

Safety & Security Solutions

for the Offshore Energy Industry

With years of experience in worldwide maritime system architecture and sensor integration, Raytheon Anschütz provides customers with incident command solutions for critical asset protection, perimeter security and offshore surveillance. Scalable systems with extensive add-on possibilities offer highest flexibility for quick adaption to emerging requirements and easy integration to new assets. Raytheon Anschütz offers through life in service support as part of the solution.

WE UNDERSTAND SURVEILLANCE



Safety & Security Solutions

Integration Solutions tailored to the Offshore environment

For more than 100 years the brand of “Anschütz” is known for high-quality and customized navigation and marine systems worldwide. Today, Raytheon Anschütz has a reputation as a reliable supplier, integrator and service provider of nautical equipment and marine applications to maritime companies and navies. As a leading integrator of commercial marine systems with an excellent reach back to the Raytheon technology leadership in defence and homeland security systems, Raytheon Anschütz has many years of experience in maritime system integration, including references from over 400 radar installations.

With the advantage of having the important processes of research and development, production, system engineering, project engineering and service coordination centralized at one location, Raytheon Anschütz ensure effective handling of customer’s requirements from large scale programs through to single sensor system projects. All systems are built up and tested fully integrated with Factory Acceptance Testing as part of Raytheon Anschütz ISO 9001 Quality procedures.

Benefits

Consulting and Project Outline

Our consultancy services offer guidance on selection of appropriate technology and assist customers in balancing operational requirements with best value for budget. This covers:

- Concept of Operations: Scenarios of use, Operator’s needs and characteristics
- Identification and Analysis of Threats, Protection and Response solutions
- Analysis of Environment, Site Surveys and Equipment Definition
- Selection of individual best Partners and Suppliers, Decision Support

System Specification and Requirement Analysis

Specialists with extensive know-how for surveillance solutions support customers in requirement analysis and specification of systems, based on the well defined concept of operation’s. This covers:

- Support in compiling system requirements and specifications
- If needed: customer-specific system development and engineering

Project Engineering and Installation

As a personal point of contact, experience engineers guide customers through the whole project. This covers:

- Engineering of System Design
- System Integration and Installation
- Factory Acceptance Test
- Setting to Work and Validation

Service and Lifetime Support



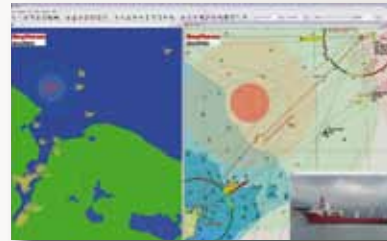
Complete Safety & Security Solution

Raytheon Anschutz's Safety and Security System includes a Multi Function Console with Incident Command functionality providing operators with a clear display of the maritime situation. The display includes charting/mapping information with overlay/underlay of real time Geo-referenced sensor data.

The System architecture is a multi agent system based on a unique efficient and distributed core which provides for all data management and distribution, recording, replay and other essential services. The system provides a Common Operating Picture and distributed data between control centres, company vessels and external agencies by radio and satellite communication.

The scalable structure is based on open systems and modular design allowing customers to improve situational awareness and reduce risks with system capabilities providing:

- Collision Risk Early Warning
- MOB Alarm and locator.
- Sub-Sea Asset and Pipeline Protection
- Security Threat Alerts and Monitoring
- Logistics Coordination and Planning
- Incident Management & Rescue Coordination

