SEA.AI

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: unsignalled craft, floating obstacles, buoys, inflatables, kayaks and persons over board.

PERSON

VICINITY ALERT

480 m   0 kn
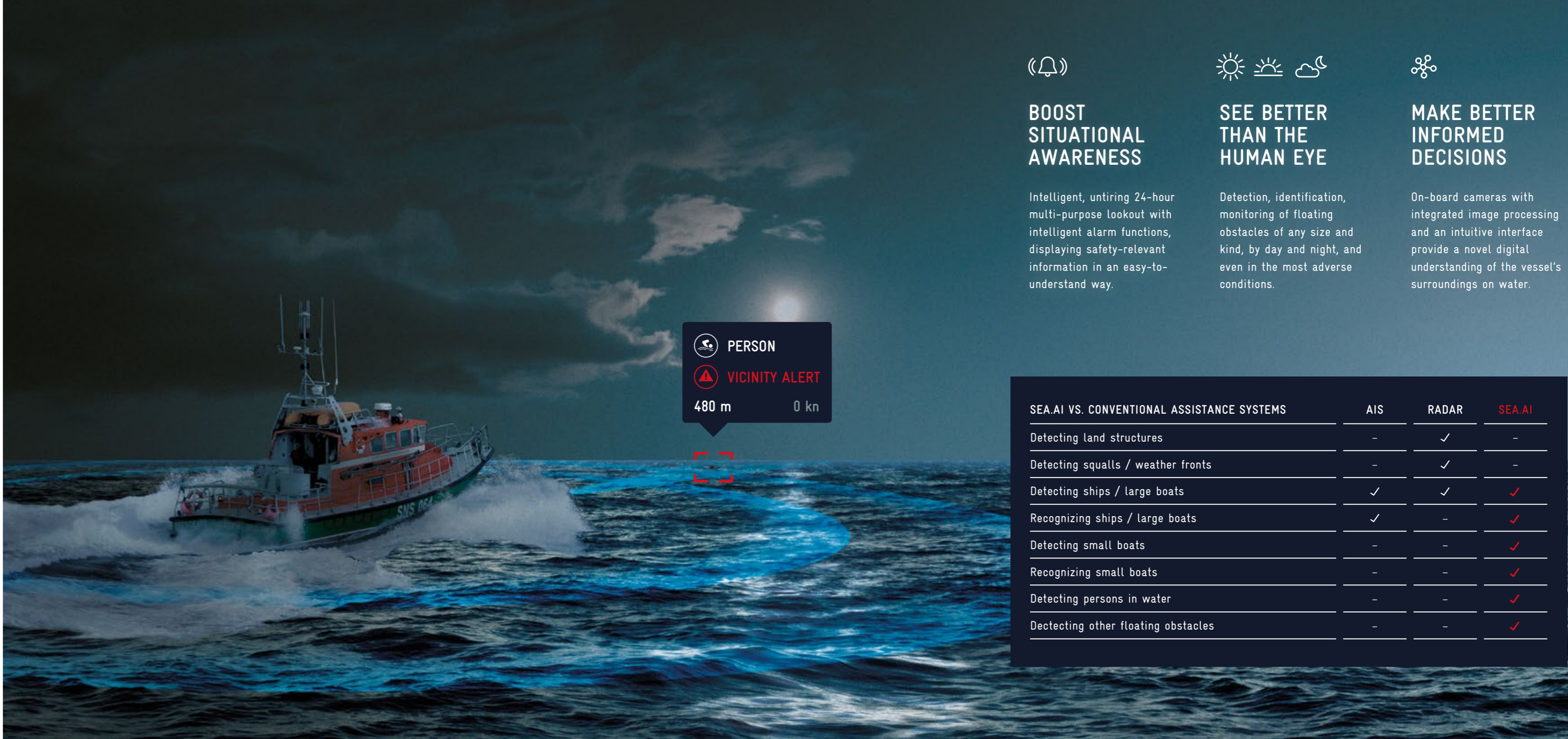
BOOST SITUATIONAL AWARENESS

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	–	–	✓
Dectecting other floating obstacles	–	–	✓

SEA.AI

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

✓ >6 million annotated marine objects (thermal images and RGB images)

✓ AI characterization of all objects along 100,000s of filters

✓ >300,000 nautical miles on-water experience around the world

✓ Continuously growing and improving (new object classes, e.g. icebergs; new geographic regions, e.g. Red Sea)

REGULAR 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 systems come in a multitude of versions to fit the individual profiles of skippers and sea farers – from recreational motor and sailing yachts to commercial fleets, authorities (Police, Coast Guard, Navy), SAR organizations & first responders, and autonomous vehicle manufacturers (USV).

