SAMS

Maritime Situational Awareness & Surveillance

1 Overview

Ultra Situational Awareness Management System (SAMS) is an advanced software platform for coastal surveillance and port security. Sophisticated radar tracking system algorithms give optimal tracking over the entire coverage area 24/7, 365 days per year in all weather conditions. SAMS provides operators with the information they need to make quick, informed decisions to ensure the security of the people and critical assets the system is protecting.

1.1 SAMS Features

- Multi-zone and scalable: Fully scalable with a modular architecture allows easy upgrades on the fly to accommodate any number of sensors and zones
- Virtually limitless tracks: SAMS can manage thousands of sensor tracks simultaneously
- Open standards-based: Integrate SAMS with high-fidelity COTS sensors using open protocols
- Smart algorithms and rules: Sophisticated radar tracking system algorithms give optimal tracking over the entire coverage area in all weather conditions without any operator intervention
- Sensor data fusion & correlation: Data fusion engine correlates sensor inputs so that vessels being tracked by multiple sensors (radar, AIS, GPS) are presented to operators as single vessels with multiple data layers
- Sensor management camera systems can be integrated and ‘cued’ by radar tracks to follow targets of interest. The camera systems can also be used to acquire and then automatically track vessels as allocated by an operator
- Decision support utilities: Decision support tools aid operators to work in unison in making an informed and timely response to threats and alarms
- Multiple map formats: Wide support for industry-leading 2D and 3D map formats

1.2 Detect and identify air, surface, and underwater objects, effortlessly

SAMS collects data from a flexibly sized array of sensors and can fuse data from up to 16,000 tracks simultaneously. The solution integrates with industry leading sensors, offering a complete and powerful end-to-end solution. This broad efficiency provides certainty that no one and nothing can slip past sovereign borders and pose a threat to national security or CNI. SAMS detects air, surface, and underwater objects using radar, sonar, AIS, ADS-B and transponder sensors and then integrates them into a common operating picture.

Figure 1 – Multiple sensor outstations (radar, AIS, EO)

1.3 Quickly classify threats and generate appropriate warnings

The SAMS threat and alarm management system provides vital support to operators by warning them of situations that need their attention and thus has an important function in preventing, controlling and mitigating abnormal conditions.

Software algorithms evaluate and analyse track behaviour patterns to automatically identify and classify tracks. Threat evaluation algorithms automatically rank potential threats and raise alarms for high priority threats.

EO/IR PTZ cameras enable operators to identify threats by automatic or manual slew-to-cue of a camera to a track of interest.

Figure 2 – Enabling multiple operators to efficiently manage multiple threats

1.4 Data collection and fusion allows you to reduce operators while expanding capability

SAMS allows governments to safely reduce the number of people who monitor coastal borders by providing a central point of information gathering for rapid and sound decision-making.

A data fusion engine correlates sensor inputs so that vessels being tracked by multiple sensors (radar, AIS, GPS) are presented to operators as single vessels with multiple underlying data layers.

The resulting real time track picture contributes to the Common Operating Picture presented to operators.

