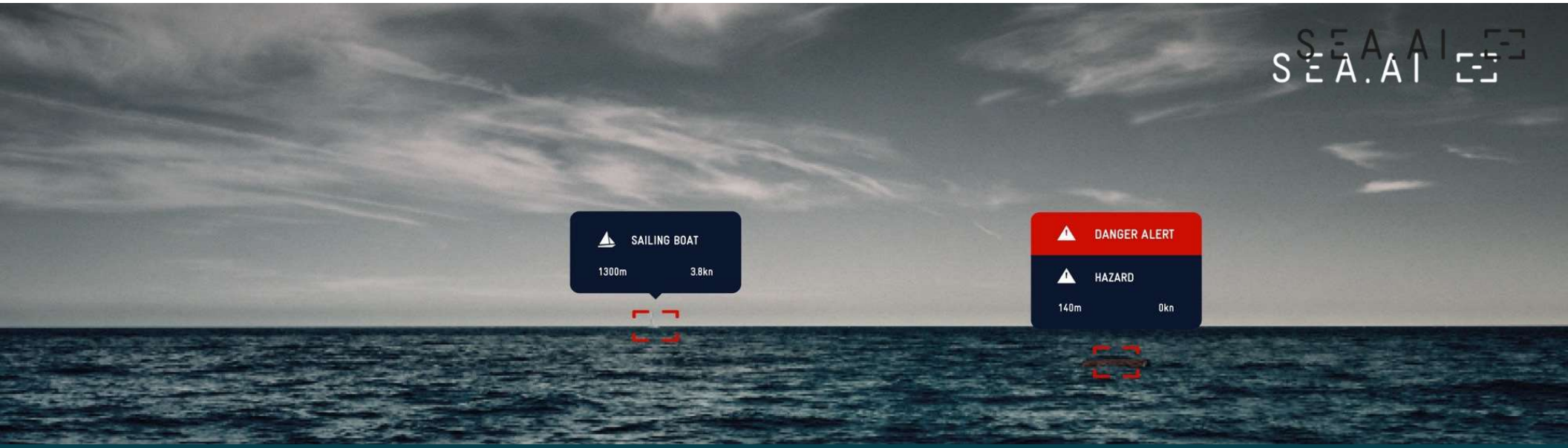


NOW YOU SEE

Presentation SEA.AI @ 2024 Workboat Show Mackay

November 2024

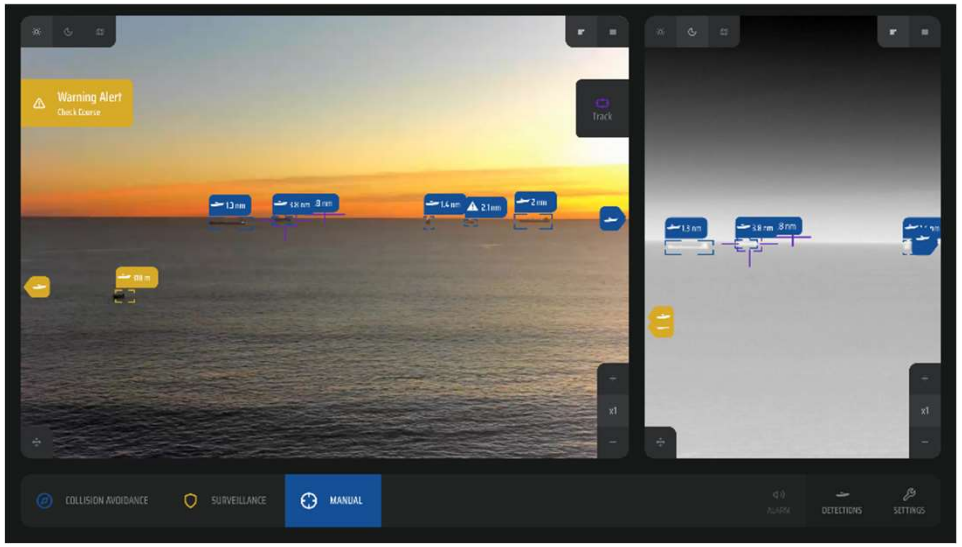
SEA.AI in a nutshell

We improve safety and situational awareness at sea with cutting-edge machine vision technology. Our software can **detect, classify and estimate distance** to objects.

SEA.AI products warn users in **real-time** about floating objects on the water – providing an unprecedented level of situational awareness at sea.

Our **systems are independent** and **do not require input from other sensors** and **no internet connectivity** to operate.

We are the **industry leader in AI-based object detection** and see ourselves as a software company working closely with industry leaders to provide the best solutions to their challenges at sea.



