



**MARITIME
ROBOTICS**

Enabling ocean
space autonomy



The Otter

Uncrewed Surface Vessel (USV)

The turn-key solution for cost-effective and precise mapping, surveying and monitoring of sheltered and enclosed waters.

The Otter

THE OTTER USV is designed for efficient and precise data acquisition, environmental monitoring, and surveillance in sheltered, coastal and shallow areas. Its modular catamaran design and advanced, yet highly user-friendly navigation and control system offers seamless integration with leading survey sensors, enabling easy access to high quality ocean data.

UNIQUE INTEGRATIONS FOR OPERATIONAL EFFICIENCY

The Otter can be easily equipped with various payloads for **precise and effective data** acquisition. Offering functionalities of both remote control and autonomous navigation, the Otter's Vehicle Control Station (VCS) ensures **easy access to various survey sites**. Additionally, the VCS provides live survey data visualization, integrating sensor data into a single, user-friendly interface.



ZERO EMISSION ENDURANCE

The Otter features an efficient propulsion system, consisting of **two electric thrusters** powered by four battery packs. This configuration enables the vessel to operate entirely in electric power for up to 20 hours, depending on conditions and payload. As a **fully electric**, zero-emission USV, the Otter completely **mitigates CO₂ emissions**, setting it apart from traditional crewed survey vessels.



PORTABILITY MEETS INNOVATION

The **modular and compact** design ensures convenient transportation and deployment of the Otter USV, offering **easy access** to various survey sites. Its innovative plug-and-play system for **payload integration** streamlines the process of mounting and dismounting sonars and other equipment, further enhancing the vessel's mobility and versatility in field operations.



DATA acquisition

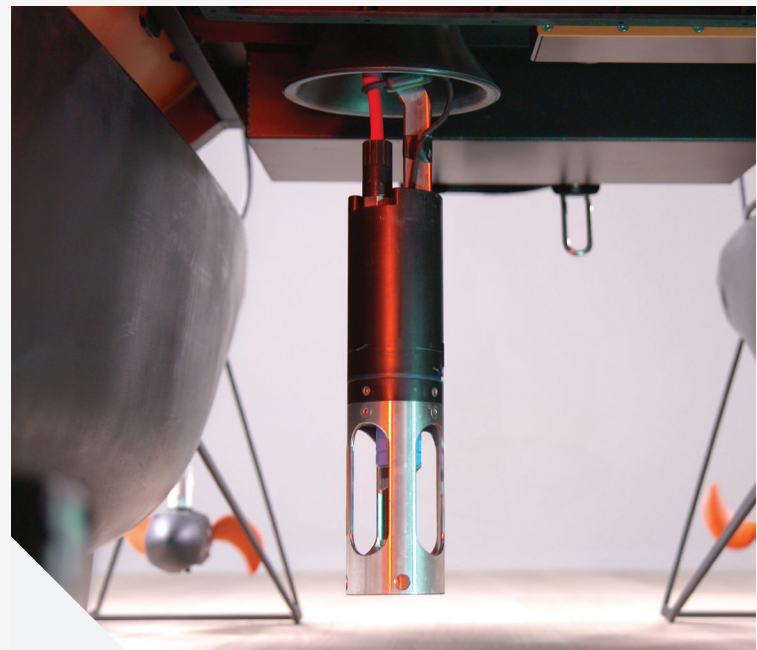
The Otter is equipped with our **Autonomous Navigation System**, and tightly integrated with various sonars, sensors and equipment, allowing for user-friendly and effective surveys. The additional system feature, **SeaCapture**, enables real-time visualization and monitoring of data and its quality parameters in the VCS, making the Otter the ideal survey tool.

ENVIRONMENTAL monitoring

The Otter has a wide range of possible payload integrations for measuring chlorophyll, turbidity, CO₂, salinity, sound speed, temperature and more. Multiple mounting points, both above and below water, in addition to a powerful winch makes it an excellent tool for environmental mapping and monitoring.

EASY ACCESS to sheltered areas

With a very shallow draft of only 32 cm, the Otter can easily navigate shallow and sheltered areas. Combined with the enhanced situational awareness feature **SeaSight**, which boasts both a 360 degree camera and lidar, it will provide full overview of the surroundings, as well as above-water collision avoidance.





Feature	Description	Standard	Add-on
Dimensions (LxWxH)	2000 mm x 1080 mm x 1065 mm	✓	
Draft*	320 mm	✓	
Hull material	High Density Polyethylene (HDPE)	✓	
Dry weight	62 kg	✓	
Battery type	4 x lithium-ion batteries	✓	
Weight with batteries	85 kg	✓	
Payload weight capacity	30 kg	✓	
Propulsion	2 x electric motors	✓	
Endurance*	20 h operation time at 2 kts	✓	
Top speed*	6 kts	✓	
Sea State (Beaufort Scale)*	2	✓	
Autonomous and remote-control	Maritime Robotics Autonomous Navigation System	✓	
Vehicle Control System	VCS Rugged Laptop and Android app	✓	
Standard situational awareness	Camera / AIS class B receiver	✓	
High-bandwidth communication	5GHz MIMO radio / Wifi	✓	
Additional communication links	MBR / VHF / LTE (4G)		✓
Enhanced situational awareness	Maritime Robotics SeaSight / AIS class B transceiver		✓
SeaCapture	Tightly integrated data capturing software		✓
External control	Ability to navigate using 3rd party software		✓
Formation mode	For operating several Maritime Robotics USVs in formation		✓
Launch and recovery	Launch and recovery kit for crane launch		✓
Ruggedised flight cases	Ruggedised flight cases for transport		✓
Winch	Autocast SVP winch with hold capacity		✓
Various payload integrations	Additional systems and sensors for survey, support, monitoring and surveillance		✓

* Depending on conditions and payload integrations.

Enabling ocean **space autonomy**

Maritime Robotics is a **leading supplier of autonomous navigation systems and uncrewed platforms**, enabling ocean space access through autonomy. The company **delivers innovative solutions** world-wide, facilitating safe and cost-effective ocean operations that significantly reduce CO₂ emissions.

Since 2005, Maritime Robotics has been developing and supplying **autonomous and remotely operated systems and platforms for ocean operations** including marine mapping and surveying, met-ocean data acquisition, harbor security, research, and ROV-support to global industry professionals. The company is in Trondheim and Vanvikan, where an experienced team with access to every aspect of the supply chain is ensuring global success.

