THE FUTURE OF AUTONOMOUS MARIMTIME IS HERE

SimIS Autonomous Maritime System (SAMS)

Outfitting Autonomous Surface Vehicles (ASV) for Reconnaissance, Interdiction and Threat monitoring

SimIS developed the "SimIS Autonomous Maritime System" (SAMS) to meet the United States Navy's strategic planning and fleet objectives for 2020. SAMS provides an Artificial Intelligence- based software and networking capability on an ASV platform, like those created by Marine Advanced Research. The SAMS is a cost-effective way to integrates Reconnaissance, Interdiction and Threat monitoring components into a single system package.

SimIS integrates AI for multiple ASV platforms

Features

- ✓ Manually or fully autonomous operations within scenario defined geospatial boundaries
- ✓ Preprogram scenarios supports data capture such as Location of Miss and Hit (LOMAH)
- ✓ Behavioral Logic and Control Module (LCM)
- ✓ On Demand Remote Control Module
- ✓ Line of Sight Radar - LIDAR
- ✓ Complies with IEEE 1872 standard for robotic and automation ontologies and NIST robot message language guidelines
- ✓ Counter-Unmanned Systems (Counter-UxS)
- ✓ Security Threat monitoring of maritime assets
- ✓ Threat monitoring
- ✓ Mobile, expeditionary, and fixed sensors (all domains and spectrums)
- ✓ Ocean observing and surveying systems
- ✓ Wide area search and surveillance

Benefits

- ✓ Integrated solution for Blue, Green and Brown water ASV requirements
- ✓ Interchangeable mount for varied payload configuration
- ✓ Reduced risk to manned forces
- ✓ Enables protection of people and the high-value manned platforms
- ✓ Modular Design and Development
- ✓ Exhibits human like behaviors and reactions
- ✓ Reacts to various levels of engagement

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Overview

SAMS will augment ASV platforms to deliver enhanced steady-state and surge capability to help deter the enemy at the regional, transnational, and global levels. The ASVs are highly automated and reduce communication/data exchange requirements and operator loading. They can deploy and retrieve devices, gather, transmit, or act on all types of information, and engage targets with minimal risk or burden to US and Coalition Forces. SAMS enabled vessels can be used to secure and patrol ports and borders.

SAMS provides:

- ❖ Temperature monitoring for each battery, motor, and servo
- ❖ Monitoring of each motor's exact output, and the servo's rotational position
- ❖ Object detection from both LIDAR and Camera systems, as well as object data composited from the two
- ❖ Up to date positional data based on the GPS, including object location in relation to the vessel.

Use Case

- ✓ Modular design Platform – Easily interchangeable to allows use with a wide variety of hull and craft types to include the WAM-V by Marine Advanced Research.
- ✓ Coverage - coverage rates and the ability to maintain constant awareness of the environment due to advanced sensors
- ✓ Data captured for AAR (After Action Review)
- ✓ Variable Environments/Terrains – Usable in blue, green and brown waters
- ✓ AI that creates human like behaviors and responses, and speeds that approximate running
- ✓ Fully or partially autonomous
- ✓ Trainer Control Station (TCS)
- ✓ Control Interfaces (teleoperated via terminal, joy stick, radio, smart phone, virtual control station, or tactical controller)
- ✓ Sensor control and Collision Avoidance
- ✓ Easily integrates with Laser/MILES devices and Digital Range Training Systems (DRTS)

SAMS Supported ASV missions

- ✓ Mine Countermeasures (MCM)
- ✓ Anti-Submarine Warfare (ASW)
- ✓ Maritime Security (MS)
- ✓ Surface Warfare (SUW)
- ✓ Special Operations Force (SOF)
- ✓ Maritime Interdiction Operations (MIO) Support
- ✓ Humanitarian Assistance/Disaster Relief (HA/DR)

REDUCE RISK OF MISSIONS WITH COMMAND AND CONTROL THROUGH AN AUTONOMOUS TACTICAL ROBOT

autonomous unmanned platforms CRITICAL to achieving YOUR VISION

SAMS → SIMIS AUTONOMOUS MARITIME SYSTEM

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