

SeaSight

Situational Awareness and Collision Avoidance



- **ENHANCED SAFETY FEATURES AND OPERATOR AID FUNCTIONALITIES.**
- **INCREASED SITUATIONAL AWARENESS THROUGH REAL-TIME VISUALIZATION OF LIDAR-DATA IN VEHICLE CONTROL STATION (VCS).**
- **OBJECT DETECTION AND OBSTACLE AVOIDANCE FOR IMPROVED REMOTE CAPABILITIES.**

The new **SeaSight Situational Awareness (SA) and Collision Avoidance (Colav) system** from **Maritime Robotics (MR)** is designed to enhance safety while improving the operator's situational understanding. This functionality has been developed in close collaboration with world leading academic institutions for many years and is now a proven and mature system.

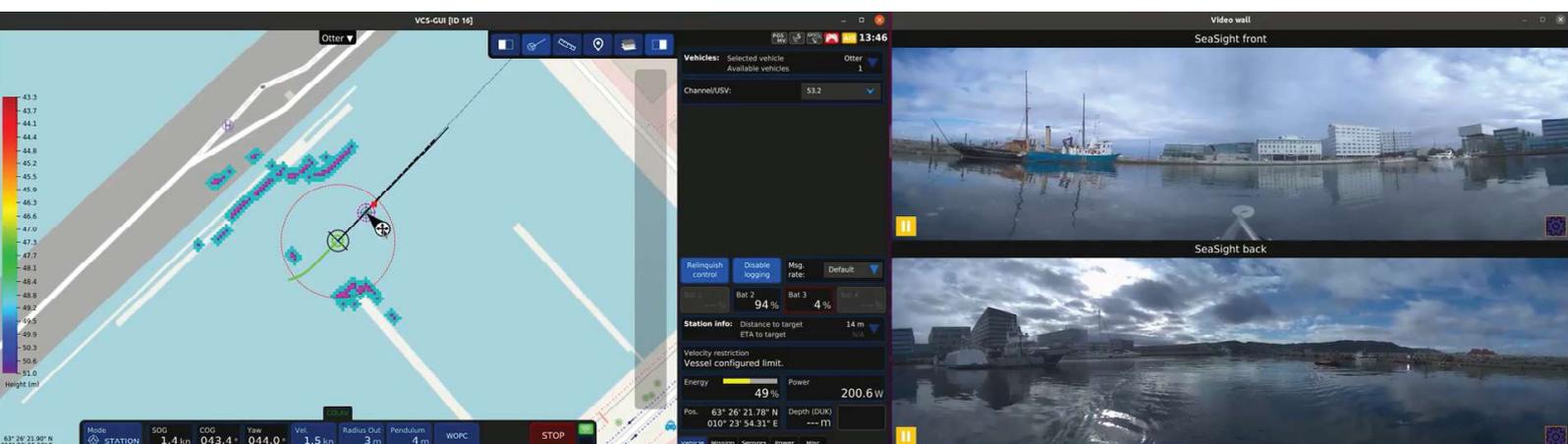
When Collision Avoidance is activated, the uncrewed vessel will avoid anything that might be at risk of interfering with the operation. This can be land, docks, vessels, buoys, animals, sea plants or other objects that are detected.

If the uncrewed vessel is unable to locate a safe passage to the requested location, it will automati-

cally enter Station Mode and await operator instructions.

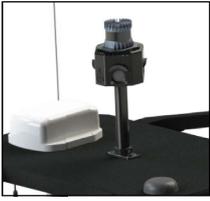
SeaSight features multiple low light, high definition cameras that are stitched together to give the operator an exceptional overview of the surroundings. On larger vessels we also utilize thermal (IR) cameras for visibility in low- and no-light conditions.

In addition to the camera based SA functionality, **SeaSight incorporates AIS and active sensors such as Lidar and Radar.** The 360 degree scanning Lidar sensor used by SeaSight is primarily used in the advanced Collision Avoidance algorithm. The Lidar sensor is also used to visually improve situational overview in poor visibility conditions, and it provides superior detection accuracy enhancing safety when navigating close to obstacles.



The Lidar detections and video from SeaSight visible in the Maritime Robotics VCS (Vehicle Control Software).

Technical Specifications:



Lidar sensor interface:

- 360 degrees horizontal field of view
- $\pm 22,5$ degrees vertical field of view
- Up to 120 metres range
- 1,2 cm range resolution

Camera:

- 5 MP (MegaPixel)
- Sony STARVIS back-illuminated pixel technology

SeaSight packages:

SeaSight C

- Double 180-degree panoramas giving full visibility around the uncrewed surface vehicle.
- Sony starvis illuminated pixel technology allows for high visibility in poor light conditions.
- Optimized real-time video streaming through H.265 encoded SRT (Secure Reliable Transport) video.



SeaSight CL

Includes all functionalities of Seasight C, in addition to:

- Real time collision avoidance for the Otter, allowing the uncrewed surface vehicle to autonomously maneuver around static objects.
- Visualization of real-time Lidar-data in VCS/ Vehicle control station.