



Autonomous Maritime Search and Rescue

What is AMSAR?

Deep Vision's Autonomous Maritime Search and Rescue (AMSAR) is an advanced electro-optical monitoring and object recognition technology that enhances Search and Rescue operations by rapidly identifying individuals in distress, improving situational awareness, minimizing human error, and optimizing coordination and communication for efficient and effective lifesaving missions.

Key Features

- Instant acquisition of all surface level maritime objects without prior knowledge
- Passive ranging to locate targets with GPS positioning
- Continuous 24 hour operational capability
- Agnostic camera capabilities for easy integration
- Robust performance in harsh weather conditions such as rain, mist, fog, sea-spray, cloud and sun glare
- Robust performance in sea states spanning calm to choppy
- No training required
- Low SWaP-C (Raspberry PI, ODROID)

How does AMSAR add Value to Maritime Systems?

Deep Vision's AMSAR module provides self-contained, GNSS-independent, real-time navigation specifically designed for Search and Rescue operations. By integrating precision inertial positioning with visual navigation, it offers a cost-effective and accurate navigation solution for Search and Rescue users. AMSAR reduces user fatigue by automatically detecting persons lost at sea. AMSAR delivers:

- UAV enabled search and rescue missions
- Onboard vessels for quick response person-overboard scenarios

- Continuously monitor high-risk zones for people lost at sea

How is AMSAR Deployed?

The AMSAR module connects seamlessly with commercial off-the-shelf (COTS) cameras using USB or network interfaces, enabling versatile integration. The system outputs a detailed information packet for each identified surface-level object, including:

- The center-point and dimensions of each surface-level object within the search area
- The range and bearing to each surface-level object (measured in meters and degrees)
- A unique identifier for each surface-level object
- The timestamp of when the observation was made

All data is transmitted as XML over UDP. Additionally, the module supports proprietary or custom input/output interfaces to meet specific needs

How does AMSAR work?

AMSAR is an advanced situational awareness module designed for use with EO sensors in maritime search and rescue operations. Developed through extensive proprietary research and development by Deep Vision, AMSAR technology automatically detects, tracks, and passively ranges all surface-level maritime objects within its field of view. The AMSAR module continuously adapts to the dynamic and challenging maritime environment, delivering robust and uninterrupted situational awareness information.

