

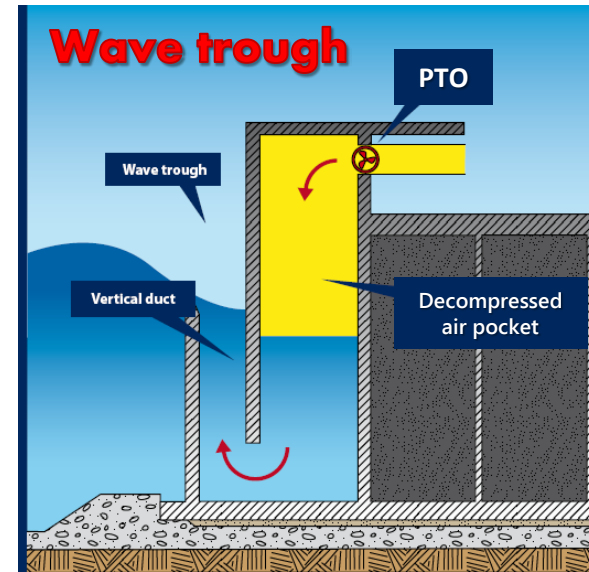
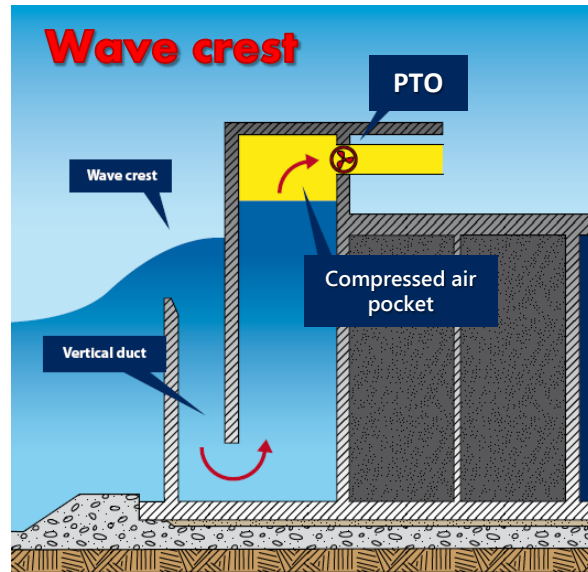
‘FULL-SCALE REWEC3 PLANT: FROM THE FIRST PROTOTYPE TO THE INSTALLATION IN THE PORT OF SALERNO’

F. Arena^{1,2}, A. Santoro², S. Meduri², A. Romolo^{1,2}, A. Fiamma¹,
A. Scialò¹, G. Malara¹, C. Ruzzo¹, V. Laface¹

¹ Natural Ocean Engineering Laboratory NOEL, University “Mediterranea” of Reggio Calabria, ITALY.

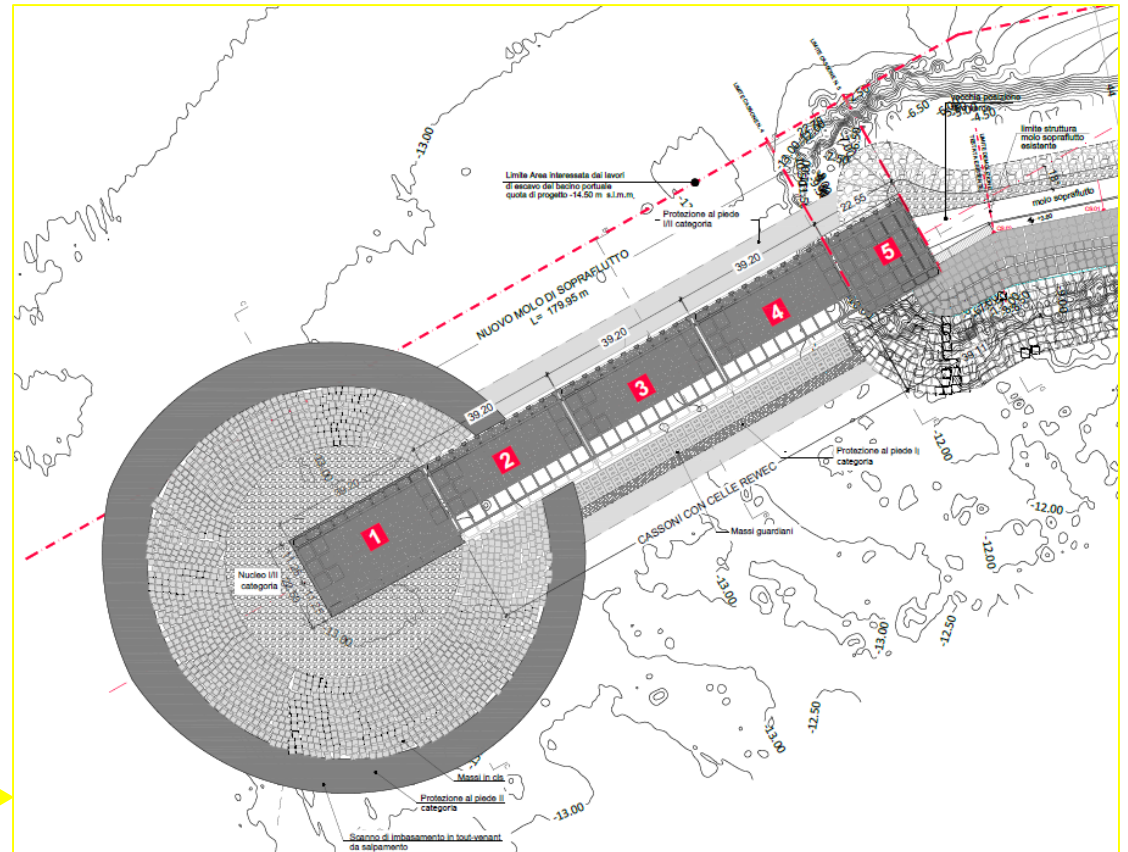
² Wavenergy.it srl, Reggio Calabria, ITALY.