SEA.AI

Camera sensors + Artificial intelligence = Full object detection

SEA.AI offers 4 key functions to improve safety and mobility experience at sea

Object Detection

Automatic object detection based on machine vision closes the gap of conventional technologies in situational awareness.

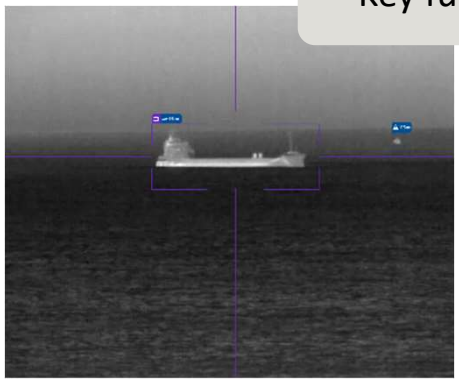
Collision Avoidance

Panning towards the front during travel. Intelligent alarming in case of collision risk with anything in the vessel's path.

Key functions

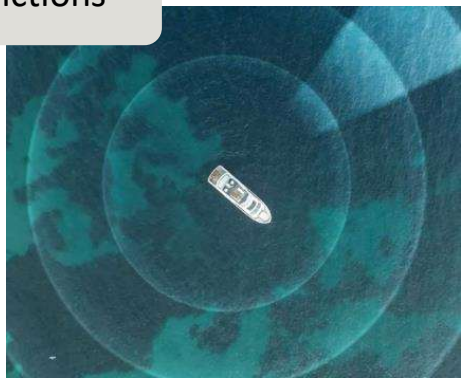
Target Tracking

Keeping selected object in center of screen (person-overboard situations, tender tracking, government operations)



Perimeter Surveillance

Offers 360° scanning of vessel's surrounding.



PH0

Our Offices

A fast-growing multinational team of 65+ professionals based in Austria, France, Portugal, and the USA.

MIAMI
SEA.AI Inc.

LISBON
SEA.AI Lda

PORT LA FORÊT
SEA.AI SAS

LINZ
SEA.AI GmbH

VIENNA
SEA.AI GmbH

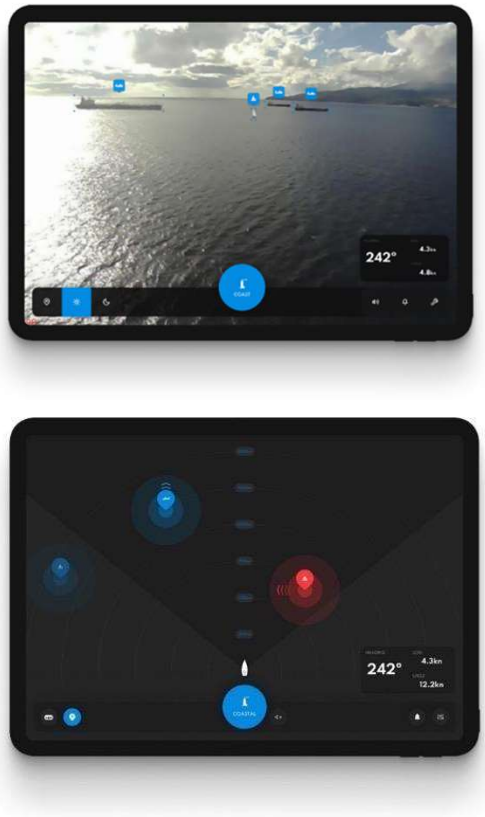
Slide 5

PH0 Add slide with map from where we have data (daniel fortunato slide

Patrick Haebig, 2024-07-19T09:10:55.559

SEA.AI fills gap in situational awareness at sea

SEA.AI vs. conventional 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			●
Recognizing persons in water			●
Detecting other floating obstacles			●



How it works

SEA.AI combines high tech optical sensors with latest technologies in the field of computer vision and artificial intelligence into easy to install products with intuitive user interfaces.

DATABASE FACTS

Our proprietary database is the core of the system software and its integrated AI-powered object detection and recognition:

- >10 million annotated marine objects (thermal images and RGB images)
- 500+ installed systems over the last 6 years
- AI characterization of all objects along 100,000s of filters
- >400,000 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), target segments,..