MODEL PROPERTIES	SENTRY	OFFSHORE	COMPETITION
Day view	✓	✓	✓
Night view	✓	✓	✓
Object recognition	✓	✓	✓
Collision avoidance alarm	✓	✓	✓
Perimeter surveillance alarm	✓	–	–
Object tracking	✓	–	–
Manual camera control	✓	–	✓
Electronic 16x zoom	✓	–	–
360° rotating camera unit	✓	–	–
Use on rotating mast	–	–	✓

SEA.AI SENTRY

For commercial and government use as well as for use on motor yachts

SEA.AI OFFSHORE

High-tech safety and convenience for blue water sailors

SEA.AI COMPETITION

For ocean racing and performance yachts with rotating mast
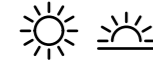
SEA.AI SENTRY

BOAT

⚠ **COLLISION RISK**

900 m   3 kn

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 external 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.

	DETECTION ANGLE DAYLIGHT & TWILIGHT	NIGHT	DETECTION FREQUENCY	RESOLUTION	PAN TILT	WEIGHT AT MAST	MSRP INCL. VAT
SEA.AI SENTRY	360°	360°	10/sec	2x thermal: 640 x 512 px 2x lowlight: 2592 x 1944 px	360° +/- 20°	5.4 kg	€ 45,990
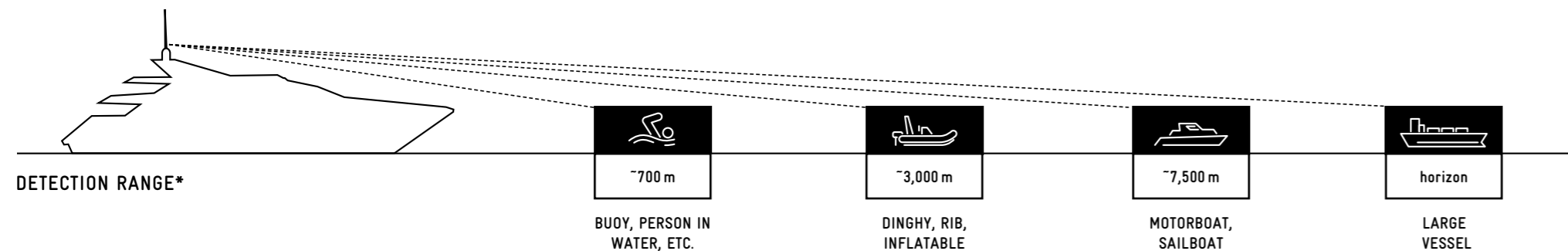
DETECTION RANGE*

~700 m	~3,000 m	~7,500 m	horizon
BUOY, PERSON IN WATER, ETC.	DINGHY, RIB, INFLATABLE	MOTORBOAT, SAILBOAT	LARGE VESSEL

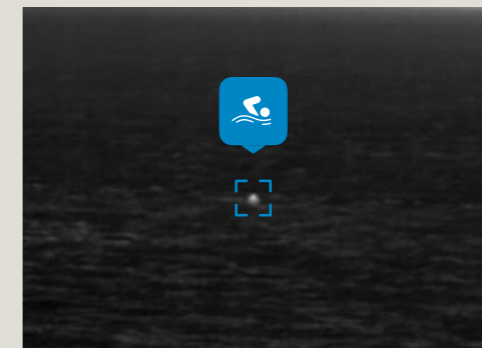*Object detection range performance may vary depending on environmental and weather conditions.

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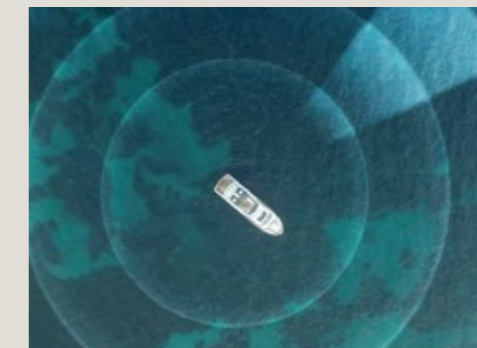
360° scanning of a vessel's surroundings. Intelligent alarming of approaching objects entering a selected perimeter.

