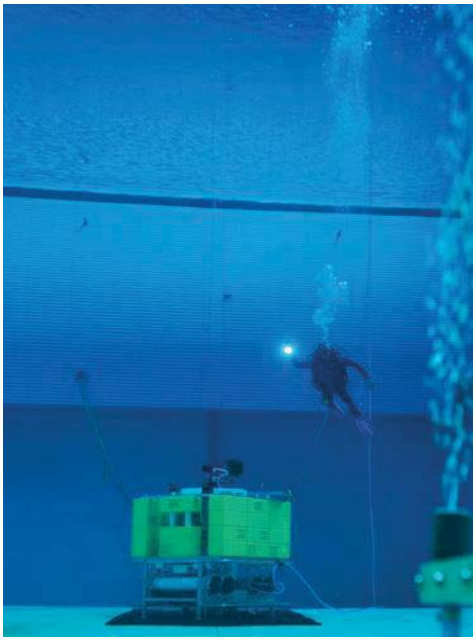
BOB - A BUBBLE OBSERVATORY MODULE

Institution/Company name	Institut Carnot - Ifremer EDROME
Contact details	Centre Ifremer de Bretagne C.S. 10070 – 29280 Plouzané Cedex, France nadine.landeri@ifreme.fr captiven@ifremer.fr
Website	https://wwz.ifremer.fr/institut_carnot/Presentation http://www.captiven.fr

□ Key words

Advanced engineering (including robotics / control systems) - Communications - Sensors / instrumentation / electronics

□ Description



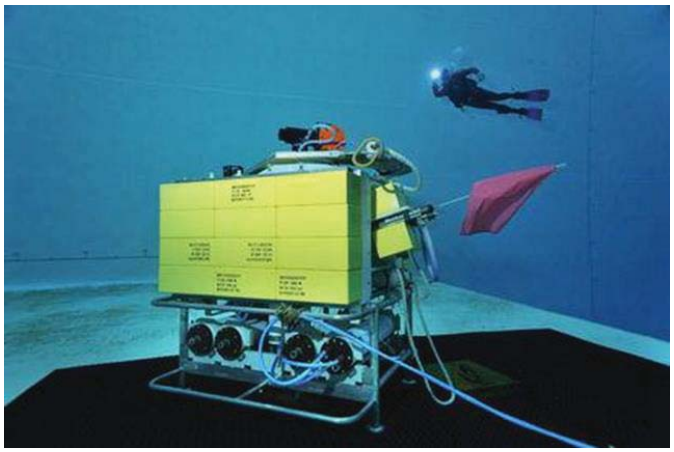
BOB is an **autonomous acoustic surveillance system based on a single beam echo sounder designed to observe targets in the water column, in particular fluids and gas flows escaping from the sea floor**. It is thus a gas bubble detector. It is deployed with a cable, dropped at about 10 m from the sea floor and can be positioned with a ROV. Once positioned, it probes the underwater horizon at regular time slots.

Applications

- Acoustic monitoring of gas emission from the sea floor
- Surveillance of natural risks (gas emission from underwater faults): earth quakes, tsunamis
- Surveillance of industrial sites (water capture zones, exploration areas)
- Impact assessment of methane from sea floors on climate change
- Location of hydrogen sources

Innovative features

- Advanced acoustic technique in water column



- Deep sea capabilities: down to 1500 m
- Acquisition of acoustic and environmental data (T°, Pressure, position of the station)
- Autonomy: 25 days
- Compact system: Weight 634 kg (23 kg under water), dimension: 1,3 m x 1,3 m x 2,8 m (hight)
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Validation phase achieved

- In the Marmara sea (European project ESONET, network of submarine observatories)
- In the test basin facility of Ifremer

□ **Applicability of Technology to Maritime SMES**

Surveillance of natural risks (e.g. tsunamis, earth quakes) of industrial sites, underwater emissions (e.g. methane).