

BlueCAO Project

Open research position

A position for a researcher holding a master degree with expertise on structural mechanics and structures is open. For further information:

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Description

The BlueCAO project funded by Blue fund aims to develop a concept for an integrated offshore platform for supplying energy and food to an offshore fish farm. The concept itself is of a floating platform consisting of a layout of oscillating water columns structurally coupled and connected to a central storage silo for farmed fish food.

The requirements needed for the exploitation of an automated aquaculture offshore farm will be specified during the project execution in what regards: average and peak electrical power, necessity of electrical energy storage, capacity of storage of farmed fish food, types of sensors needed for monitoring the platform and the fish cages, and necessities of data transmission to shore.

The new concept of offshore platform will be designed so as to address the identified requirements, leading to the definition of a preliminary engineering design of the platform to be built in concrete in order to reduce production and maintenance costs. The platform design will end up on the construction of a reduced model to be tested in a wave water tank.

An application to the European program MARINET2 (<http://www.marinet2.eu>) in order to validate the performance of the new platform on a wave tank will be prepared and submitted in the future as a follow-up of this project. Validation of the project is essential to capture the interest of an international consortium, aiming to apply for an European funding program that would allow the construction and test in the sea of a 1:1 prototype.

Consortium

BlueCAO project has the following participants: Instituto Superior Técnico - Mechanical Engineering Department (hydrodynamics, monitoring and control and energy conversion) and Civil Engineering, Architecture and Georeources Department (structural analysis and design; durability); SECIL a cement industry (technical specifications of concrete solutions); Rota Grega a company of aquaculture exploitation developing a fish farm in the Algarve, and WavEC a private non-profit association, which is the promoter of the project.