


MACHINE VISION FOR SAFETY AND
ENHANCED SITUATIONAL AWARENESS



SEA.AI 

NOW YOU SEE.

 DANGER ALERT

 HAZARD

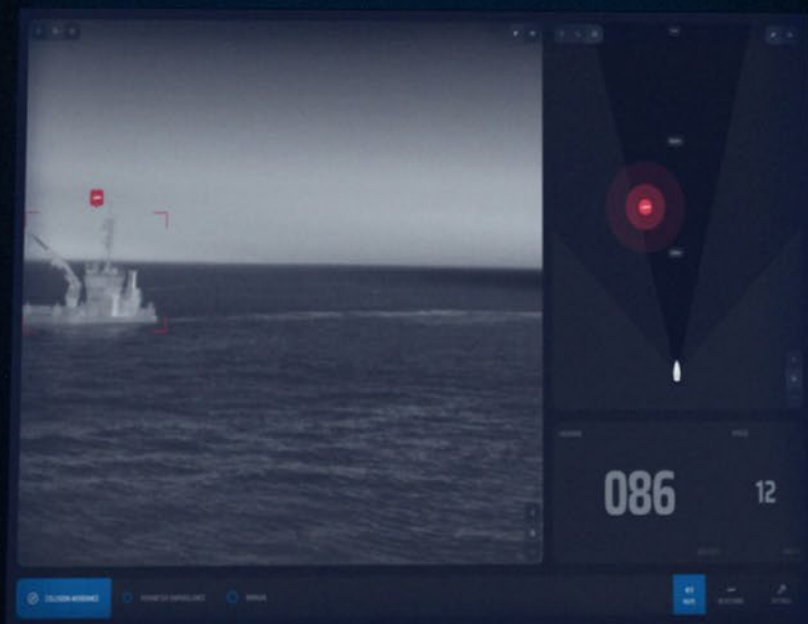
220m



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.



PIONEERING TECHNOLOGY FOR MARITIME SAFETY



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



MAKE BETTER- INFORMED DECISIONS

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

SEA.AI BRIDGES AWARENESS GAPS

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 low-light and thermal on-board cameras to paint a digital landscape of the vessel's surroundings.

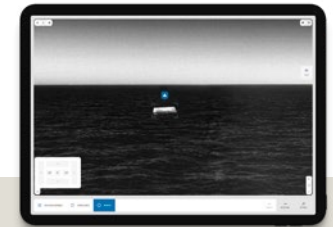
High-performance cameras record the sea non-stop from the vessel to the horizon in all directions. Artificial intelligence processes images in real-time, detects floating hazards and warns the crew.

FROM CAMERA INPUT TO ALERTS ON YOUR SCREEN



HOW IT WORKS

SEA.AI offers smart navigation assistance for advanced situational awareness – from direct camera input through real-time image processing to alarms on your screen.



OBJECTS DATABASE

Built and exclusively owned by SEA.AI, our database is at the core of the ongoing training of the system's artificial intelligence.

- ✓ Over 10 million nautical miles on-water experience around the world
- ✓ Over 9 million marine objects identified
- ✓ Continuously gathering data for enhanced detection of objects

CAMERA UNIT

Combination of high-resolution, low-light and thermal cameras with integrated image processors

- ✓ High resolution images day and night
- ✓ Detection of temperature differences up to 0.05°C
- ✓ Image stabilization at pixel-level accuracy
- ✓ Works stand-alone, no internet connection required

ARTIFICIAL INTELLIGENCE

Integrated image processing software, developed and owned by SEA.AI

- ✓ Real-time processing of the camera stream
 - ✓ Detection and tracking of objects through proprietary algorithms
 - ✓ Iterative software, constantly gaining competence
- i** With every software update the object recognition becomes ever more performing

SITUATIONAL AWARENESS

Control the system using the SEA.AI app on the vessel's onboard multifunction displays, computers or on tablets

- ✓ Augmented reality video stream
- ✓ Intelligent alarm-based at threat level
- ✓ Intuitive design

SEA.AI 

The future on open water

We pioneered the first, maritime AI-driven anti-collision camera sensor in 2018.

AIS, radar and sonar are pillars of maritime technology. SEA.AI goes further. It takes a bold leap forward with the first AI-powered lookout system. No longer confined to traditional methods, our innovation transcends boundaries, ushering in a new era where human and artificial intelligence collaborate seamlessly on the bridge.

As marine mobility continues its digital transformation, collaboration between human and machine will play an increasingly vital role. We are a pivotal contributor to ongoing innovation in seafaring through artificial intelligence and machine learning. With a proven track record, we are at the forefront of shaping the future of maritime technology.

