

**DURATION: 24 months | LAUNCH: 2020**

### CONTEXT

Dynamic submarine cables, required to export the electricity generated by all floating ORE systems, are critical components subject to different and much more varied constraints than their static counterparts. Their in-service monitoring is therefore of paramount importance. **Some technologies are used for monitoring subsea cables (DTS, DAS, Partial Discharge, etc), but they have limitations and may not be the most suitable for in-operation monitoring of dynamic cables.**



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#### TECHNOLOGIES



#### STAGES OF THE VALUE CHAIN



### OBJECTIVES

- To develop recommendations for the optimisation of in-service monitoring solutions for subsea cables at the farm level
- To propose a roadmap for the development of the identified promising technologies

### SCIENTIFIC CONTENT

- **Gathering feedback experience** on operating experience and experimental data on local failure modes (electrical, mechanical, thermal) of dynamic cables
- **Identification of parameters** reflecting the emergence of failure modes
- **Identification of sensor technologies** available or under development capable of detecting several of the failure modes
- **Study** of the best technological and economic strategies for the deployment of sensors to monitor the electrical cable network of a farm

### EXPECTED RESULTS

- **A database of local failure modes of dynamic cables**, associated with the physical parameters modified in these conditions
- **A state-of-the-art of sensors technologies** able to detect, or promising for detecting, a modification of these physical parameters
- **Recommendations on the deployment of a network of sensors technologies** for measuring the multi-physical health state of inter-array and export cable at a scale of a floating offshore wind farm
- **Specifications of a thorough benchmark** of few sensors technologies, to be run in a following project
- **Elaboration of a roadmap** for future developments of sensors technologies

### PARTNERS



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