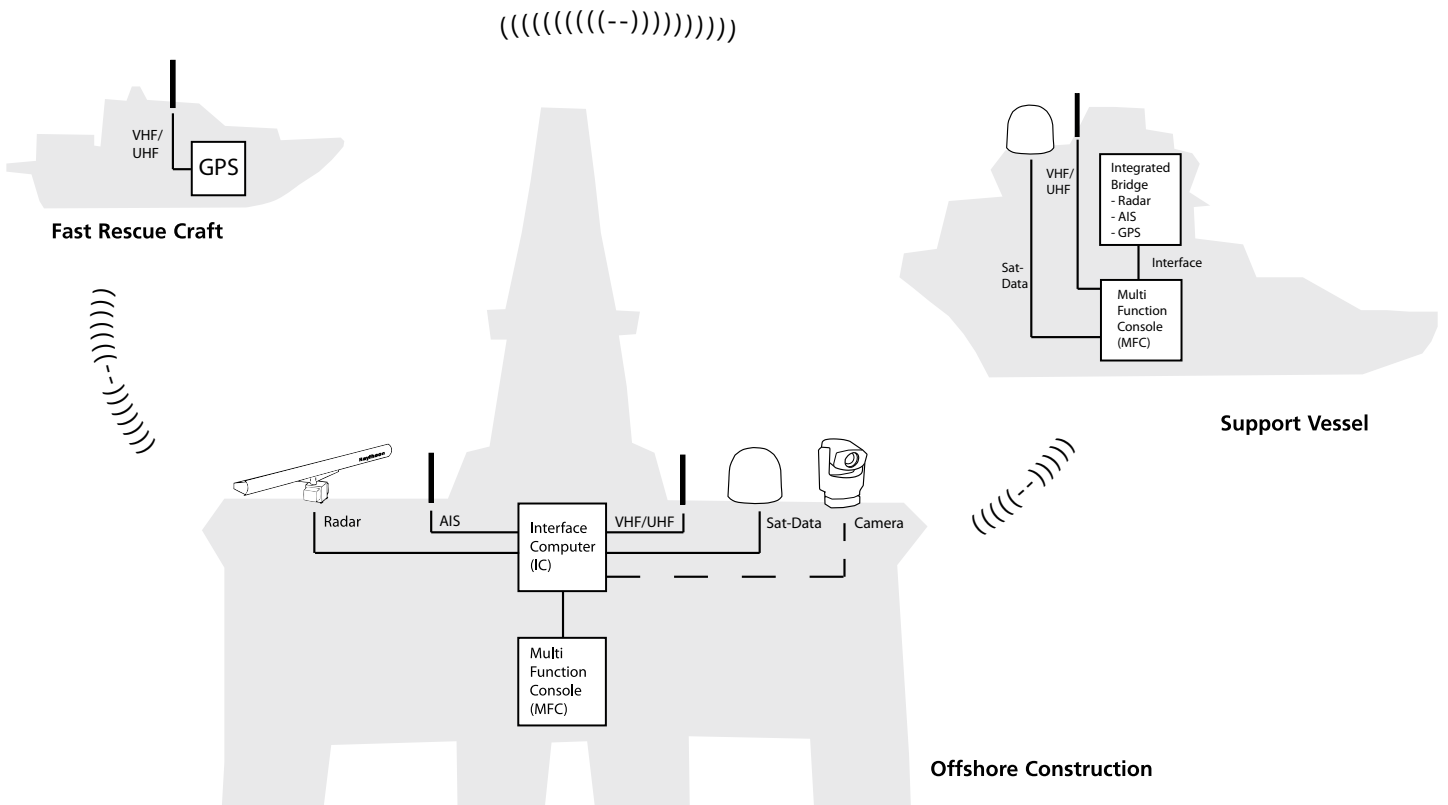


Surveillance Display

Core System Capabilities Include:

- Radar, Control, Processing and Tracking
- Camera Control
- AIS Integration
- Track Management
- Central Alarm and Alert Management
- Remote System Health Monitoring and configuration
- Data Logging
- Configurable alarm criteria including collision warnings or zone incursions
- Shared overlay information between operators
- Track Filtering Tools

Example Basic System



Capability Add-ons

The Safety & Security System is based on a modular design using open architecture standards which are used extensively throughout Raytheon Anschütz products. This enables easy integration and delivery of additional capabilities and features to the system.

Such additional capabilities include:

- New Sensor Types
- MOB (Man Over Board) Detection using Personal Locator Beacons
- PLB Homing Direction Finders
- Blue Force (company vessel) Tracking
- Helicopter Tracking
- Datalink and Network Centric Capabilities
- Redundancy Mechanisms and failover solutions
- Training modes

Main System Components

SSS – The Security Solution Server (SSS) which is the base for the system. The SSS is the main processing unit of the system which collects the data from all interfaces, processes it and creates the situation assessment picture; the situation assessment picture can then be distributed to any other system component.

MFC – The Multi Function Console provides the operator with all the required capabilities to construct present and manipulate the maritime situation picture. The user can also interact with the SSS by inserting and updating different types of data.

IC – The Interface Computer (IC) is responsible for the interaction with all external interfaces. Since each interface can be implemented on a different software process the implementation can support a single computer running multiple interfaces.



Decades of experience in Offshore business

Working with the natural forces at sea requires reliable, precise and safe systems. Raytheon Anschutz has many decades of experience in providing navigational solutions which meet these demands.