“Engineers know there is a solution to every problem. On deck it’s impossible to be 100% alert 100% of the time. The sea doesn’t forgive. SEA.AI gives me peace of mind that I will be warned of any obstacle.”

Raphael Biancale
SEA.AI Founder



SEA.AI 



SEA.AI compatibility

macOS iOS Microsoft Android 

B&G  **FURUNO** GARMIN 

Raymarine

SIMRAD



Established partners in more than 60 countries



SEARCH & RESCUE

Life-saving support

SEA.AI is the first system to detect persons in water. Whether night or otherwise challenging conditions. SEA.AI's built-in thermal cameras precisely detect objects by temperature differences as small as 0.05°C.

Meticulously designed to bridge awareness gaps left by unsignalling objects effectively bypassing AIS and radar signals, SEA.AI supports efficient rescue and surveillance missions. SEA.AI equips crews with a comprehensive view from a secure vantage point, day and night, allowing for ideal operational speed with unwavering confidence.

GET IN TOUCH



Detect persons overboard



System alarms



360° perimeter monitoring



Range of detected objects

FEATURES

- ✓ Object detection from nearfield to horizon
- ✓ Works day and night
- ✓ Person in water detection up to 700m
- ✓ Automated object tracking
- ✓ Manual control with 360° panning, +/- 20° tilt and 8x zoom
- ✓ Highly intuitive interface with 3 viewing modes. Daylight view, thermal view, map view
- ✓ High detection frequency
- ✓ Image stabilization
- ✓ Stand-alone solution
- ✓ Runs simultaneously on multiple devices, compatible with computers, iPads and MFDs that support HDMI input
- ✓ Constantly gaining performance with each software update

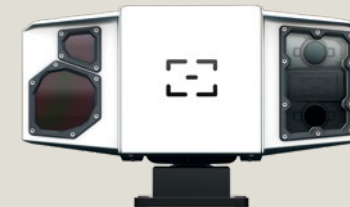
Enhance operational safety and efficiency with AI-powered detection of objects and persons overboard

- ✓ **Detect humans and animals.** Enabled by AI-driven thermal image processing, with powerful detection ability day and night, when human eyes face limitations
- ✓ **Target tracking.** Use the system's object tracking mode for rescue
- ✓ **Crew alerts.** Alarm alerts when attention is diverted to rescue activities
- ✓ **Stand-alone system.** Autonomous

PRODUCT RECOMMENDATION

SEA.AI SENTRY

The first choice for SAR and institutions with coastal monitoring and life-saving duties.





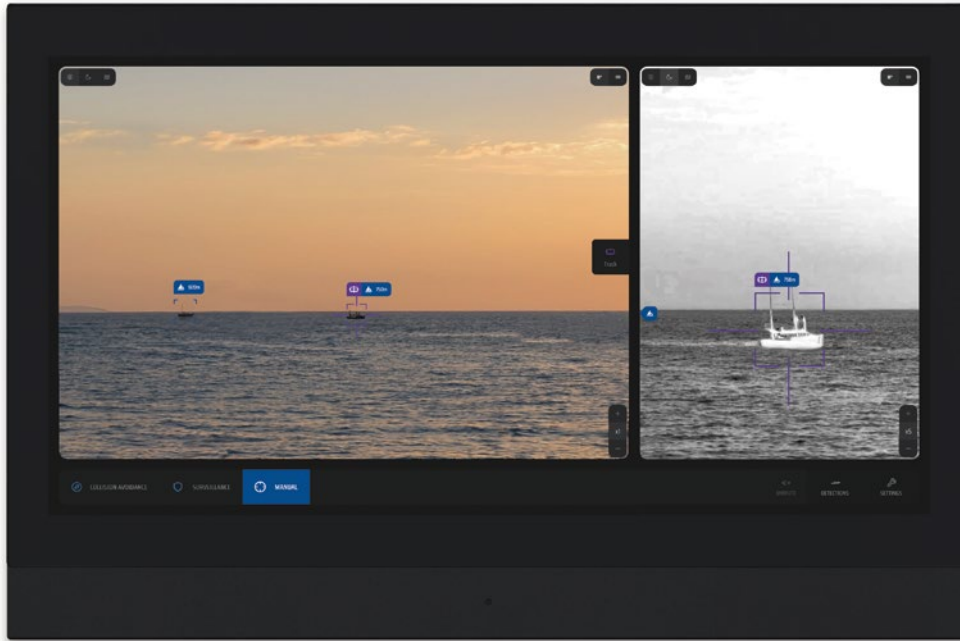
PATROL VESSELS

Advanced situational awareness

SEA.AI's maritime surveillance solutions help governments including customs, border and coast guard agencies to significantly improve global security of the maritime domain.