MANUAL CONTROL

ZOOM 16X

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

UNKNOWN OBJECT

COLLISION RISK

40 m   0 kn

SEA.AI
OFFSHORE

State-of-the-art AI-based safety and convenience for blue water sailing.

SEA.AI
OFFSHORE ONE

The compact sailing SEA.AI system

A revolutionary design with 3 cameras (1 RGB, 2 thermal) and AI processing unit contained in one single masthead unit to save space, weight and energy.
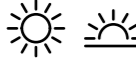
SEA.AI
OFFSHORE 320

The ocean wanderer's SEA.AI system

Standard detection range for safe offshore cruising with an eye on energy consumption. Advanced electronic image stabilization and 6 frames/second detection frequency for reliable performance even in unfavorable sea conditions.

SEA.AI
OFFSHORE 640

The ultimate SEA.AI system for sailing yachts

Full processing power together with highest resolution thermal cameras deliver higher display resolution, improved e-zoom capabilities and superior detection performance (extended range, smaller objects) for serious offshore sailing in uncompromising safety.

	DETECTION ANGLE DAYLIGHT & TWILIGHT	NIGHT	DETECTION FREQUENCY	RESOLUTION	PAN TILT	WEIGHT AT MAST	MSRP INCL. VAT
SEA.AI OFFSHORE ONE	50°	50°	3/sec	2x thermal: 320 x 256 px 1x lowlight: 2592 x 1944 px	n.a. (no tilt)	990 g	€ 10,990
SEA.AI OFFSHORE 320	110°	50°	6/sec	2x thermal: 320 x 256 px 1x lowlight: 2592 x 1944 px	n.a. (no tilt)	990 g	€ 20,990
SEA.AI OFFSHORE 640	110°	50°	6/sec	2x thermal: 640 x 512 px 1x lowlight: 2592 x 1944 px	n.a. (no tilt)	990 g	€ 33,990

DETECTION RANGE*

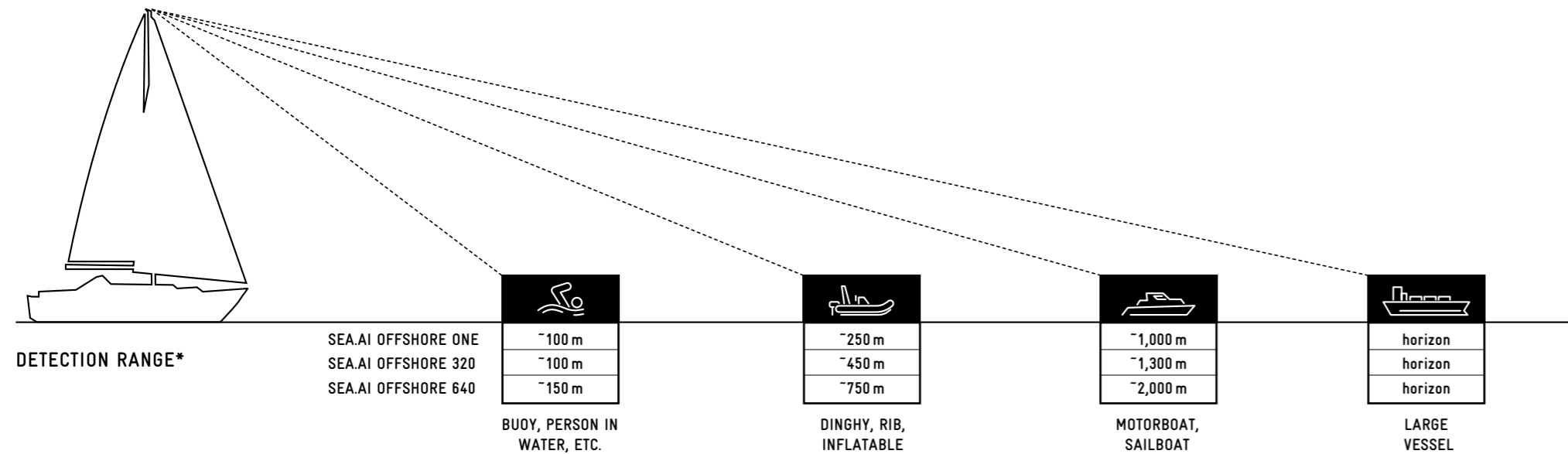|	BUOY, PERSON IN WATER, ETC.	DINGHY, RIB, INFLATABLE	MOTORBOAT, SAILBOAT	LARGE VESSEL
SEA.AI OFFSHORE ONE	˜100 m	˜250 m	˜1,000 m	horizon
SEA.AI OFFSHORE 320	˜100 m	˜450 m	˜1,300 m	horizon
SEA.AI OFFSHORE 640	˜150 m	˜750 m	˜2,000 m	horizon

*Object detection range performance may vary depending on environmental and weather conditions.

