



PHYSIC

UNDERSTANDING THE HYDRO-SEDIMENTARY PROCESS GENERATED BY MARINE CURRENTS

Tidal turbines are intended for deployment at sites with considerable hydrokinetic energy. Depending on the energy involved, such sites may see significant amounts of sediment being transported.

If not clearly characterised, the flow of particles may represent a constraint on or even barrier to exploiting a tidal turbine field. The only studies carried out in such extreme hydro-sedimentary environments reveal the dynamics of coarse particles but not in line with currently accepted process models. There seems therefore to be a need for new data which could prove crucial in the design, installation, anchoring, connecting, exploitation and maintenance phases of tidal turbines.

The PHYSIC project therefore proposes to:

- Develop a specific instrumented system capable of measuring the parameters identified as critical in high energy marine environments;
- Acquire the data necessary to qualify and quantify the hydro-sedimentary dynamics of the licensed area of the Raz Blanchard channel;
- Develop a regional hydro-sedimentary model suitable for the area by incorporating results from microscale numerical studies and in-situ measuring.

The answers provided should enable tidal turbine designers to take the risks of abrasion or

Partners

Companies

Energie de la Lune, Bordeaux
iXSurvey, La Ciotat
Naval Group, Brest

Research centers

France Energies Marines / SHOM, Brest [\[Project Developer\]](#)
ENSTA Bretagne, Brest
IMT Atlantique Bretagne-Pays de la Loire, Brest
UBO, Laboratoire Domaines Océaniques
LDO (UMR 6538, UBOS/CNRS), Brest
Université de Caen (LUSAC), Cherbourg-Octeville

Funder

Agence Nationale de la Recherche

Labelisation

19/02/2016

Overall budget

1 313 K€

damage to submerged structures into account.