SEA.AI

2 OPTIONS

or

+

Cameras and processors with machine vision processor

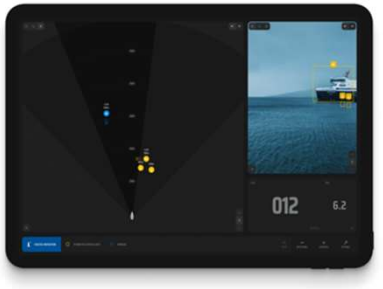
- Systems with high-resolution lowlight and thermal cameras. Detection of temperature differences up to 0.05°C
- Compatibility with third party cameras (Brain – launch in fall 2024)
- Comparing anomalies with neural network
- Regular over-the-air updates of newest AI, trained with new data for improved overall performance.
- No connection to other systems like AIS & Radar, nor internet connection necessary

Intuitive UI / UX

- Augmented reality video stream combined with map view
- Intelligent acoustic and visual alarms
- Joystick control available
- Detection, classification and distance estimation
- Multi-device capability: Available on on-board computers, MFDs, smartphones & tablets as well as interface.

Works on all devices

SEA.AI



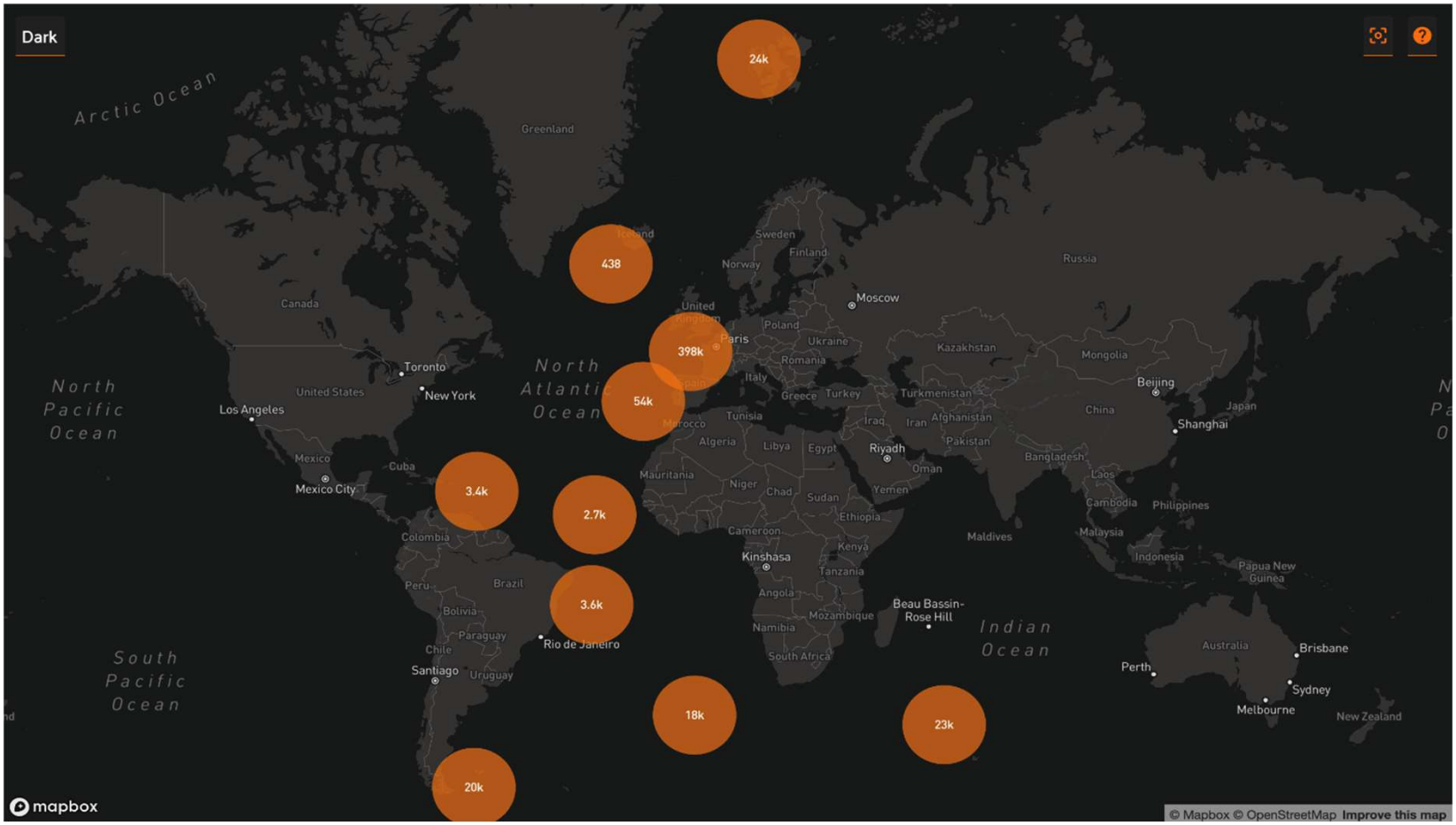
PC, Windows, MacOS, Portable devices iOS android

