

NEMOSENS

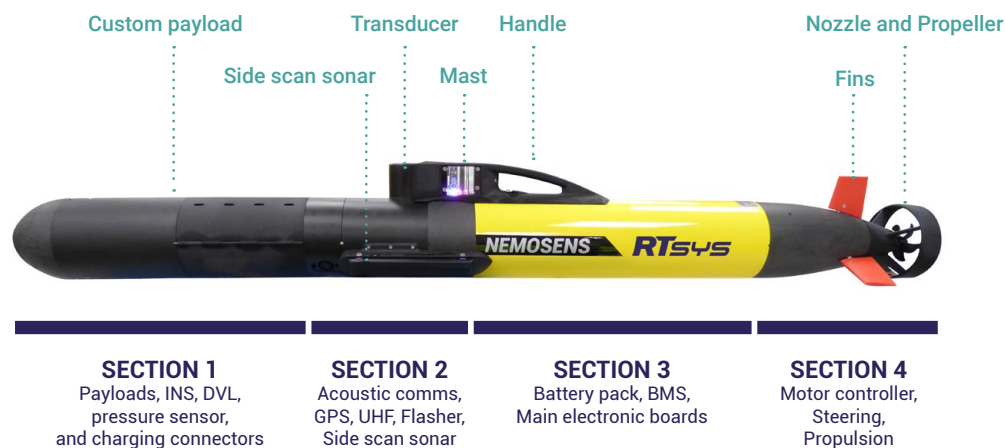
A NEW GENERATION OF AFFORDABLE & MODULAR MICRO AUV
FOR HIGH-END DATA ACQUISITION



RTSYS
UNDERWATER
TECHNOLOGIES

NEMOSENS

NEMOSENS is an affordable and compact autonomous underwater vehicle designed for scientific, industrial and military applications up to 300 m depth. Lightweight and modular, this micro AUV is a multi-mission vehicle thanks to its swappable payloads and sensors.



Easy launch

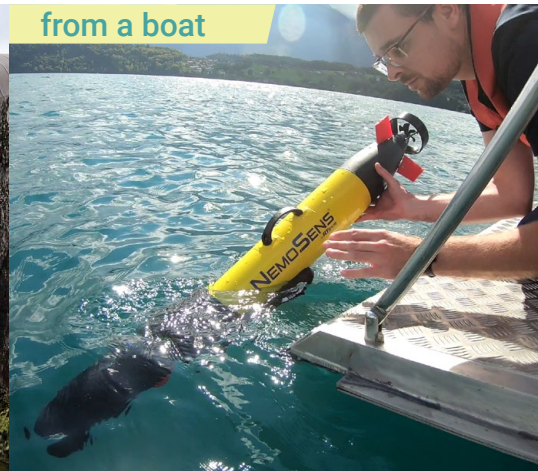
from shore



from a quay

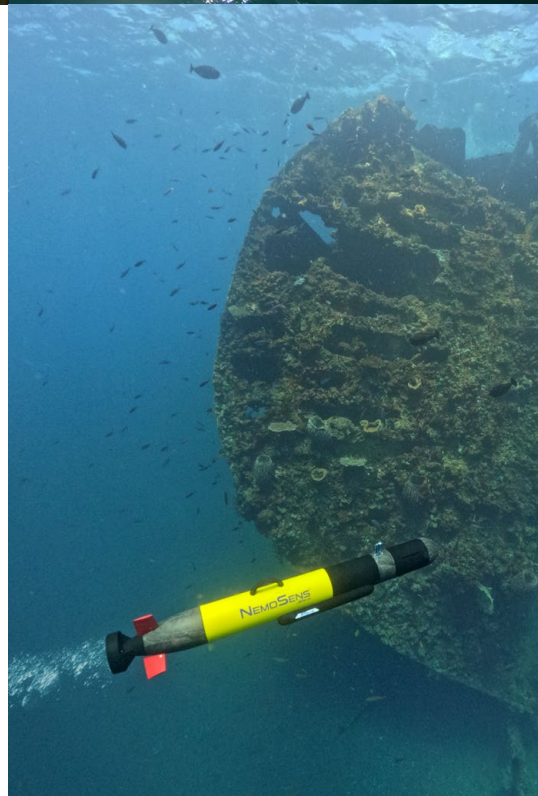
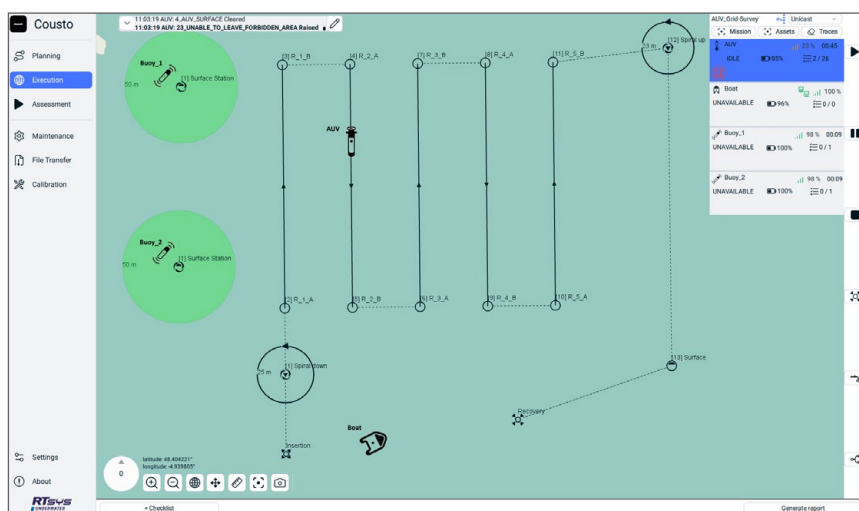