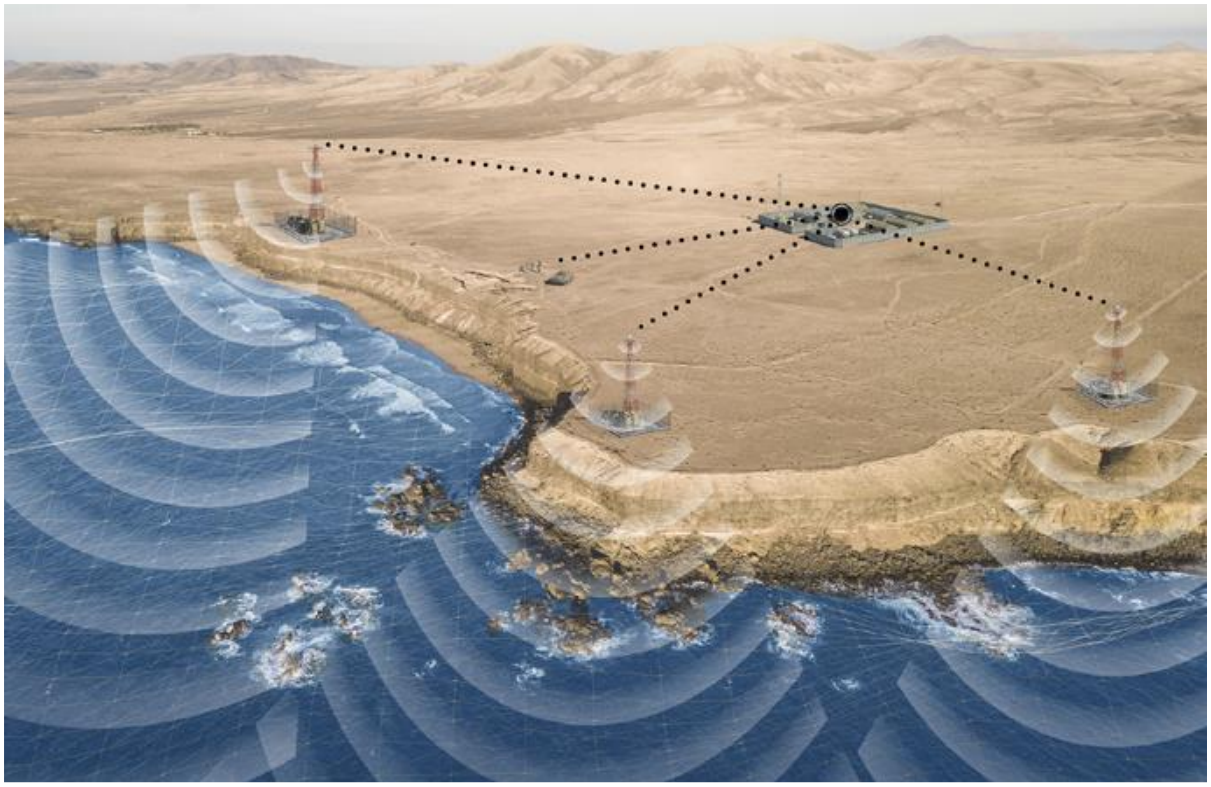

Figure 3 – Data from multiple outstations fused into COP at command centre

1.5 React accordingly when every second counts with tools for threat and alarm response

Once a threat has been detected, SAMS allows users to proactively search out and deal with potential threats with greater efficiency.

Decision support tools aid operators to work in unison in making an informed and timely response to threats and alarms.

The system guides operators through a pre-defined response plan as the mechanism to plan and carry out actions in response to threat incidents. This can include automatic deployment of deterrents such as slew-to-cue of searchlights or loudhailers.

