MicrOBS
a new generation of low cost OBS for wide angle seismic experiments

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From the experience gained with the use of our pool of 15 conventional OBSs (210 experiments), Ifremer (DRO/GM) started in early 2002 the development of a new generation of OBS (Figures 1 and 2) based on three main criteria:
- similar data quality compared to conventional OBSs,
- light unit, easy to handle and to operate at sea,
- use of up-to-date technology and implementation of a specific integrated acoustic release system (pending patent).

Mechanical specifications
Vitrovex 13" glass sphere, integrated flash and gonio, weight in air less than 15 kg, maximum depth 6000 m.

Acquired parameters
- One hydrophone and three geophones, sampled from 10 to 500 Hz,
- Four 24-bit channels compressed in real time,
- 1 GB data storage available, extended to 6 GB in the near future,
- TCXO clock with +/- 10⁻⁷ accuracy, better accuracy with higher stable clock available. Clock set up by external GPS clock,
- Programmation of the instrument and data retrieval via USB link (at 2 MB/s) without opening the sphere,
- Integrated acoustic release system.

Energy
Rechargeable batteries (Lithium-ion), about 10-days autonomy, without opening the glass sphere.

Sea trials will be completed by August 2003.
Industry partnership with ORCA instrumentation.