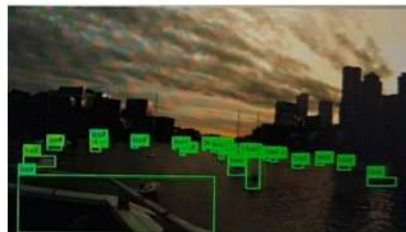# AWARION™
Autonomous Lookout System

Autonomous Lookout System

Maintaining proper lookout is essential for ships and unmanned surface vehicles (USVs). Operational safety and regulations demand it.

Awarion is an AI and computer vision system that complements and supports manned lookouts and marine radar systems. Awarion uses electro-optical and infrared video streams to detect, analyze, and report on the presence of whales, ships, and other objects, including fishing buoys and equipment.

Sensing for situational awareness

Manned lookouts can suffer from fatigue and distraction. They require accommodations and resources.

Awarion's algorithms never tire. They perform advanced analyses, like trajectory modeling and threat assessment. They transfer lookout duties from scattered watchpoints directly to the bridge.

Seeing what radar can't see

Electro-optic and infrared (EO/IR) methods provide much greater detail and resolution compared to radar. With EO/IR, Awarion can perform object classification, and see what radar can't see, such as a whale blow or surfacing. These capabilities are critical to enabling true USV autonomy.
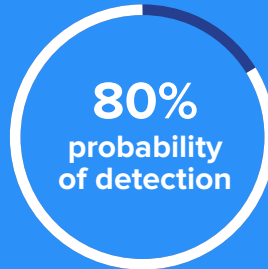
Performance Metrics

In bench testing, Awarion's detection
system has demonstrated:

Ships

80%
probability
of detection

Whales

80%
probability
of detection

Ship Classification

90%
accuracy

Flexible configuration

Situational Awareness Analytics Software
The Awarion product consists of a core software component, which can be delivered as a standalone product or as part of an integrated camera system.
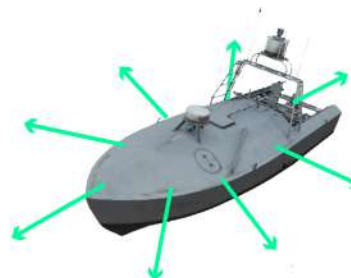
Smart Camera with Optional Pointable Mount
Single, pointable camera designed to regularly sweep 360 degrees and autonomously deliver follow-up observations.

Processing Hardware
You can connect your own camera(s) to our processing hardware.

Fixed Camera Array
Multiple cameras with fixed views can have their output combined to form a 360-degree view.

System requirements
Ethernet connections are required for all components. Awarion uses the Robot Operating System (ROS) interface for message passing and hardware/software integration.

For more information, contact
Elaine B. Coleman, PhD
Vice President of Commercialization
ecoleman@cra.com
617.491.3474 x810