Anschutz gyro compasses and autopilot steering systems, packaged in a ruggedized design, are well-known for superior precision and reliability even under harshest environmental conditions. Tailored solutions for front and aft bridge workstations, based on cutting-edge redundant network architecture, provide the highest level of integration that is needed to fulfil the demanding requirements of Offshore operating vessels.

Service and Lifetime Support

Thanks to a network of own subsidiaries, among others in Singapore and Houston, and more than 200 sales and service partners we can offer round the clock support and site-specific consultancy to customers around the world. This covers:

- Worldwide service with 24/7 local life cycle service and support
- Regional support includes knowledge in practice, language and culture
- Offshore standards and regulations
- Tailored Logistic and In-Service Support solutions as an option
- Continuous improvement and efficient solutions for midlife modernization

Raytheon Anschutz offers extensive know-how for surveillance solutions, supporting customers from concept of operation's, project outline and specification of systems through project realization, system in operation and ongoing support. Consultancy services offer guidance on selection of appropriate technology and assist customers in balancing operational requirements with best value for budget. Where appropriate Raytheon Anschutz partner with sensor systems providers and offer customers the best available for the budget.

Raytheon Anschutz have service engineers experienced in offshore processes and procedres with all necessary survival and safety training certificates.

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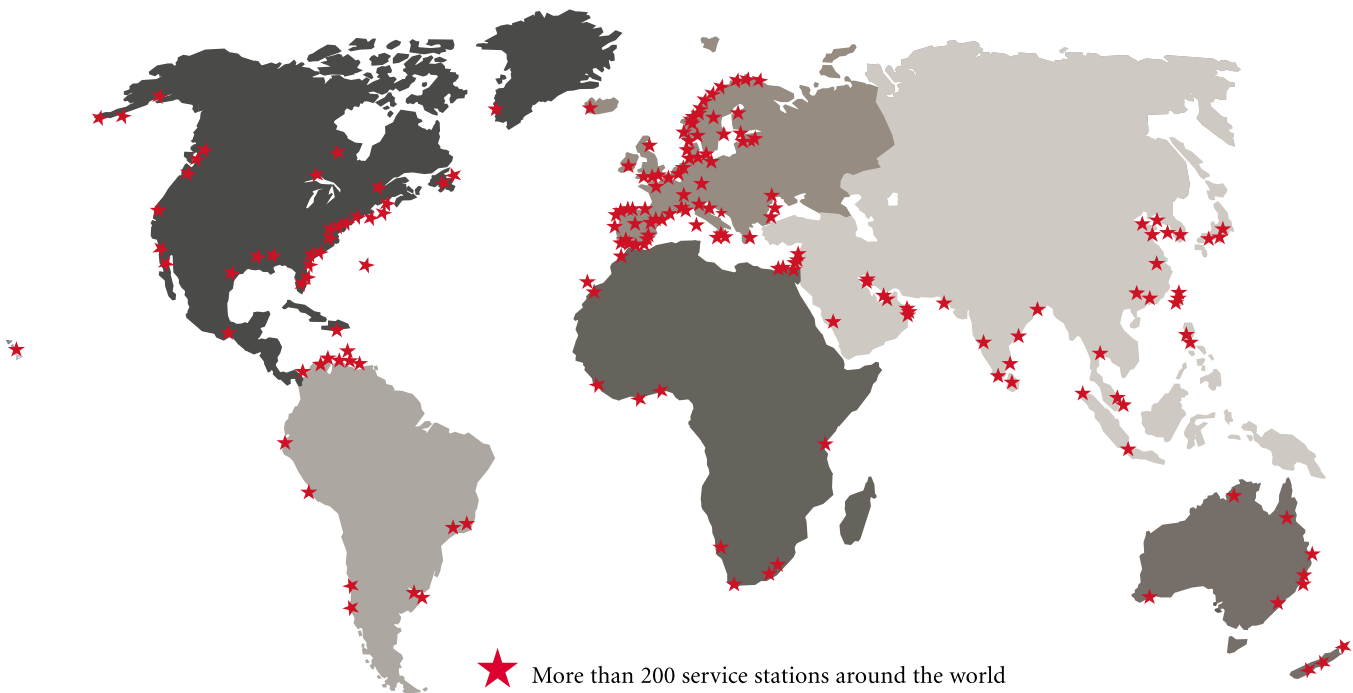
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