Environmental and coastal planning and development

CAP ENC

DEVELOPING A SENSOR TO MEASURE FOULING OF UNDERWATER SYSTEMS IN THE MARINE ENVIRONMENT

Fouling remains one of the main concerns of industrials in the thermal transfer technology sector and processing industries. It is also a major issue for the marine renewable energy sector and for all forms of underwater infrastructure in the marine environment.

The aim of the CAP ENC project is to develop a sensor able to quantify and identify the nature of fouling, whether organic, mineral or biological. The project is innovative in the way it combines measurement of discrete spectra and electric and thermal stimuli (LOcal THermal and Electric Pulses Analysis: LOTHEPA) to distinguish between different types of fouling in terms of their thermal and electric properties.

By defining the fouling, the operator can employ appropriate remedial treatment. reduce operating costs (energy, chemical products, etc.), optimise production time and limit waste. The sensors need to be easy to adapt on different production lines. They will make networked surveillance possible by being installed at several points on a unit to monitor the kinetics of fouling and/or erosion of surfaces.

The target market comprises cooling towers and agri-business industrial sites in France and worldwide. Market demand in this sector is estimated at several hundred sensors per year. The sensor will be added to the 'Neosens' range of sensors already marketed by Ponsel.

The sensor will also be tested for its applications on underwater objects in the marine environment (MRE, desalination, etc.). This will be a more restricted market in terms of sensor sales but represents an important strategic issue for industrials in the sector.

Partners

Companies

IRH Ingénieur Conseil, Vandœuvre-lès-Nancy [Project Developer]
Ponsel Mesure, Caudan
Veolia Recherche et Innovation, Maisons-Laffitte

Research center

INRA, Laboratoire d'Ingénierie des Systèmes Biologiques et des Procédés (LISBP), Toulouse

Funders

- Fonds Unique Interministériel
- Conseil régional de Bretagne
- Région Grand Est
- Conseil départemental du Morbihan
- Lorient Agglomération

Labelisation

19/04/2013

Overall budget

3 196 K€