SEA.AI provides unparalleled object detection – 24/7, day and night, in any weather condition. Enhanced by latest machine vision technology and an exclusive, proprietary database of over 9 million identified marine objects, this advanced thermal imaging system is unique on the maritime market for security critical missions.

GET IN TOUCH



FEATURES

- ✓ Object detection from nearfield to horizon
- ✓ Highly-intuitive interface with 3 viewing modes. Daylight view, thermal view, map view
- ✓ 3 operation modes including manual control with 8x zoom, 360° panning and +/- 20° tilt
- ✓ Detection of persons, buoys and small objects in water up to 700m
- ✓ Detection of dinghies, RIBs, inflatables up to 3,000m
- ✓ Detection of motorboats and sailboats up to 7,500m
- ✓ Stand-alone solution
- ✓ Compatible with computers, iPads and MFDs that support HDMI input. Third-party integration via API
- ✓ Constantly gaining performance with each software update



Smart AI
Object detection



Detect persons
overboard



360° perimeter
monitoring

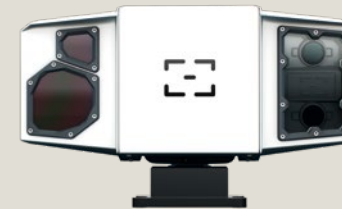
Effectively monitor and secure your territorial waters

- ✓ Exclusive Economic Zone (EEZ)
- ✓ Drug and Human Trafficking
- ✓ Illegal Immigration
- ✓ Customs & Border Protection
- ✓ Piracy
- ✓ Illegal Fishing
- ✓ Environmental Monitoring

PRODUCT RECOMMENDATION

SEA.AI SENTRY

Machine vision for next generation maritime situational awareness.





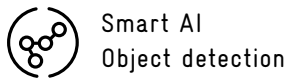
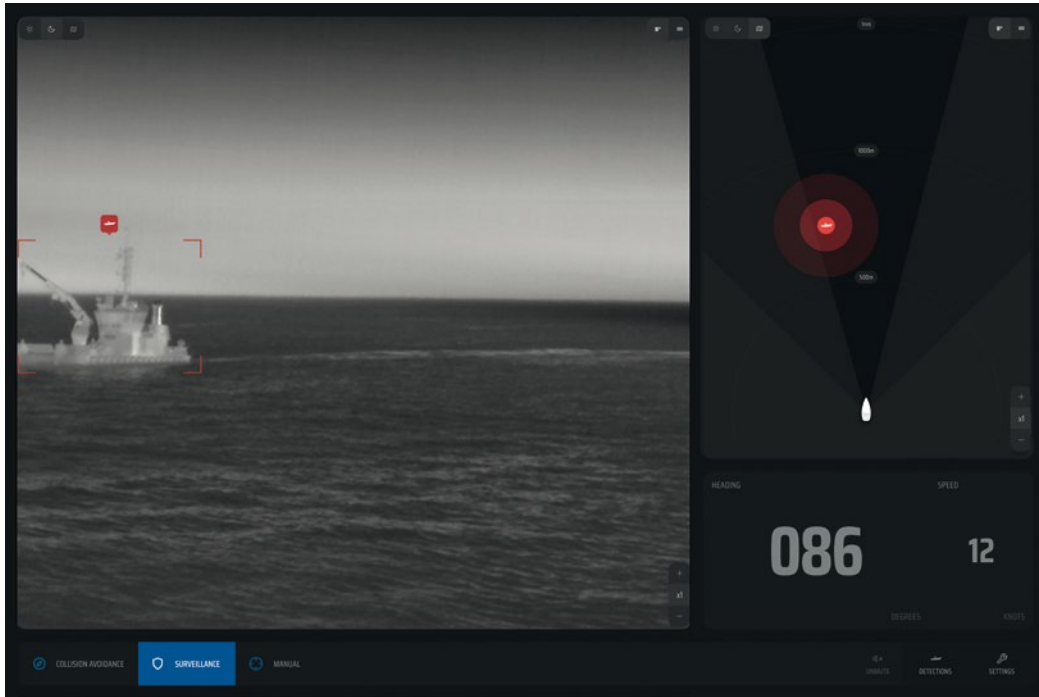
COASTAL SURVEILLANCE AND BORDER PROTECTION

Detect potential threats

From piracy to illegal immigration and drug trafficking, mastering the maritime domain is essential for security, safety, the economy, and the marine environment. SEA.AI's state-of-the-art solutions empower coastal surveillance organizations to protect coastlines under increasingly challenging conditions.

