



SEA. AI 

NOW YOU SEE.



 **Mackay**  
Marine Electronics &  
Satellite Communications  
[www.mackaymarine.com](http://www.mackaymarine.com)

# Now you see.

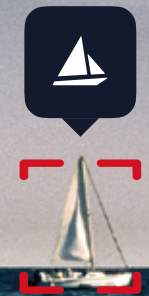
SEA.AI alerts crews early and reliably about objects on the surface of the water.

Using latest camera technology in combination with artificial intelligence, SEA.AI detects and classifies objects, including those that escape conventional systems such as Radar or AIS: floating objects, rafts, buoys, boats without AIS and persons overboard.

⚠
**DANGER ALERT**

⚠
**HAZARD**

80m
0kn



## BOOST SITUATIONAL AWARENESS

Intelligent, untiring 24-hour multi-purpose lookout with intelligent alarm functions, displaying safety-relevant information in an easy-to-understand way.



## SEE BETTER THAN THE HUMAN EYE

Detection, identification, monitoring of floating obstacles of any size and kind, by day and night, and even in the most adverse conditions.



## MAKE BETTER INFORMED DECISIONS

On-board cameras with integrated image processing and an intuitive interface provide a novel digital understanding of the vessel's surroundings on water.

SEA.AI VS. CONVENTIONAL ASSISTANCE SYSTEMS	AIS	RADAR	SEA.AI
Detecting land structures	-	✓	-
Detecting squalls / weather fronts	-	✓	-
Detecting ships / large boats	✓	✓	✓
Recognizing ships / large boats	✓	-	✓
Detecting small boats	-	-	✓
Recognizing small boats	-	-	✓
Detecting persons in water	-	-	✓
Detecting other floating obstacles	-	-	✓

# How it works

SEA.AI computes input from lowlight and thermal on-board cameras to provide a digital understanding of the vessel's surroundings on the water.

The system's artificial intelligence uses latest Machine Vision technology, best-in-class deep learning capabilities and an ever-growing proprietary database of millions of annotated marine objects.

## NETWORK INTELLIGENCE



### PROPRIETARY SEA.AI DATABASE

- ✓ >9 million annotated marine objects (thermal images and RGB images)
- ✓ AI characterization of all objects along 100,000s of filters
- ✓ Continuously growing and improving (new object classes, e.g. icebergs; new geographic regions, e.g. Red Sea)



REGULAR SOFTWARE UPDATES (OVER THE AIR)

## ON-BOARD



### CAMERA UNIT

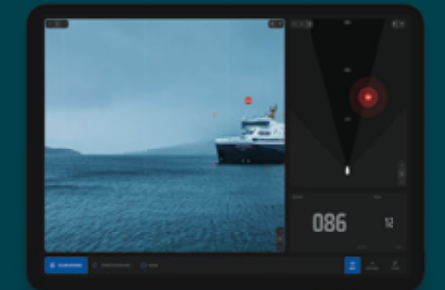


Combination of high-resolution lowlight and thermal cameras with integrated image processing

- ✓ Detection of temperature differences up to 0.05°C
- ✓ Real-time learning of water surface patterns. Searching for anomalies and distinguishing water from non-water
- ✓ Comparing anomalies with neural network
- ✓ Recognize objects by matching combination of filters



### INTERFACE (UI/UX)



Use SEA.AI app on the vessel's MFD or on smartphones or tablets

- ✓ Augmented reality video stream combined with map view
- ✓ Intelligent alarming based on threat level
- ✓ User-friendly, intuitive design
- ✓ Operate system without prior training

# SEA.AI SENTRY









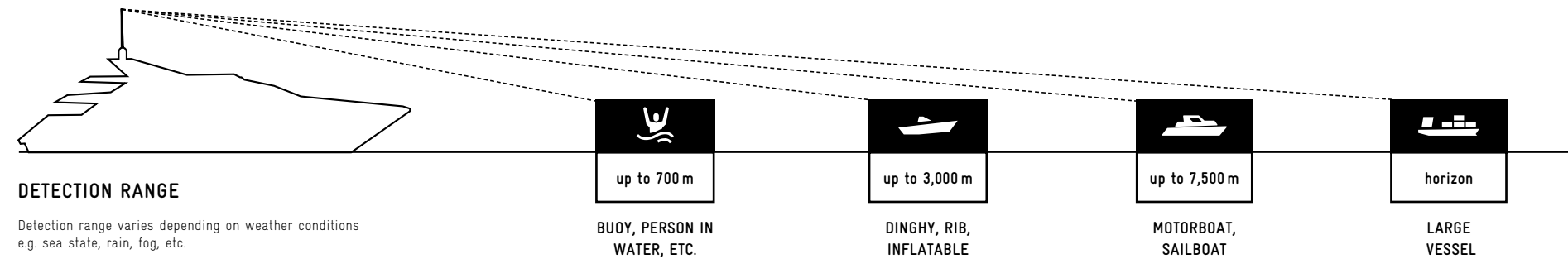
Superior 360° situational awareness and surveillance for commercial vessels, government craft, first responders and motor yachts.

