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CF2T project: improve competitiveness and reliability of tidal turbines



Co-funded by the Ocean Energy ERA-NET Cofund and four European regions (Brittany, Pays de la Loire, Spain and Sweden), the CF2T project was officially launched in February 2019. Led by SABELLA, this project brings together ALLIA, SAITEC, RISE and ALKIT and will run until 2021.

The project aims to develop a cost-competitive foundation for tidal turbines and immerse it to validate the concept in real sea environment.

The innovative gravity-based foundation will be designed to decrease construction and deployment costs, with modular interfaces to allow an offshore installation in several packages in order to limit the required crane capacity on ships.

Some alternatives to reduce the structure construction costs and modularity will be evaluated including the design of a hybrid foundation combining different materials. The innovative foundation will also integrate an adaptive interface with the seabed in order to limit seabed preparation.

Besides, the project will develop a dedicated monitoring system to have a better understanding of loads applied on the structure for future foundations developments. This system will allow the partners to carry out a survey of the structure health for preventive maintenance which will contribute to improve reliability of the foundation.

About the partners

SABELLA, France, is an EPC contractor from Quimper specialized in ocean energies. In 2015, SABELLA deployed a full-scale grid-connected turbine, D10-1000, off Ushant Island. Leading the project, SABELLA will make the most of the experience gained on the D10 project in order to detail the needs and challenges of developing an innovative and cost-competitive foundation.

ALLIA, France, is a company based in Pays de la Loire, specialized in design, sizing, construction and installation of structural equipment for all kinds of heavy industries. The company was involved in the construction of the D10 foundation and will use its expertise in tidal turbine foundations in this project.

SAITEC, Spain, is an engineering company whose main activities involve transport infrastructure, water engineering, architecture, town planning, environment, industry and energy. Together with ALLIA, SAITEC will be involved in the design of the structure and the construction of some of the sub-assemblies.

ALKIT, Sweden, is a company which provides data capture and telematics system, including condition monitoring systems for industrial application.

RISE, Sweden, is a National research and testing institute. The Measurement Science and Technology section performs research to ensure measurements quality at all laboratory and industrial levels. RISE, with the help of ALKIT, will develop, install and manage the monitoring system in order to reduce uncertainties. Also part of RISE, CBI Betonginstitutet will study a concrete mix design.