242°
4.3kn
4.8kn

COAST
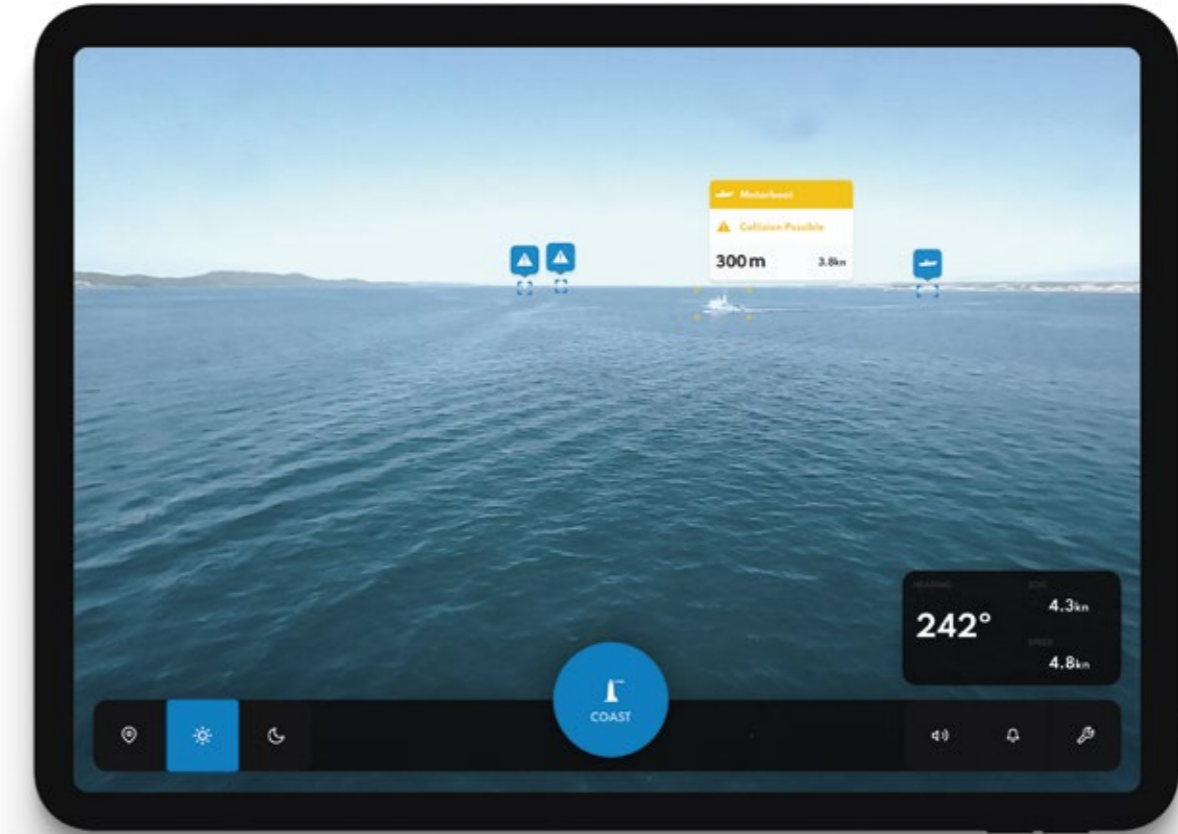
Easy to use

The SEA.AI system feeds into your chart plotter, on-board computer, tablet or smartphone. The user interface displays a choice of three viewing modes: low light augmented reality view, thermal augmented reality view and map view.

SAILING BOAT

⚠ COLLISION ALERT

1500 m   10 kn

SEA.AI
COMPETITION

Ultra-lightweight units for rotating masts of performance yachts and offshore raceboats provide reliable object detection when the name of the game is "go to the limits and come back alive".

