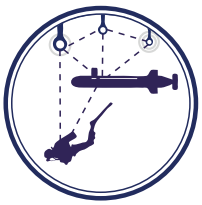
VERSATILE MICRO AUTONOMOUS UNDERWATER VEHICLE

300 meter 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 defence 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 the swarm technology and the possibility to deploy multiple AUVs. **NemoSens** is also compatible with all the RTsys product range such as the SonaDive diver held systems or beacons.

NemoSens integrates the latest upgrades of both hardware and software developments from the RTsys product range. Which makes it the most efficient and reliable 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 1 m long - less than 10 kg
- **Very accurate positioning**
  Limited drift independent of the covered distance
- **AUV position real-time follow-up from the surface**
  Live-tracking with light portable device
- **Open LINUX architecture**
  (MOOS - ROS support)
- **Easy to deploy, recover and maintain**

Navigation Capabilities

- **Max. operational depth: 300 m**
- **Speed: 2 to 6 knots**
- **Endurance: more than 10 hours**
- **RACAM sparse-LBL repositioning**
- **Operational T°: 0 °C / +50 °C**
- **Up to Sea State 4**

Payloads & Options

- **High-resolution Side Scan Sonar**
- **DVL**
- **Magnetometer**
- **Multiparameter probe (CTD, O², Chl)**
- **Video camera & subsea light**
- **Sparse-LBL repositioning**

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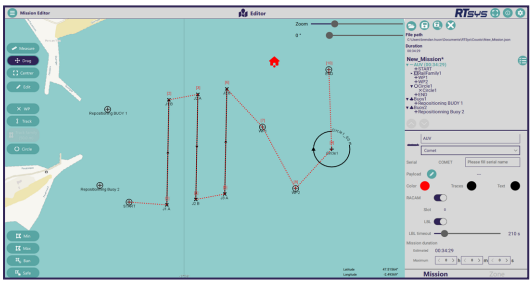
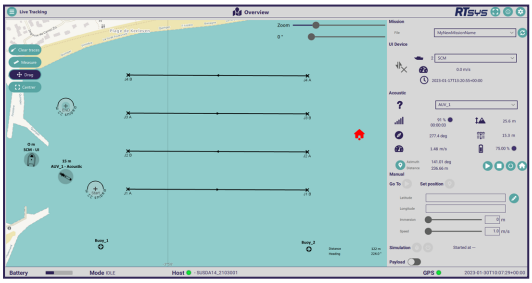
Camera & Subsea light payload

RBR Payload & GEOsys



Mission programming



Real-Time Live Tracking

NemoSens is a one-man portable AUV requiring no specific installation. Launching and recovery can easily be carried out from a lightweight boat or from the seashore.

NemoSens can be tracked thoughout the mission by means of acoustic communication. Once on the surface, the **GEOsys** remote controller facilitates the AUV's localization and recovery by transmitting the drone's position through UHF. Moreover, the **GEOsys** can be used to send elementary commands such as mission abort.

Sensors range

NemoSens can integrate a wide range of sensors to meet your needs: side scan sonar, video camera, environmental sensors (CTD, O^2, Chl...). All the data collected by the sensors is stored on the same medium for easy retrieval at the end of a mission.

3 Side Scan Sonar with different frequencies

Frequency	450 kHz	900 kHz	1 MHz
Operating range per side	100 m	30 m	25 m
Horizontal beam width	0.5°	0.43°	0.3°
Vertical beam width	60°	40°	60°

Open and flexible platform

NemoSens has an open and flexible architecture, with a Linux operating system for user software implementation. It is an ideal platform for developing customized applications to suit every client's need.

Navigation & communication

NemoSens embeds a native modem with a RACAM sparse-LBL protocol. It provides a very accurate positioning based on data redundancy. RACAM is implemented into every RTsys equipement, thus enabling a full compatibility and communication between each module of the RTsys product range which is made of : **COMET-300**, **SonaDive** hand held sonar, the Surface Communication Module and the Positioning Buoy. Up to 7 micro-AUVs can operate together in swarm mode.

v.016

Dimensions

- **Length: 895 mm nominal (sensor dependent)**
- **Hull diameter: 124 mm**
- **Height: 183 mm**
- **Weight: 8.5 kg nominal (sensor dependent)**

Supplied Hardware

- **GPS**
- **Inertial Navigation System (INS)**
- **Acoustic Modem**

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