Environmental Monitoring Solution for Gas Hydrate

Kongsberg Maritime Embient, with Kongsberg partner company Contros Systems and Solutions, has been selected to develop and deliver innovative technologies and strategies for environmental monitoring during gas hydrate exploration and production as part of the EU â€˜SUGAR' (Submarine Gas Hydrate Reservoirs) project. Germany's Federal Ministry of Economics and Technology started the third phase of the more than EUR10 million joint project at the beginning of October 2014.

The project is a ground-breaking initiative in gas hydrate exploration, production and monitoring. This third phase will last three years and will lead into a European venture with world-wide impact for gas hydrates as a new energy source.

Kongsberg Maritime Embient is the main contractor (together with Contros) in sub-project 4 of SUGAR, having been awarded the task of developing solutions for detecting and quantifying gas bubbles in the water column and creating leakage alarms autonomously. As part of this work, Kongsberg Maritime Embient will create a generic algorithm to collect and interpret data from ship-based sonar for easy leakage control of wide areas.

In the second step, an autonomous seabed monitoring system (Lander), based on the Kongsberg Maritime developed Modular Subsea Monitoring (MSM) network concept, will be developed in close cooperation with Contros and the Helmholtz Centre for Ocean Research Kiel (Geomar) at known gas emergence points.

The Lander system will combine a multitude of different sensors (point sensors using passive and active acoustics), Kongsberg cNodes for communication, quad packs for energy supply, and a data processing unit as the central part. The Lander will collect all data, process it, discern gas bubbles from other objects, generate an alarm in case of a leakage scenario and calculate a dispersion model of gas bubbles in the water column.