from a boat



Live tracking

Program, track and monitor in real time any mission from the surface with COUSTO software.



CTD multi-channel probe



**Configure according
to your needs!**

Turbidity sensor



DVL



GoPro
camera

NEMOSENS is a modular vehicle that
can embed a large range of plug-and-
play payloads:

- Side scan sonar
- CTD, O_2 , T° , turbidity,
multiparameter sensors
- DVL, INS, GPS, Sparse-LBL
- Magnetometer, HD video camera

Light

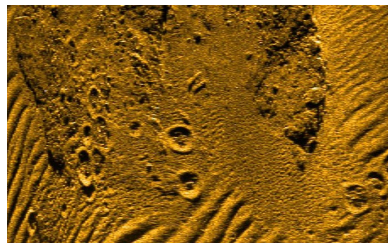


Magnetometer

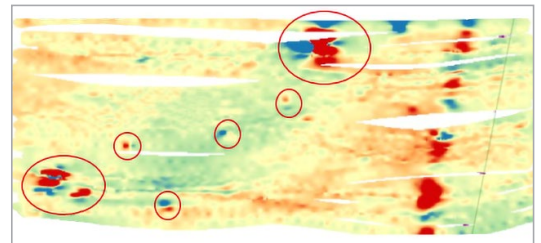
High-resolution data acquisition



High-resolution still image
© NOAA



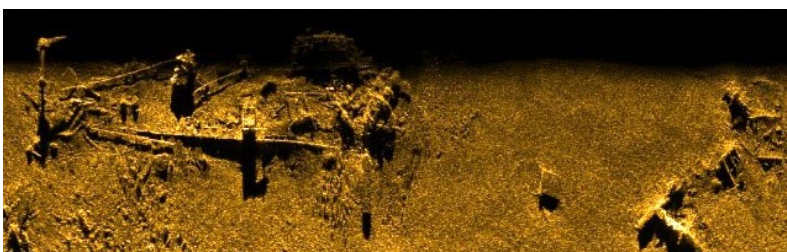
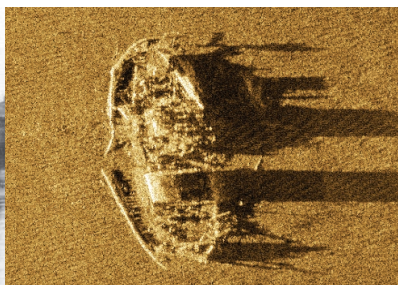
Seabed survey with 900 kHz Side Scan Sonar
AUV altitude: 5 m