SEA.AI
COMPETITION 320

The reduce-to-the-max racing SEA.AI:

Ultra-lightweight 750g masthead camera unit for rotating masts. Standard detection range, electronic image stabilization, automatic mast rotation compensation, +/-50° manual panning, reduced energy consumption.

SEA.AI
COMPETITION 640

The radical racing SEA.AI:

Ultra-lightweight 750g masthead camera unit for rotating masts. Extended detection range, advanced electronic image stabilization, automatic mast rotation compensation and +/-50° manual panning, reduced energy consumption.
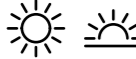
	DETECTION ANGLE DAYLIGHT & TWILIGHT	NIGHT	DETECTION FREQUENCY	RESOLUTION	PAN TILT	WEIGHT AT MAST	MSRP INCL. VAT
SEA.AI COMPETITION 320	110°	50°	3/sec	2x thermal: 320 x 256 px 1x RGB: 1920 x 1080 px	+/- 50° (no tilt)	750 g	€ 26,990
SEA.AI COMPETITION 640	110°	50°	3/sec	2x thermal: 640 x 512 px 1x RGB: 1920 x 1080 px	+/- 50° (no tilt)	750 g	€ 38,990
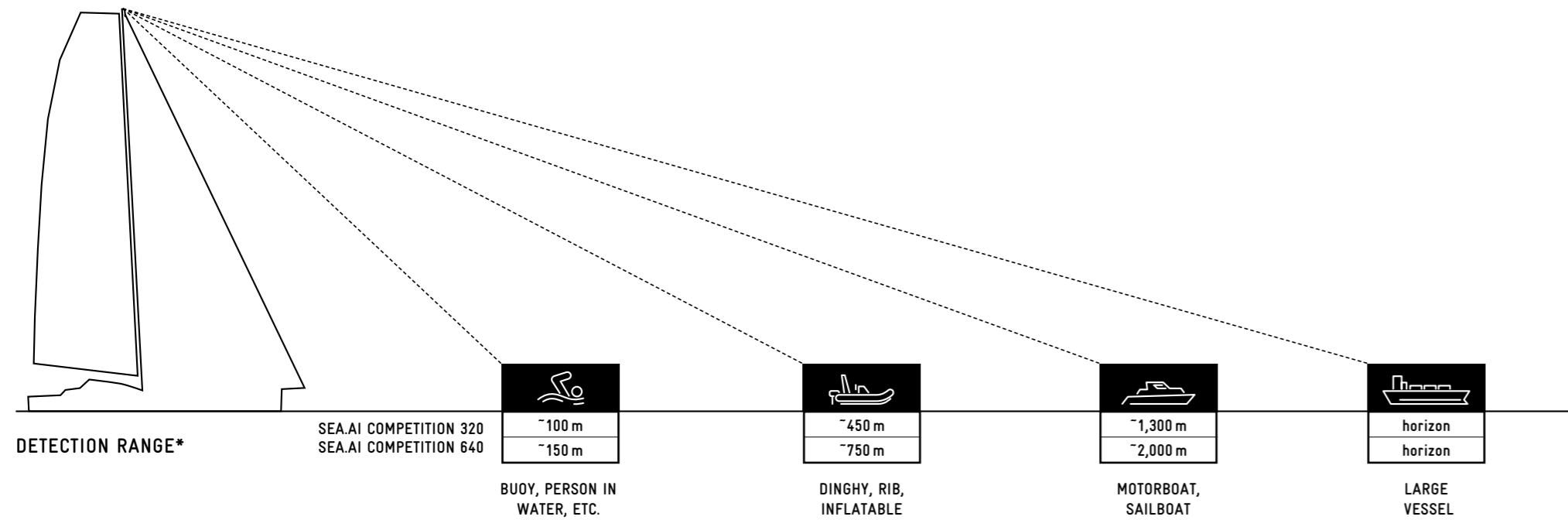
DETECTION RANGE*

	SEA.AI COMPETITION 320	SEA.AI COMPETITION 640			
	~100 m	~450 m	~1,300 m	horizon	
	~150 m	~750 m	~2,000 m	horizon	
	BUOY, PERSON IN WATER, ETC.	DINGHY, RIB, INFLATABLE	MOTORBOAT, SAILBOAT	LARGE VESSEL	

*Object detection range performance may vary depending on environmental and weather conditions.

