



## Project Athena Multi-Domain Awareness System



Athena — Multi-Domain Situational Awareness

### Benefits

- Provides seamless coverage across domains and operational commands
- Integrates multiple sensors and ISR data sources and supports rapid integration of new types
- Employs user-configurable tools for workload reduction
- Delivers shared knowledge, awareness, operational picture and actionable intelligence
- Employs standards-based service-oriented architecture using network centric communications
- Supports U.S. Partner Nation efforts
- Scalable from local to worldwide applications
- Distribution architecture supports unlimited scalability
- Supports high-availability implementations
- Easily extensible; compatible with service-oriented architecture-capable tools
- Plug-in architecture supports new capability integration

Athena is a network centric, multi-domain command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) system for high performance situational awareness, fusion, analysis and knowledge management. By exploiting information from global sources — including sensors, databases and intelligence — Athena delivers persistent surveillance, situational awareness and anomaly detection aids to reduce operator workload.

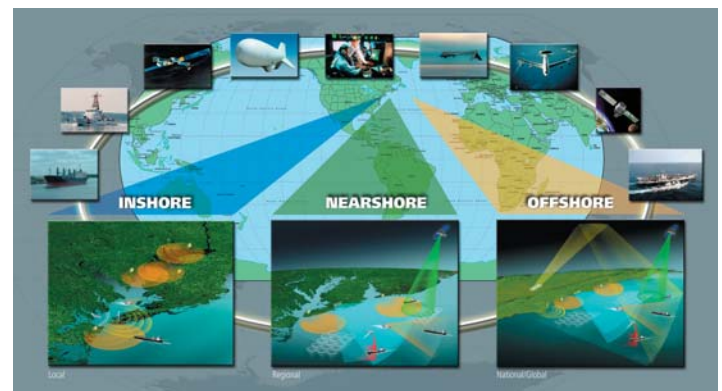
Athena uses a modern, extendable and open C4ISR framework that works with a wide range of sensors and collaborates across command centers and enterprise systems. It employs user-friendly and role-based methods of managing correlated information and sharing across local, regional or global joint command

interests. Athena delivers fast and flexible multi-domain awareness for rapid operational deployments using proven components.

### Proven Systems Architecture

Athena is based on a proven systems architecture used by NORAD. This robust system can process multiple inputs on many thousands of tracks. With a look and feel common to existing command and control centers, Athena is also user-friendly.

Athena's framework is based on a tiered, service-oriented architecture, uses off-the-shelf components and conforms to Department of Defense architecture framework standards. Athena adds value by providing rules-based anomaly analysis and software agent capabilities, along with network centric service capabilities.



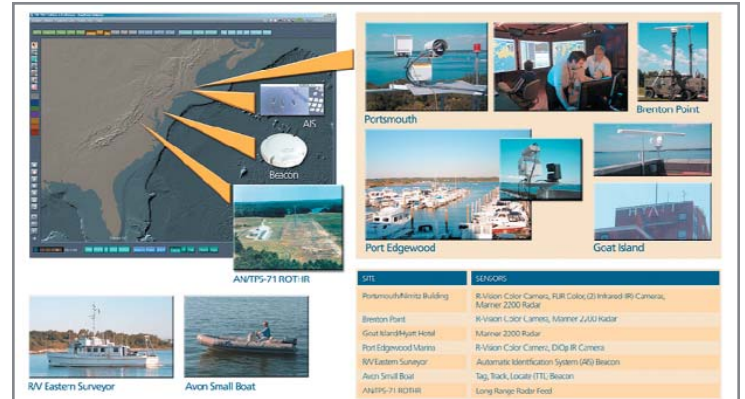
Shared Awareness Across C4 Centers

# Project Athena Multi-Domain Awareness System

## Operational Deployments and Evaluations

Raytheon operates the Project Athena Multi-Domain Awareness Testbed at its facility in Portsmouth, R.I. Here, Raytheon provides ongoing demonstrations of Athena's multi-domain capabilities, using live feeds and simulated threat scenarios, real-time display and analysis, and real-time re-planning for multiple event assessments.

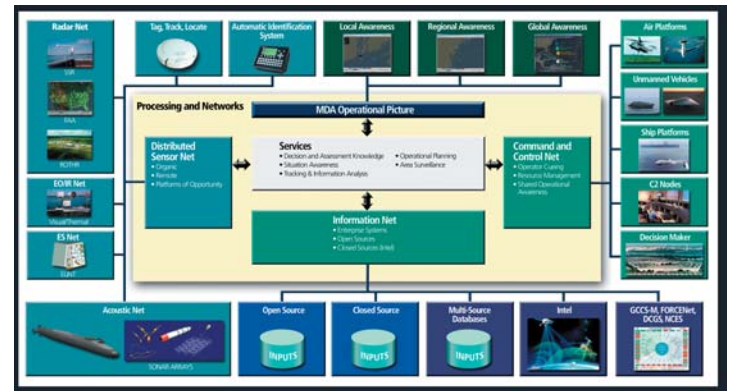
Scenarios include global domain awareness across operational commands; surveillance across domains (land, air, sea); evaluation of operational concepts and technology; and border threats and interdiction. Operational deployments for border surveillance missions have demonstrated a robust, user-friendly and effective field C4ISR capability.



Raytheon Multi-Domain Awareness Fusion Center Testbed

## Project Athena's Capabilities

- Fused homeland defense intelligence, surveillance and reconnaissance (ISR) data integration
- Rapid detection, tracking and identification of anomalies; delivers actionable intelligence to end users
- Cooperative and non-cooperative tracking of maritime/air/land threats at long ranges
- User-friendly common operating picture – common with existing C4 centers
- Joint C4ISR framework for identification, detection, monitoring, battle management and interdiction
- National-level maritime domain awareness integrates local, regional and long-range surveillance with high-performance correlation and tracking
- Scalable and flexible for rapid deployment and upgrade, due to robust open architecture
- Enhanced scenario planning, simulation and scripting
- Network centric information-sharing using Web services, supporting military formats
- Analysis and anomaly detection alerts and collaborative control features between distributed nodes
- Modeling and simulation tools for threat analysis and concept of operations assessment



MDA Fusion Center Architecture

## Integrated Defense Systems

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