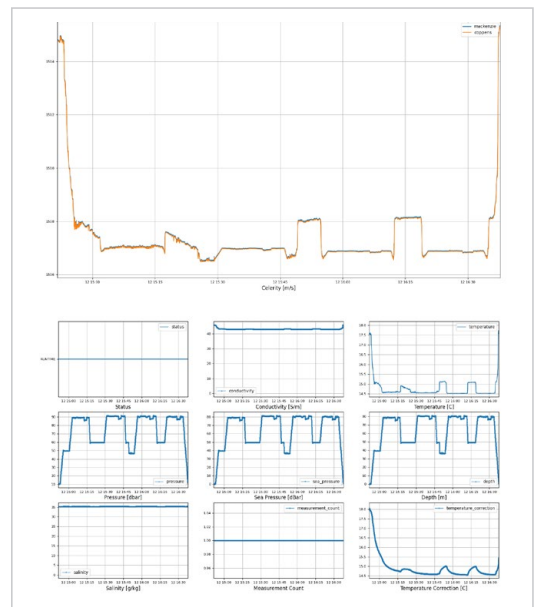
Object detection by vector magnetometry



Tug boat wreck detection with 450 kHz Side Scan Sonar
AUV altitude: 8-10 m



Wreck detection with 900 kHz Side Scan Sonar. AUV altitude: 3m



Water quality monitoring with RBR/legato³ C.T.D

NEMOSENS

A NEW GENERATION OF AFFORDABLE MODULAR MICRO AUV FOR HIGH-END DATA ACQUISITION



CHARACTERISTICS

- Length: <1 m
- Hull diameter: 124 mm
- Height: 183 mm
- Weight: <10 kg

SUPPLIED HARDWARE

- GPS, UHF, Wifi, Flasher
- Inertial Navigation System (INS)
- RTsys Acoustic Modem

NAVIGATION CAPABILITIES

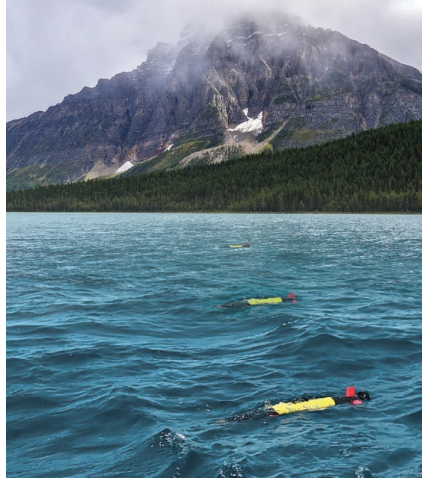
- Depth rating: 300 m
- Speed: 2 to 6 knots
- Endurance: more than 10 hours
- RACAM® sparse-LBL repositioning
- Operational T°: 0 °C / +50 °C
- Up to Sea State 4

Navigation sensors

- INS (Inertial Navigation System), which measures the AUV's route, pitch, and roll
- GPS, for locating the target when it rises to the surface
- Pressure sensor to measure the immersion (depth)

NEMOSENS integrates the RACAM® protocol, a native underwater acoustic modem. It provides a very accurate positioning based on Sparse-LBL array. RACAM® is implemented within every RTsys equipment,

thus enabling a full compatibility and communication between each asset. Up to 7 micro-AUVs can operate and communicate together in swarm mode.



COUSTO SOFTWARE

COUSTO MISSION PLANNER

- Add and program the assets that will take part in the mission (AUV, Surface Communication Module, positioning buoys...).
- Create and program payload sets (Side Scan Sonar, magnetometer, CTD...).
- Plot the navigation path(s) that will be followed by the AUV(s) during the mission.
- Define restricted zones, confinement zones and restricted sea layer areas (from the surface to a given depth, or from the bottom to a given altitude).

COUSTO MISSION EXECUTION

- Import a mission from an asset
- Launch a mission
- Track the AUV's navigation in real-time
- Check the status of the internal sensors
- Recover the AUV's recorded data.

COUSTO MISSION ASSESSMENT

- Replay
- Data analysis
- Graphs display
- Post-mission report

STARTER KIT

- Micro AUV NEMOSENS
- GEOSYS UHF remote for AUV recovery
- Spare fins
- 110 - 230 AC battery charger
- Holding rings
- A laptop or tablet (optional)
- User Manual and Quick start guide
- A software installer (Linux and Windows compatible) including a mission planner, system configuration and AUV real time tracking.



APPLICATIONS

- Marine biology
- Harbor & offshore surveillance
- Pipe tracking
- Plume monitoring during dredging operations
- Seabed mapping
- Sonar imagery
- Coastal water quality monitoring
- Very Shallow Water operations
- Rapid Environmental Assessment
- Search and Locate
- Harbor protection
- MCM operations
- Intelligence Surveillance Reconnaissance
- Special Operation Forces missions

RTSYS' MANNED-UNMANNED TEAMING ECOSYSTEM FOR MCM OPERATIONS