242°
4.3kn
4.8kn
COAST
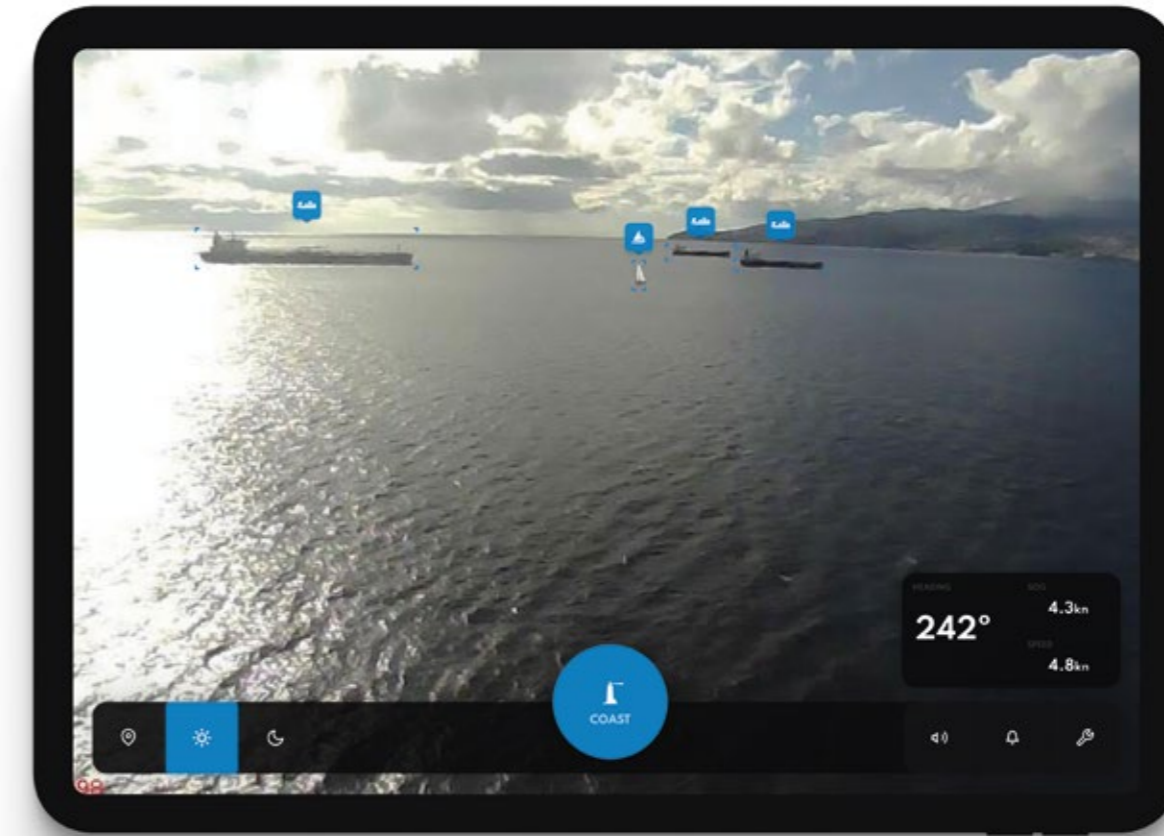
Easy to use

Control your SEA.AI system with the SEA.AI APP on your smartphone or tablet (android and iOS), your chart plotter or an onboard computer.

SEA.AI SENTRY

Art. No.	Product	Description	MSRP (€) incl. VAT
6100	SEA.AI SENTRY	SEA.AI Sentry unit; 2 thermal cameras 640 x 512 px, 25° HFOV, 14 mm and 640 x 512, 8° HFOV , 50 mm; 2 low light RGB cameras 2560 x 1944 px , 34° HFOV , 8 mm and 2560 x 1944 px , 8° HFOV, 35mm; pan and tilt range 360°/±20°	45,990
6120	SEA.AI SENTRY Installation kit, 10m	Special SEA.AI Sentry cable set with connectors (power and data combined) for connection between Sentry unit and boat systems; 10m length; mounting bracket, mounting screws, suitable for item 6100	999
6121	SEA.AI SENTRY Installation kit, 20m	Special SEA.AI Sentry cable set with connectors (power and data combined) for connection between Sentry unit and boat systems; 20m length; mounting bracket, mounting screws, suitable for item 6100	1,399

An annual software license must be paid one year after the software registration (the first year is free), to ensure the full functionality of the system. The cost of the annual software license is €.999 for SEA.AI SENTRY. The annual software license is required for performance improvements (object detection, AI functionality) and compatibility updates (smartphones, tablets, …) and does not include installation nor services. Expired licences will limit the alarming function.

