



Marine energy and mining resources

## MHM-EMR

### MONITORING THE SERVICE LIFE OF ANCHORING SYSTEMS FOR MRE

The anchoring systems currently offered for floating MRE and for wind turbines in particular differ substantially from those used for offshore oil and gas. Specific norms and design tools need to be adapted and validated. Present solutions – configurations, materials and anchor-sharing – increase uncertainty surrounding service life. In addition, anchor-line breaks pose a major threat to other marine activities.

The monitoring of the condition of anchoring components in operation seems therefore to be a major issue for floating MRE structures.

The MHM-EMR project is aimed at:

- Developing a methodology for monitoring the service life of anchoring components with the help of measurements at sea – tension, angles, floating movements and environment – and of existing methods and calculation tools.
- Developing an early warning method and tools to alleviate the risks and consequences of structures breaking anchor and drifting off, with a view to feeding into the operational prevention and emergency plans recommended by SG Mer – the French marine secretariat.
- Consolidating or adapting methods for predicting extreme responses and service life applied during the design phases and based on in-situ measurements.

The tools developed will lead to recommendations for improving the norms and methods applicable to calculating MRE anchoring systems as well as optimising the choice of anchoring configurations and materials.

The expected results will have to apply generally to all fully submerged, anchored floating technologies used in MRE.

#### Partners

##### Companies

ENGIE Futures Energies, Courbevoie  
Naval Group, Brest

##### Research centers

France Energies Marines / Ecole Centrale de Nantes, Nantes [\[Project Developer\]](#)  
Université de Nantes, Nantes

#### Funder

Agence Nationale de la Recherche

#### Labelisation

20/05/2016

#### Overall budget

588 K€