Further integration possibilities into ECDIS via standard protocols. (ONVIF-S, NMEA, TTM/TLL messages, HTML 5)

Compatible with MFDs of largest manufacturers:

GARMIN. FURUNO NAVICO GROUP Raymarine TZ TIMEZERO

Proprietary, worldwide database gathered over years



Artificial Intelligence Toolchain: Example Training for Whale Detection

SEA.AI

Raw Data

For effective automatic whale detection, it's crucial to have a varied dataset. Upon receiving recordings, we prioritize diversity in:

- Angles of observation for each "target"
- Weather conditions under which the targets are captured
- Visual data encompassing a wide range of species

Process and Label

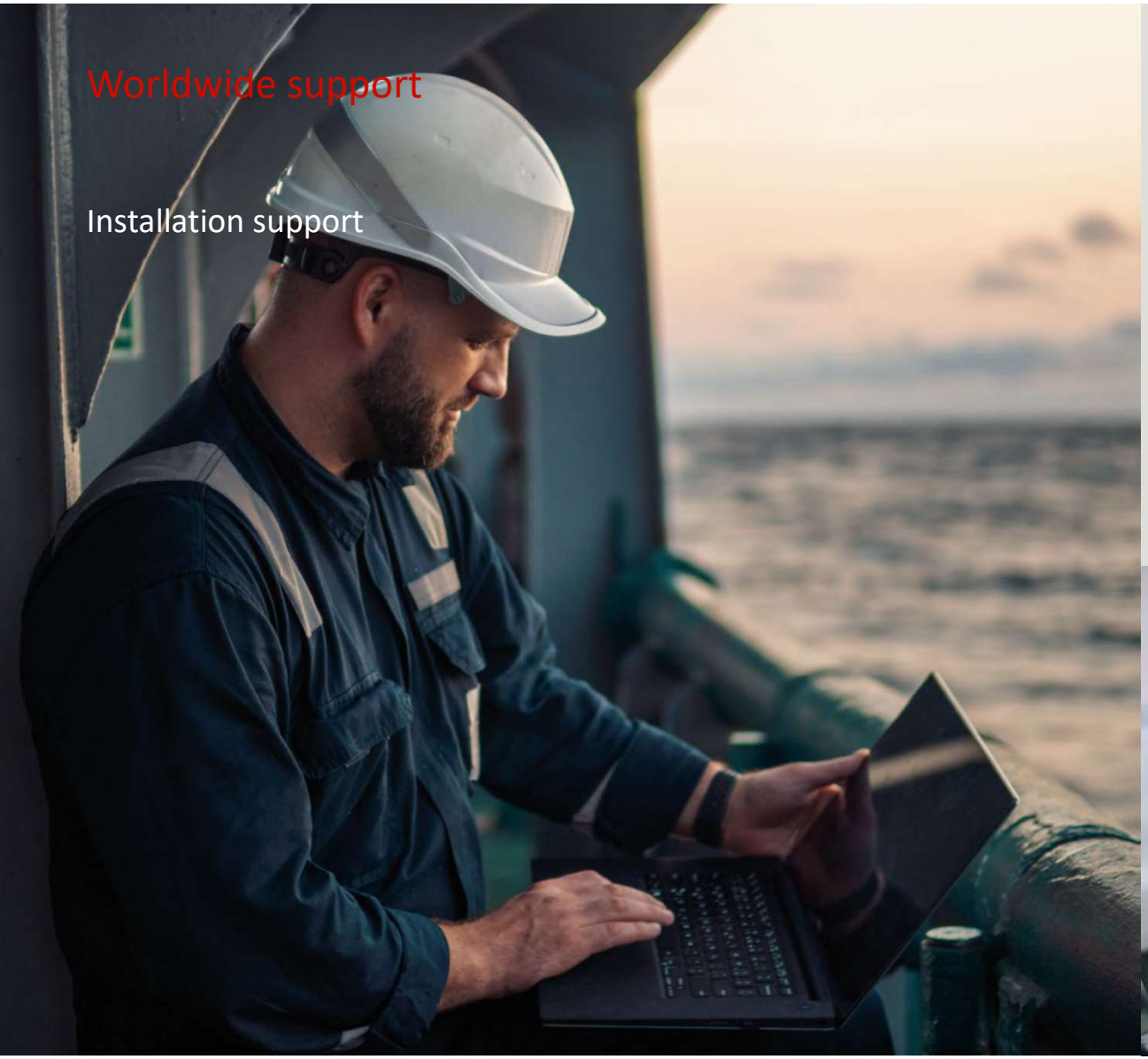
Data is processed, selected and label internally with our tools and quality standards aiming for:

- Efficient division between training and testing data
- Full annotation and classification of every target in each image and horizon
- Behavior analysis (recognizing water jets, improves detection accuracy)

Whale Detection

Output of the Neural Networks (NN) and machine vision is passed through our tracker for full reliable awareness we asses:

- Complete detection capabilities
- Classification of objects when feasible
- Proximity alerts to ensure collision avoidance

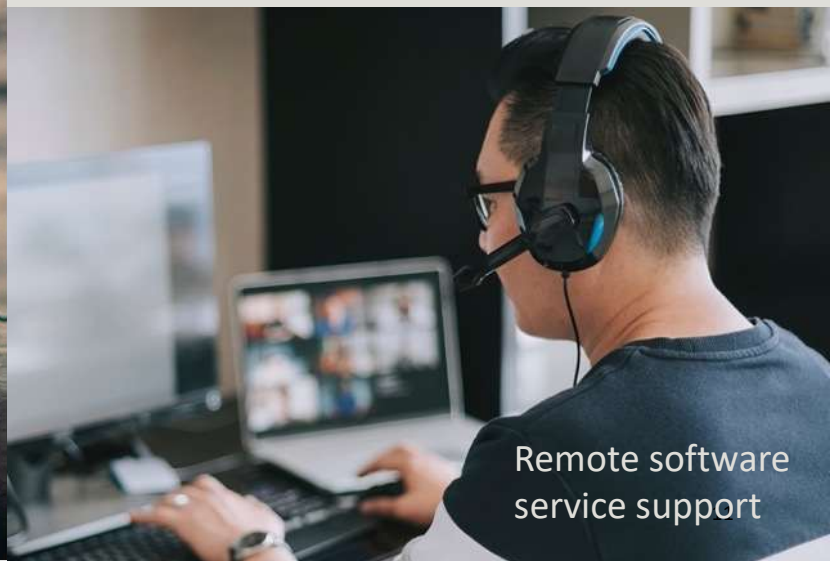


Worldwide support

Installation support

SEA.AI

Global distribution network



Remote software service support

Target Segments

and usecases

SEA.AI as leader in AI based object detection serving full market spectrum

SEA.AI

Sailing	Motor Yachting	Commercial boating	Shipping	Government & First Responders	Observation & Surveillance
					
• Racing Sailing • Cruising Sailing	• Motor yachts • Superyachts	• Fishing boats • Ferry boats • USVs • CTVs • Other workboats	• Ferries • Cruise ships • Container ships • Other ships	• Search and Rescue • Coast Guard / Border Patrol • Infrastructure protection • Navy • Police	• Offshore Platforms • Marine Protected Areas • Fish Farms • Waterside Facilities • Ports and Harbours

Customer Testimonial Fred Olsen

Fred Olsen operates high speed ferries in the Canary islands. Through HSC (high speed certification) they are required to carry a night vision system.

- Existing system required and actively watching operator
- Whale detection is a primary usecase
- Have started with a trial and now rolled out to entire fleet
- Ongoing development project

Source: https://youtu.be/F8XTt4cdlss?si=UKlQQgd2P9N6rnN6

SEA.AI

Product Details

SENTRY

SEA.AI Sentry

Product details

SEA.AI

Superior 360° situational awareness and surveillance for commercial vessels, government craft, first responders. And now you?

MOB detection and classification
Collision avoidance
Situational awareness
Perimeter Surveillance
Target Tracking
SEA.AI Joystick available
ONVIF-S compatible

IBEX 2021 INNOVATION AWARDS WINNER

SEA.AI Sentry

Easy to use application

* Optional software interface API available for integration into navigation systems following ONVIF-S standards

SEA.AI Sentry

Detection ranges and technical specifications

Detection Ranges*

Buoy, person in water, etc.	Dinghy, RIB, inflatable	Motorboat, sailboat	Large vessel
up to 700 m	up to 3,000 m	up to 7,500 m	horizon

Technical specifications	Detection Angle		Detection Frequency	Resolution	Pan	Tilt	Weight
	Daylight & Twilight	Night					
SEA.AI Sentry	360°	360°	10/sec	2x thermal: 640 x 512 px 2x lowlight: 2592 x 1944 px	360°	+/- 20°	5.4 kg

* Detection range varies depending on weather conditions e.g. sea state, rain, fog. ** Software subscription included for the first year.

LIVE DEMO - Q&A

SEA.AI