SEA.AI OFFSHORE

Art. No.	Product	Description	MSRP (€) incl. VAT
1100	SEA.AI OFFSHORE ONE	SEA.AI Offshore One unit; 2 thermal cameras 320 x 256 px (50° vision) 1 low light RGB camera 2592 x 1944 px (110° vision)	10,990
3100	SEA.AI OFFSHORE 320	Vision unit Offshore 320, processing unit (2nd generation) 2 thermal cameras 320 x 256 px (50° vision) 1 low light RGB camera 2592 x 1944 px (110° vision)	20,990
3110	SEA.AI OFFSHORE 640	Vision unit Offshore 640, processing unit (2nd generation) 2 thermal cameras 640 x 512 px (50° vision) 1 low light RGB camera 2592 x 1944 px (110° vision)	33,990
1110	SEA.AI OFFSHORE ONE Installation kit B&G/Simrad, 25m	Mounting bracket, windsensor bracket, screws, 25m cable set (power cable, Ethernet cable, connectors) for connection to B&G/Simrad devices suitable for item 1100	699
1114	SEA.AI OFFSHORE ONE Installation kit B&G/Simrad, 35m	Mounting bracket, windsensor bracket, screws, 35m cable set (power cable, Ethernet cable, connectors) for connection to B&G/Simrad devices suitable for item 1100	899
1111	SEA.AI OFFSHORE ONE Installation kit Raymarine, 25m	Mounting bracket, windsensor bracket, screws, 25m cable set (power cable, Ethernet cable, connectors) for connection to Raymarine devices; suitable for item 1100	699
1115	SEA.AI OFFSHORE ONE Installation kit Raymarine, 35m	Mounting bracket, windsensor bracket, screws, 35m cable set (power cable, Ethernet cable, connectors) for connection to Raymarine devices; suitable for item 1100	899
1112	SEA.AI OFFSHORE ONE Installation kit Garmin, 25m	Mounting bracket, windsensor bracket, screws, 25m cable set; (power cable, Ethernet cable, connectors) for connection to Garmin devices; suitable for item 1100	699
1116	SEA.AI OFFSHORE ONE Installation kit Garmin, 35m	Mounting bracket, windsensor bracket, screws, 35m cable set; (power cable, Ethernet cable, connectors) for connection to Garmin devices; suitable for item 1100	899
1113	SEA.AI OFFSHORE ONE Installation kit universal (RJ45 and NMEA2000), 25m	Mounting bracket, windsensor bracket, screws, 25m cable set (power cable, Ethernet cable, connectors)for connection to all RJ45 devices and NMEA2000 networks suitable for item 1100	699
1117	SEA.AI OFFSHORE ONE Installation kit universal (RJ45 and NMEA2000), 35m	Mounting bracket, windsensor bracket, screws, 35m cable set (power cable, Ethernet cable, connectors)for connection to all RJ45 devices and NMEA2000 networks suitable for item 1100	899
3120	SEA.AI OFFSHORE 320 / 640 Installation kit, 30m	Mounting bracket, windsensor bracket, screws, 30m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation); suitable for item 3100, 3110	599
3121	SEA.AI OFFSHORE 320 / 640 Installation kit, 35m	Mounting bracket, windsensor bracket, screws, 35m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation); suitable for item 3100, 3110	649
3122	SEA.AI OFFSHORE 320 / 640 Installation kit, 45m	Mounting bracket, windsensor bracket, screws, 45m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation); suitable for item 3100, 3110	799

