

# Environmental Monitoring Offshore: Instantly Detect Leaks Underwater



Leaks on offshore platforms present a hazard to the marine environment and human health. The monitoring system FlexMoT will detect irregularities and provide a warning system for disasters. The system was presented at this year's OCEANS'16 in Monterey. [FlexMoT](#) is an autonomous, flexible monitoring tool with two essential tasks: it works as a long-term monitoring system and it can be deployed at short notice in emergency situations.

Furthermore, the set-up effort is minimal and data is quickly made available. Unlike classic measuring probes, FlexMoT allows for 'live monitoring'. FlexMoT can be used as an early-warning system in the field of oil and gas production and for environmental monitoring in the field of offshore wind farms. The system is also suited for other measuring tasks under

water, such as scientific long-term measurements, as well as for water monitoring. It was already successfully tested in the North Sea and the Skagerrak.

## Autonomous Up to One Year

To carry out its task, FlexMoT is anchored to the bottom of the sea. Its sensors record parameters such as salinity, pressure, and temperature. In addition, the concentration of gases (such as methane) in the water column are logged to detect leaks, for instance. Depending on the setting, the sensor data is sent up to the water surface via a small messenger line once a day or for certain events, and conveyed to a relay station via GSM or satellite. The data is rapidly available and the system works independent of expensive surface connections for data transmission. FlexMoT can work autonomously for up to one year.

The overall system is deliberately designed to be flexible. As a modular system, it can be set up for different missions and requirements. Sensors of many different types can be used. Collected and delivered data as well as the state of the system are evaluated by a newly developed software and presented to the operator in graphical form. The operator can then access a quick overview of the current situation or enter into a deeper analysis of the logged data for environmental monitoring or research.

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