

VERSATILE MICRO AUTONOMOUS UNDERWATER VEHICLE

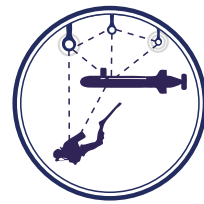
300 meters Depth - Real-Time Tracking - > 10 Hours Endurance



Seabed Acoustic Imaging



Water Quality Monitoring



Sparse-LBL Communication

Description

NemoSens is a compact autonomous underwater vehicle (AUV) designed for scientific, industrial and defense applications.

Lightweight and modular, its open LINUX architecture allows users to develop their own navigation algorithm for greater flexibility and maximal use.

Mission coverage can be extended thanks to swarm technology and possibility to deploy multiples AUVs. **NemoSens** is also compatible with all RTSys products range such as SonaDive diverheld systems or beacons.

NemoSens integrates the latest upgrades of both hardware and software developments from RTSys range of products. It is therefore the most valuable and most performing micro AUV of its generation.

Software functions and measurement sensors (within a 2- kg limit) can be added on demand, so get ready to extend your range.

Advantages

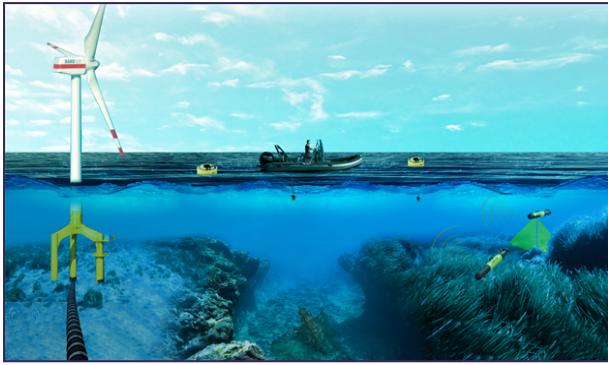
- **Micro-AUV**
(Less than 90 cm long)
- **Cost effective**
- **Open LINUX architecture**
(MOOS – ROS support)
- **Several measurement sensors available**
- **Easy to deploy, recover and maintain**

Navigation capabilities

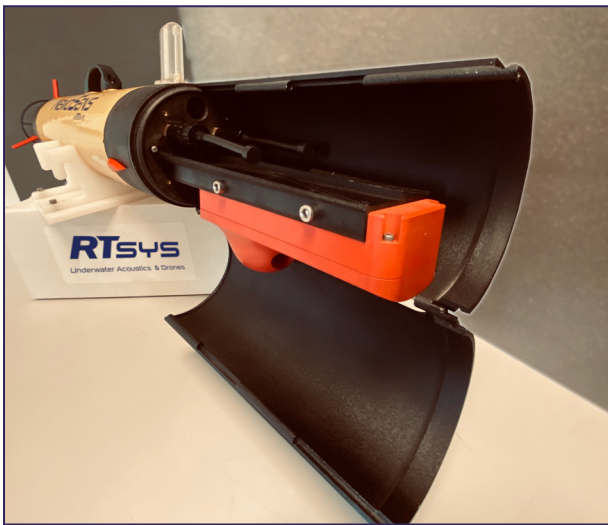
- **Max. operational depth:** 300 m
- **Speed:** 2 to 8 knots
- **Endurance:** more than 10 hours
- **Operating T°:** -5 °C / + 40 °C
- **Up to Sea State 4**

Payloads & Options

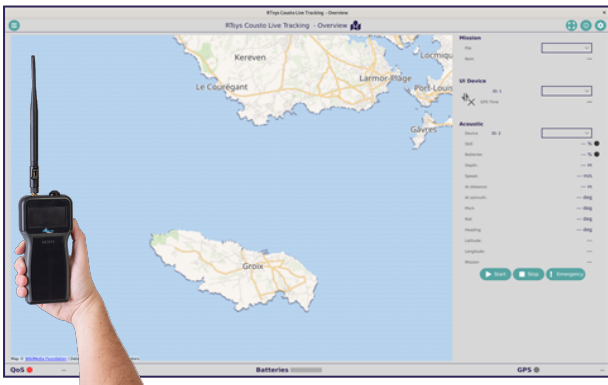
- Side Scan Sonar
- DVL
- CTD, O2, T°, hydrocarbon sensors
- Magnetometer
- Multi-parameters sensor
- HD video camera
- Sparse-LBL



NemoSens environment



Sensor integration



GEOsys & Live-tracking on surface tablet

Designed by and for the user

NemoSens is a one-man portable AUV requiring no specific installation. Its operation (launching and recovery) can easily be carried out from a boat or from the seashore.

NemoSens can be tracked during its mission thanks to acoustic communication. On the surface, the remote control **GEOsys** eases the operator to locate and retrieve the micro AUV communicating its position by UHF. Moreover, **GEOsys** can be used to send elementary commands such as mission-abort.

Sensors range

NemoSens can integrate a wide range of sensors depending on requested scope of work: side scan sonar, video camera, various environmental sensors (CTD, O₂, Chl...).)

All sensors data are registered on a single storage location, easy to retrieve at the end of the mission.

Side Scan Sonar

- 450 kHz nominal
- 0.5° horizontal beam width (Beam angles @ - 3 dB)
- 60° vertical beam width (Beam angles @ - 3 dB)
- Sonar swath width: Up to 100 m (up to 328 ft) per side

Open and flexible platform

NemoSens is an open and flexible system, with a Linux operating system for user software implementation, it is an ideal platform for a wide variety of development needs.

Navigation & communication

NemoSens embeds a native modem with RACAM sparse-LBL protocol. It provides a very accuracy positioning based on data redundancy. RACAM is implemented into every RTSys equipment, thus enabling a full compatibility and communication between each module of RTSys range made of : **COMET-MCM**, **SonaDive** handheld sonar, Surface Communication Module and Positioning Relay Beacon.

Up to 7 micro-AUVs can operate and communicate together in swarm mode.

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Dimensions

- Length: 895 mm
- Diameter: 124 mm
- Weight: < 9 kg

Supplied Hardware

- GPS
- Inertial Navigation System (INS)
- Acoustic modem