



SIMEO

AN ECO-FRIENDLY BUOY FOR MARINE VERTEBRATE SURVEILLANCE

SIMEO (which stands for Station Instrumentale de Monitoring Ecologique dans l'Océan, (marine environment monitoring station) is the name given to a project to combine all sensors collecting information on the life of marine air and sea vertebrates in one piece of equipment. Installed on an offshore wind farm or in a Marine Protected Area, this autonomous buoy will be capable of counting fish and cetaceans as well as birds and bats, and of recording their direction of travel and their behaviour. At the same time, SIMEO will collect indicators relating to several upper levels of the food chain and to environmental parameters: weather, currents and water masses. SIMEO will be the first autonomous marine measuring station devoted simultaneously to air and sea vertebrates and to their environment.

Equipped with an anchoring system that can be adapted to suit a variety of locations - type of seabed, currents and swell - the SIMEO buoy will comprise three modules. The air module will have embedded weather sensors, radar, video cameras and a passive acoustic system for quantifying bird and bat activity at sea. The central module will comprise command and safety systems, energy supply and data transmission and storage systems. Lastly, the undersea module will house, on the one hand, instruments for physical and hydrological data acquisition and, on the other, sonar equipment, hydrophones and video cameras for supplying data on cetaceans and fish. Specifically adapted to suit the project - autonomous buoy, transmission of data to shore, minimal maintenance and affordable cost - and featuring optimised information processing, SIMEO will provide a means of improving knowledge and understanding and a decision-making support tool for those involved in monitoring the environment, such as wind farm developers, Marine Protected Area managers, scientists, etc.

The SIMEO project is recognised jointly by the Pôle Mer Bretagne and Pôle Mer PACA.

Partners

Companies

Biotope, Mèze [\[Project Developer\]](#)
Nke, Hennebont

Research centers

Ifremer, Brest
IRD, Banyuls-sur-Mer, Sète et Brest

Funders

- Fonds Unique Interministériel
- Conseil régional de Bretagne
- Conseil régional Languedoc-Roussillon

Labelisation

18/03/2011

Overall budget

3 047 K€