



## STRACES

### OPTIMISING DETECTION OF TRACE MARINE POLLUTANTS

Seawater, underground water and surface water all contain dissolved chemical substances which require monitoring. The EU Water Framework Directive and future directives on underground waters and soils, which aim to re-establish the sound ecological and chemical status of aquatic habitats, demand deployment of effective tools for detecting even trace elements of pollutants. For drinking water controls alone, 12 800 surface water collection points must be monitored – and of course equipped – at a national level. The demand for sampling personnel runs into several thousands for the ten years ahead.

STRACES passive sensors make it possible to push back the boundaries of what it is currently possible to achieve in the way of sampling. Placed in a permanently submerged location, the sensors continuously extract even tiny doses of pollutants using absorbent materials. They are regularly inspected and the results analysed in the laboratory. Given established factors such as period of immersion, water temperature and extent of diffusion layer, the concentration of contaminant in the water can be calculated. An innovative method of field analysis using a spectrometer adapted for the marine environment and developed by IFREMER will also be trialled.

These different techniques will enable not only the more familiar pollutants such as heavy metals, polycyclical aromatic hydrocarbons (PAHs) and polychlorobiphenyls (PCBs) to be detected but also endocrine disrupters and pharmaceutical residues present as trace elements in water and continuing to show biological activity.

Ultimately, the deployment of automatic field samplers with the potential to signal an alert, should for example a gust of wind stir up polluted sediment, will lead to genuine routine surveillance of these traces at critical points, such as water catchments, treatment plant discharge outlets, sensitive coastal ecosystems (oyster farms), polluting wrecks, etc.

#### Partners

##### Companies

Cedre, Brest  
Veolia Environnement, Paris

##### Research centers

BRGM, Direction Risques et Prévention,  
Orléans [\[Project Developer\]](#)  
Ifremer, Brest

#### Funder

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