Our advanced maritime domain awareness solution combines the latest optical and thermal camera sensors with proprietary AI-driven Machine Vision. SEA.AI detects objects with unmatched accuracy that neither radar nor AIS can recognize, providing enhanced vigilant coastal monitoring day and night.

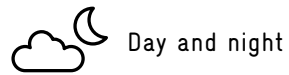
GET IN TOUCH



Smart AI
Object detection



API ready



Day and night

FEATURES

- ✓ Automated surveillance mode with smart alarms
- ✓ Automated object tracking
- ✓ Manual control with 360° panning, +/- 20° tilt and 8x zoom
- ✓ Detection of small objects and persons in water up to 700m
- ✓ Detection of dinghies, RIBs, inflatables up to 3,000m
- ✓ Detection of motorboats and sailboats up to 7,500m
- ✓ Runs simultaneously on multiple devices
- ✓ Works on all browser-based systems, ready for integration into control rooms via API
- ✓ Constantly gaining performance with each software update

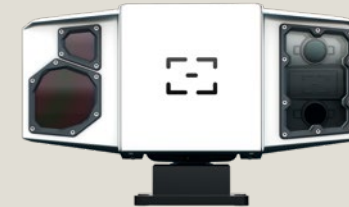
Protect your coastline and borders

- ✓ Drug and Human Trafficking
- ✓ Illegal Immigration
- ✓ Border Protection
- ✓ Illegal Fishing
- ✓ Piracy
- ✓ Environmental Monitoring

PRODUCT RECOMMENDATION

SEA.AI SENTRY

Reliable and superior
coastal surveillance
and border protection.





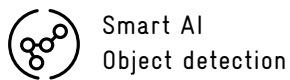
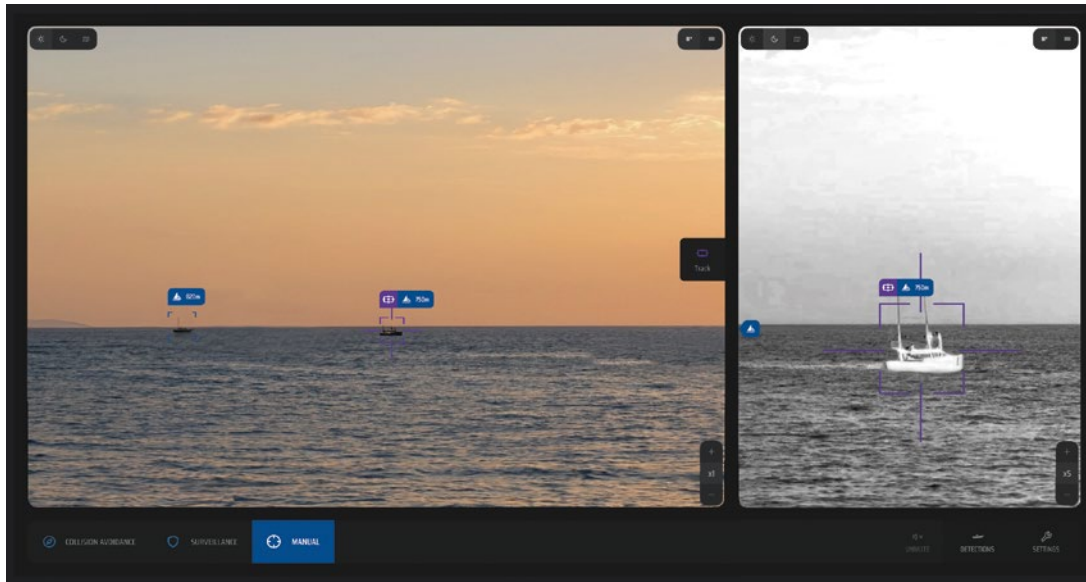
UNMANNED SURFACE VEHICLES (USV)

Secure navigation

Equipping autonomous vessels with an advanced awareness system addresses a primary operational concern: navigational safety. SEA.AI systems empower USVs to perceive and safely interact with the marine environment, facilitating secure navigation in complex scenarios.

Leveraging the latest in Machine Vision technologies, SEA.AI effectively bridges significant awareness gaps. Our systems offer unparalleled object detection capabilities, complementing conventional systems like radar or AIS. From detecting small objects to identifying vessels without AIS and even spotting persons overboard, SEA.AI provides comprehensive coverage for safer navigation in unmanned missions.