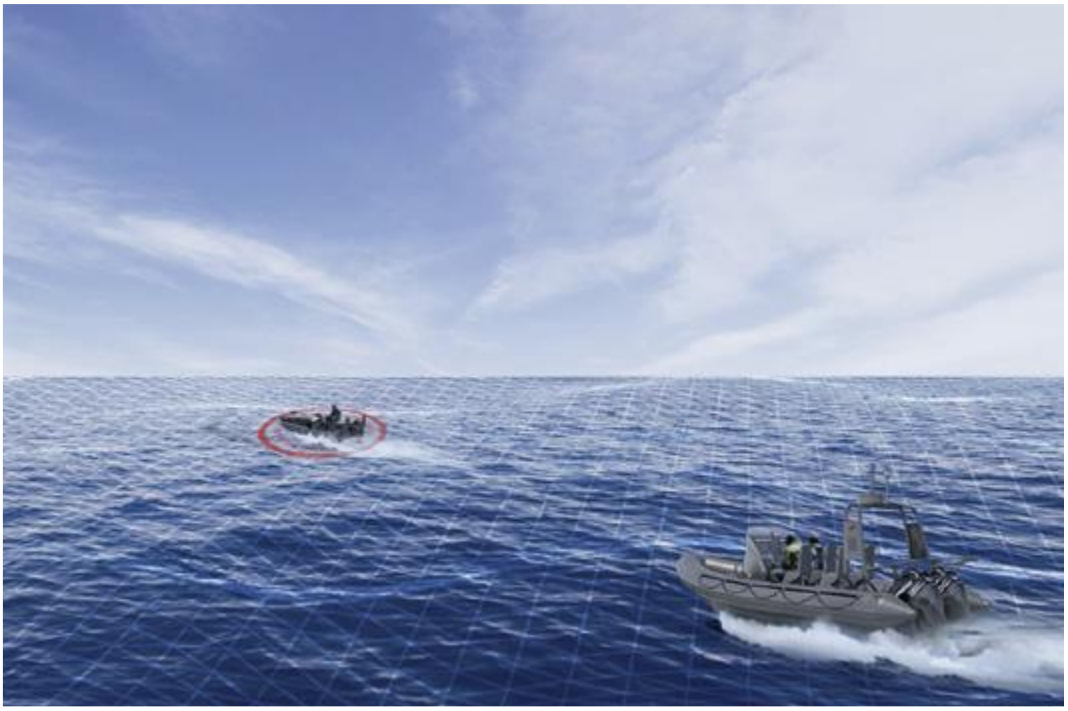

Figure 4 – Operators work in unison to make an informed and timely response to threats

1.6 Make the complicated simple with a Common Operating Picture

The system generates a real time data-set of relevant, accurate and timely situational awareness information shared with operators as a Common Operating Picture (COP).

SAMS provides controlled access to the system with login permissions so that operators receive only access suitable for their operational role within a chain of command. Complex scenarios can be handled by partitioning COP data so that different teams manage multiple concurrent incidents.

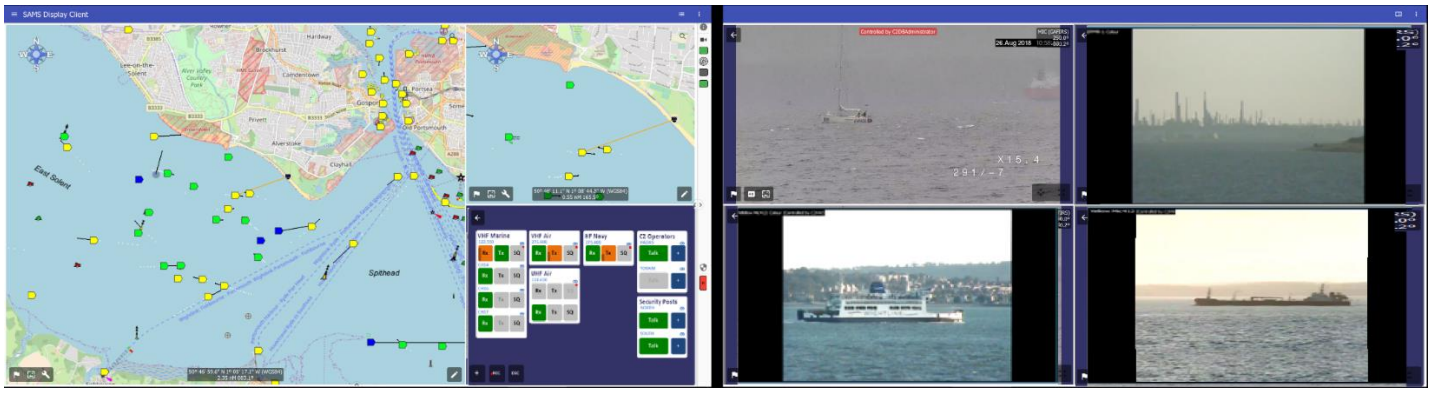

Figure 5 – SAMS operator C2 HMI - Multiple panels across monitor screens