



© SHOM



Fixed offshore wind



FOWT



Studies



Design



Operations Maintenance

DURATION: 36 months | LAUNCH: 2019
Total budget: €1.28 million

OUR RELEVANT S&T PROGRAMS



SITE CHARACTERISATION



TECHNOLOGY DESIGN



ENVIRONMENTAL INTEGRATION

CONTEXT

Sedimentary structures formed by the combined action of marine currents and swell, hydraulic dunes are relatively frequent in the areas where future offshore parks are planned in the North Sea and the English Channel.

As part of the electrical connection of these farms, the laying of cables on the seabed will involve cutting and dredging the dunes present. The assessment of the impact of this type of work requires a better knowledge of the natural evolution of these ecosystems whose sedimentary and biological dynamics are still poorly understood.

In addition, due to their extreme morphological variability and potentially high travel speed, hydraulic dunes can have an impact on ORE systems and require increased monitoring operations.

OBJECTIVES

- To understand the sedimentary and ecosystem dynamics of underwater dunes.
- To provide technology developers and industrialists in the ORE sector with complementary knowledge and approaches to work in environments with hydraulic dunes.

EXPECTED RESULTS

- Better knowledge of the physical processes and natural functioning of hydraulic dunes.
- Update of an open access GIS dedicated to dune fields and sand banks.
- Fine scale characterisation of dune food web structure to understand how these particular systems work.
- Methodological recommendations for the assessment of anthropogenic impacts on dune ecosystems.

SCIENTIFIC CONTENT

- Mapping of the dunes of the French metropolitan coasts.
- Acquisition of high frequency data on the dynamics of the Dunkirk dunes.
- Understanding the short-term evolution of these underwater dunes.
- *In-situ* characterisation of the structure of dune ecosystems.
- Characterisation of ecosystem functioning through the study of food webs by isotopic analysis.

PARTNERS



With the additional support of Pôle Mer Bretagne Atlantique and Bretagne and Normandie regions.

This project is supported by the French State, managed by the National Research Agency (ANR) as part of the Investments for the Future programme.