Comprehensive optical and thermal camera setup, complemented with a powerful processing unit. Longest detection range, widest detection angle and fastest detection frequency improve performance in unfavorable sea conditions. Object tracking and manual panning/tilt support 360° perimeter surveillance both at anchor and under way.



SEA.AI SENTRY SPECIFICATIONS

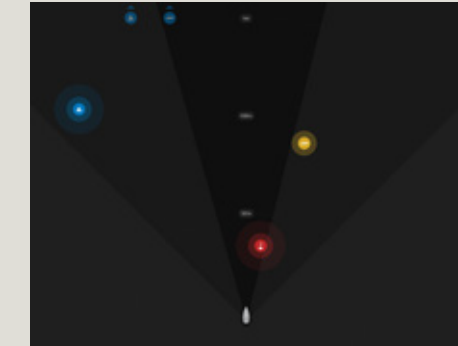
	 DETECTION ANGLE DAYLIGHT & TWILIGHT	 NIGHT	 DETECTION FREQUENCY	 RESOLUTION	 PAN TILT	 WEIGHT
SEA.AI SENTRY	360°	360°	10/sec	2x thermal: 640x512 px 2x lowlight: 2592x1944 px	360° +/- 20°	5.4 kg



SEA.AI SENTRY KEY FUNCTIONS

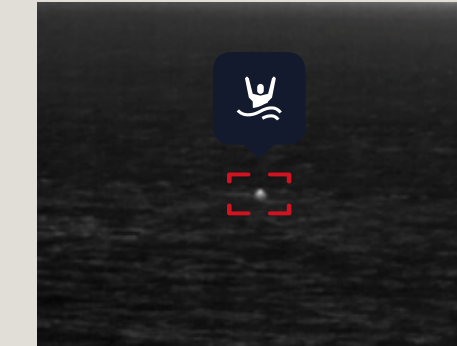
# Total Awareness

## COLLISION AVOIDANCE



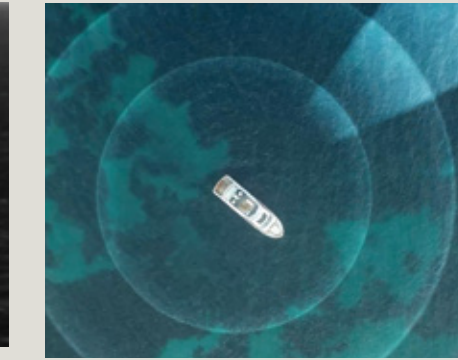
Forward panning. Intelligent alarm alerts of an impending collision risk with objects in the vessel's path.

## OBJECT TRACKING



Keep selected object in the screen center, e.g. monitoring a person over board or tracking a tender.

## PERIMETER SURVEILLANCE



360° scanning of a vessel's surroundings. Intelligent alarming of approaching objects entering a selected perimeter.

## MANUAL CONTROL

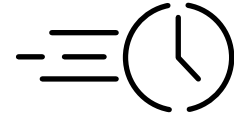


Investigate areas and objects of interest using 16x electronic zoom.



## INSTALLATION SUPPORT

The SEA.AI dealer and service network is growing fast. For professional installation of SEA.AI units and ongoing support, please find your nearest dealer on [www.sea.ai](http://www.sea.ai).



## OVER THE AIR UPDATES & PERFORMANCE IMPROVEMENTS

SEA.AI Artificial Intelligence draws from an ever-growing database. Updates at regular intervals make your SEA.AI system smarter and smarter.



## REMOTE SOFTWARE SERVICE SUPPORT

Remote support ensures the reliable performance of your SEA.AI system wherever your yacht is headed - and that includes the remotest corners of the planet.

For further information contact:  
[contact@sea.ai](mailto:contact@sea.ai)



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