
ALSEAMAR

ALCEN

SEAEXPLORER X2

Multi-mission underwater glider



Monitoring



Data collection



Detection



Acoustic recording

APPLICATION FIELDS

Marine Science & Environment

Oceanographic Research & Monitoring

Oil & Gas

Exploration & Environmental Baseline Studies

Defense & Security

REA, Acoustic Intelligence & ASW



KEY BENEFITS

Rechargeable Batteries

Substantial savings in money and time together with low logistics requirements.



Fast & easy payload change

Easily Interchangeable Payloads

Large modular sections (9L/8kg) with no need to re-open and re-ballast the vehicle, leading to a great easiness of use and lowering workshop operations.



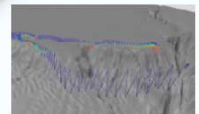
External Recharging & Ethernet connectors

Large Ballast

Fitted with the largest ballast (1000 cc) to face high density gradients and strong currents (providing high speed & maneuverability).

Robust wingless design

No external moving parts, lowering the risk of breaks and damages (especially during deployment and recovery).



3D-mapping of collected data

GENERAL PRINCIPLE

The SEAEXPLORER underwater glider is a powerful autonomous sensing platform designed for persistent ocean monitoring and exploration. It provides near real-time water column data profiles at a large ocean scale.

Driven by buoyancy changes, the vehicle silently glides up and down the water column while collecting physical, chemical, biological and/or acoustic data, depending on the sensor configuration.

A user-friendly software suite allows constant supervision and mission control from any place in the world. The SEAEXPLORER regularly surfaces to send ashore its GPS position, collected data and receive new mission commands via Iridium telemetry.

The SEAEXPLORER glider is a very cost-effective solution for data collection: it requires no supervising boat at surface during its mission, reducing reliance on large vessels with high daily costs. The SEAEXPLORER is easy to operate and has been designed for both shallow and deepwater operations.

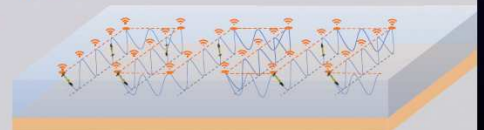


Onshore pilot



Two-way satellite communication:

- real time data collection
- mission update



SPECIFICATIONS

WEIGHT AND DIMENSIONS

Body Size (D x L)	0.25 m × 2 m + 1 m foldable antenna
Wingspan	56.5 cm Wingless design
Weight	59 kg in air

VEHICLE FEATURES

Communications	GPS / Satellite (Iridium) / Radio – Triple antenna
Navigation mode	Survey / Virtual mooring / Drifting / Bottoming
Safety	Autonomous drop-weight & Strobe light Optional: Locator Pinger (ULB) and/or Argos
Architecture	2 independant CPUs (Linux) for Payload & Navigation

OPERATIONAL CAPABILITIES

Depth rating	1 000 m
Ballast volume	1 000 cc (± 500 ml)
Speed	Nominal 0.5 kt / Maximum 1 kt
Battery	Rechargeable Li-ion / Primary Lithium
Typical Range (Endurance)*	1 300 km (64 days) / 3200 km (160 days) With a GPCTD-DO, sampling at 4 s

* Range and Endurance largely depends on sensors, sampling strategy and mission environment

PAYLOAD & SENSORS

General Features	Up to 6 sensors in two sections (wet & dry): 9L / 8 kg Altimeter Opensource C++ firmware / Independent Linux CPU Compressed CSV (native) Data downloading through external Ethernet cable (no vehicle opening)
Standard Sensors	CTD (pumped) Dissolved Oxygen (Optode or Electrochemical) Chlorophyll / Turbidity / CDOM ADCP Fluorometers options (Puck)
Exclusive Sensors	Hydrocarbons / Sewage / Pesticides µTurbulence Methane Passive Acoustic Recorder (customizable)
On-demand Sensors	Metal traces & Micronutrients Nitrates PAR pCO ₂ Echo sounder Others upon request



ALSEAMAR has been funded by EU to develop ultra-deep gliders for 2500 m and 6000 m depth. Find out more about the BRIDGES project on www.bridges-h2020.eu

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