GET IN TOUCH



Smart AI
Object detection



Day and
night



Detect persons
overboard



API
ready

FEATURES

- ✓ Superior object detection from nearfield to horizon
- ✓ Works day and night
- ✓ Detects objects that escape radar and AIS
- ✓ 360° panning, +/- 20° tilt and 8x zoom
- ✓ Image stabilization
- ✓ Stand-alone solution
- ✓ Passive system
- ✓ Works on all browser-based systems. Highly intuitive interface. Collision avoidance mode, risk calculation and other functionalities
- ✓ Ready for third-party integration via API
- ✓ Constantly gaining performance with each software update

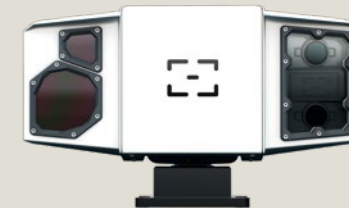
Improve navigational safety and maritime situational awareness with real-time object detection using cutting-edge machine vision technologies

- ✓ Maritime Surveillance
- ✓ Hydrography
- ✓ Oceanography & Environmental
- ✓ Offshore Energy & Telecommunications
- ✓ Search & Rescue

PRODUCT RECOMMENDATION

SEA.AI SENTRY

Advanced collision
avoidance for
secure navigation.



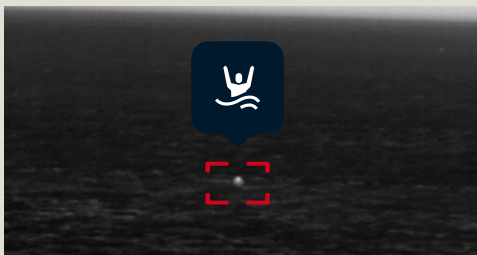
SEA.AI SENTRY

Superior 360° situational awareness for motor yachts and surveilled maritime areas – day and night. Comprehensive optical and thermal camera setup, complemented with a powerful processing unit.



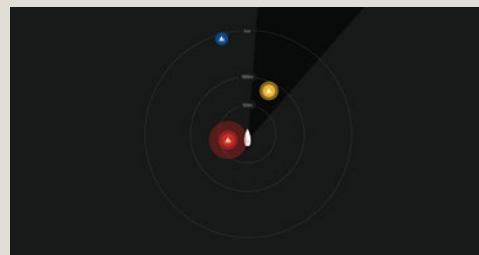
TARGET TRACKING

Keep selected object center-screen, e.g. monitoring a person overboard or tracking a tender.



PERIMETER SURVEILLANCE

360° scanning of the surroundings on water. Intelligent alerts of approaching objects entering a selected perimeter.



MANUAL CONTROL

Investigate areas and objects of interest using 8x electronic zoom.



COLLISION AVOIDANCE

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



SEA.AI SENTRY SPECIFICATIONS

MODEL FEATURES	SENTRY
DETECTION ANGLE DAYLIGHT & TWILIGHT	360°
DETECTION ANGLE NIGHT	360°
DETECTION FREQUENCY	10/sec
RESOLUTION	2x thermal: 640 x 512 px 2x low-light: 2592 x 1944 px
IMAGE STABILIZATION	yes (gyro + digital)
PAN	360°
TILT	+/- 20°
WEIGHT	5.4 kg



DETECT PERSONS OVERBOARD

Built-in thermal cameras measure temperature differences as small as 0.05°C for detection of persons overboard.

DETECTION RANGES

Detection range varies depending on weather conditions.



up to 700 m

BUOY, PERSON
IN WATER, ETC.



up to 3,000 m

DINGHY, RIB,
INFLATABLE



up to 7,500 m

MOTORBOAT,
SAILBOAT



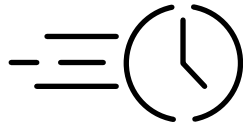
horizon

LARGE
VESSEL



INSTALLATION SUPPORT

For professional installation of SEA.AI units and ongoing support, please find your nearest dealer on www.sea.ai



UPDATES AND PERFORMANCE IMPROVEMENTS

SEA.AI detection excellence draws from an ever-growing database and updated algorithms. Regular software updates constantly enhance the system.



REMOTE SOFTWARE SERVICE SUPPORT

Remote support wherever your SEA.AI system is headed or stationed – including the most remote corners of the planet.

SEA.AI 



For any information:
contact@sea.ai

Find us on



www.sea.ai