

## METANE

### SAFETY MODELLING FOR SUBSEA OIL AND GAS EXPLOITATION IN DEEP-WATER ENVIRONMENTS

For several years, oil and gas industry stakeholders have been voicing a need for tools to model leaks from offshore wells. The METANE project has involved developing a decision-making support tool based on the industrial risks associated with a subsea leak of oil, natural gas or LNG.

The work of the project led to development of a tool featuring scientific modelling of the dynamics of a gas and/or oil plume when rising in the water column, taking account of the specific characteristics of the deep ocean. Calibrating and validating the chosen numerical models were carried out using Cedre and EMA technical resources (5-metre column, pressurised column, high-frequency camera, etc.).

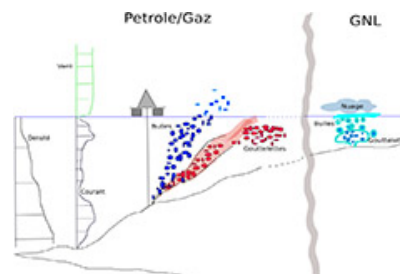
The software provided answers to operational questions: where and at what rate does the plume surface and how concentrated is it? Adopting a "serious game" approach, the results are presented in a 3D scenario and thus offer a realistic view of the accident for intervention team training.

The project affirmed the role played by Alyotech in the maritime sector and forged a solid partnership, which has formed the basis for subsequent related projects (European CITEPH project).

Spin offs and future developments

2 jobs created, 5 scientific publications, 8 conferences in France and internationally

**The project is also officially recognised by the Pôle Mer Méditerranée.**



#### Partners

##### Companies

Alyotech Technologies, Rennes [\[Project Developer\]](#)  
Cedre, Brest  
ENGIE (GDF SUEZ), Saint-Denis La Plaine  
Nympha Environnement, Cassis

##### Research center

ARMINES - École des Mines d'Alès

#### Funders

- Bpifrance
- Région Bretagne
- Métropole d'Aix-Marseille Provence

#### Labelisation

22/04/2011

#### Overall budget

1 017 K€