using today's system.

Air traffic controllers and facilities are the backbone of safe NAS operations, transporting the flying public to their destinations efficiently. With ERAM, controllers benefit from increased collaboration and seamless data sharing between Centers.

Point of Contact

Kevin Young
ERAM Program Manager
(202) 267-0467

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