MARINER
UNMANNED SURFACE VEHICLE [USV]
COST EFFICIENT AND RISK-REDUCING MARITIME DATA ACQUISITION
The MARINER can be delivered with diesel engine or diesel-electric propulsion system with waterjet or stern-drive.

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The USV operator monitors the MARINER and its installed payload from the Vehicle Control Station (VCS) which features electronic charts, engine and navigation info. The operator can monitor the surrounding sea areas and get collision avoidance aiding from AIS, radar and video information.
PRODUCT COMPONENTS

01 MARINER UNMANNED SURFACE VEHICLE (USV)
The MARINER USV is a cost-efficient system for maritime data acquisition that has been proven in both offshore and coastal scenarios.

02 SPECIFICATIONS
Versatile for both faster speed patrolling and slower speed surveying, a large variety of payload and sensors can be integrated on the MARINER. The MARINER can be easily shipped worldwide in a standard 20feet container.

03 VEHICLE CONTROL STATION (VCS)
The USV operator interacts with the MARINER through the Vehicle Control Station usually located on-shore or on a mother-vessel. The intuitive graphical user interface with sea-map, AIS, video and radar overlay can also be augmented with AIS and radar-based collision

04 BATHYMETRY
Unmanned Surface Vehicles offers a great advantage in repetetive and tedious missions. Bathymetry is an application were we now see a great potential for a seabed-mapping USV.

05 ENVIRONMENTAL MONITORING
Knowledge and data from our oceans are crucial for a sustainable future. Unmanned Surface Vehicles can carry oceanographic sensors in ways that has usually been to expensive or risky.

06 HYDROACOUSTIC
Robots helping other robots is the next frontier, and we are starting to see that underwater Remotely Operated Vehicles (ROV) and Autonomous Underwater Vehicle (AUV) operations can be made possible due to the very cost-efficient capability of having a USV as a communication relay and support platform on the sea-surface.

Specifications

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Specification</th>
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<tbody>
<tr>
<td>50 hours (5kts)</td>
<td>10nm typical radio range (VHF/UHF/C-band)</td>
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<tr>
<td>1700 kg</td>
<td>Global range with SatCom/Mobile data</td>
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<tr>
<td></td>
<td>35kts max speed</td>
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<td></td>
<td>Echisounder, sonar, acoustic positioning</td>
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<td></td>
<td>METOC, CTD, ADCP</td>
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<td></td>
<td>EO/IR cameras</td>
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<td>Radar, lidar</td>
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<td>Bow/thruster</td>
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Vehicle Control Station

- Bathymetry
- Environmental Monitoring
- Hydroacoustic Communication

MARINER USV

Vehicle

- Length: 585 cm
- Width: 205 cm
- Height: 202 cm

Specifications

- Speed: 35kts max
- Range: 10nm typical radio range (VHF/UHF/C-band) with global range with SatCom/Mobile data
- Payload: Echosounder, sonar, acoustic positioning, METOC, CTD, ADCP, EO/IR cameras, Radar, lidar, Bow/thruster

Knowledge and data from our oceans are crucial for a sustainable future. Unmanned Surface Vehicles can carry oceanographic sensors in ways that has usually been to expensive or risky.
A LEADER IN UNMANNED SOLUTIONS

Maritime Robotics, developer and supplier of the MARINER, is a leading provider of innovative unmanned solutions for maritime operations and data acquisition. The company develops and delivers Unmanned Surface Vehicle Systems (USV), Moored Balloon Systems (MBS) as well as Unmanned Aircraft Systems (UAS). Our main markets are geophysical surveying, oil & gas, environmental monitoring, and the defence/security market. With technology developed in close collaboration with civilian, governmental and military partners, Maritime Robotics focuses on delivering high-quality system solutions and products that are cost-efficient, reduce HSE risk exposure and are highly deployable, in any conditions.