SEA.AI OFFSHORE

Art. No.	Product	Description	MSRP (€) incl. VAT
3123	SEA.AI OFFSHORE 320 / 640 Installation kit, 55m	Mounting bracket, windsensor bracket, screws, 55m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation); suitable for item 3100, 3110	899
3124	SEA.AI OFFSHORE 320 / 640 Installation kit, 70m	Mounting bracket, windsensor bracket, screws, 70m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation); suitable for item 3100, 3110	999
3140	Ethernet cable Processing Unit (2nd generation) B&G/Simrad, 7m	Connection cable between processing unit (2nd generation) and B&G/Simrad devices, 7m length; suitable for item 2200, 2210, 3100, 3110	179
3141	Ethernet cable Processing Unit (2nd generation) B&G/Simrad, 15m	Connection cable between processing unit (2nd generation) and B&G/Simrad devices, 15m length; suitable for item 2200, 2210, 3100, 3110	249
3142	Ethernet cable Processing Unit (2nd generation) Raymarine, 10m	Connection cable between processing unit (2nd generation) and Raymarine Raynet, 10m length; suitable for item 2200, 2210, 3100, 3110	179
3143	Ethernet cable Processing Unit (2nd generation) Raymarine, 20m	Connection cable between processing unit (2nd generation) and Raymarine Raynet, 20m length; suitable for item 2200, 2210, 3100, 3110	249
3144	Ethernet cable Processing Unit (2nd generation) Garmin, 6m	Connection cable between processing unit (2nd generation) and Garmin devices, 6m length; suitable for item 2200, 2210, 3100, 3110	129
3145	Ethernet cable Processing Unit (2nd generation) Garmin, 12m	Connection cable between processing unit (2nd generation) and Garmin devices, 12m length; suitable for item 2200, 2210, 3100, 3110	179
3146	Ethernet cable Processing Unit (2nd generation) universal (RJ45), 6m	Connection cable between processing unit (2nd generation) and standard Ethernet devices (RJ45), 6m length; suitable for item 2200, 2210, 3100, 3110	129
3147	Ethernet cable Processing Unit (2nd generation) universal (RJ45), 20m	Connection cable between processing unit (2nd generation) and standard Ethernet devices (RJ45), 20m length; suitable for item 2200, 2210, 3100, 3110	179

An annual software license must be paid one year after the software registration (the first year is free), to ensure the full functionality of the system. The cost of the annual software license is € 199 for SEA.AI OFFSHORE ONE, € 499 for SEA.AI OFFSHORE 320 and € 699 for SEA.AI OFFSHORE 640. The annual software license is required for performance improvements (object detection, AI functionality) and compatibility updates (smartphones, tablets,..) and does not include installation nor services. Expired licences will limit the alarming function.

SEA.AI COMPETITION

Art. No.	Product	Description	MSRP (€) incl. VAT
2200	SEA.AI COMPETITION 320	Vision unit Competition 320, processing unit (2nd generation); 2 thermal cameras 320 x 256 px (50° vision) 1 RGB camera 1920 x 1080 px (110° vision) pan range: +/-50°	26,990
2210	SEA.AI COMPETITION 640	Vision unit Competiton 640, processing unit (2nd generation); 2 thermal cameras 640 x 512 px (50° vision) 1 RGB camera 1920 x 1080 px (110° vision) pan range: +/-50°	38,990
2220	SEA.AI COMPETITION Installation kit (<30m)	Mounting bracket, screws, 30m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation) suitable for item 2200, 2210	499
2221	SEA.AI COMPETITION Installation kit (35m)	Mounting bracket, screws, 35m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation) suitable for item 2200, 2210	549
2222	SEA.AI COMPETITION Installation kit (45m)	Mounting bracket, screws, 45m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation) suitable for item 2200, 2210	699
2223	SEA.AI COMPETITION Installation kit (55m)	Mounting bracket, screws, 55m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation) suitable for item 2200, 2210	749
2224	SEA.AI COMPETITION Installation kit (70m)	Mounting bracket, screws, 70m cable set (power cable, Ethernet cable, connectors) for connection between vision unit and processing unit (2nd generation) suitable for item 2200, 2210	999
2130	SEA.AI COMPETITION wind sensor mounting bracket	Lightweight reinforced wind sensor bracket (CFRP), universal mount, suitable for item 2200, 2210	299

An annual software license must be paid one year after the software registration (the first year is free), to ensure the full functionality of the system. The cost of the annual software license is € 499 for SEA.AI COMPETITION 320 and € 699 for SEA.AI COMPETITION 640. The annual software license is required for performance improvements (object detection, AI functionality) and compatibility updates (smartphones, tablets,…) and does not include installation nor services. Expired licences will limit the alarming function.

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 .
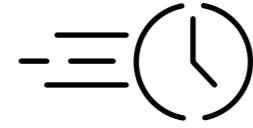
OVER THE AIR UPDATES & PERFORMANCE IMPROVEMENTS

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.

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SEA.AI

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