The REWEC3 technology: brief overview

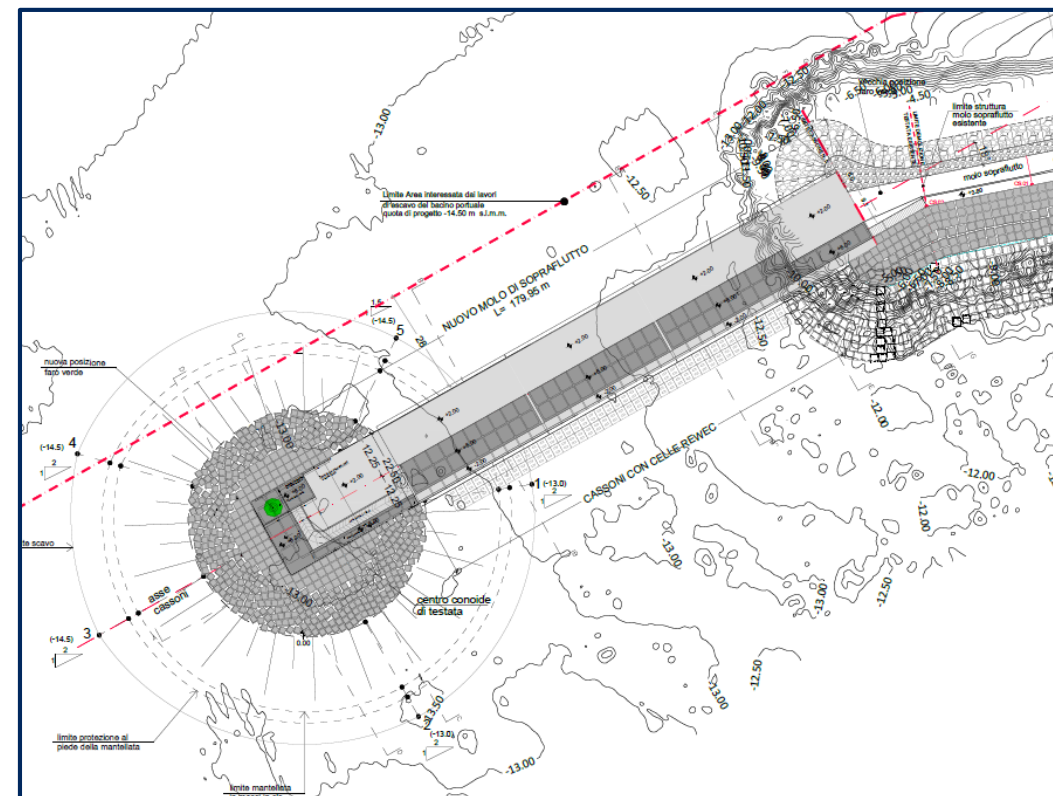
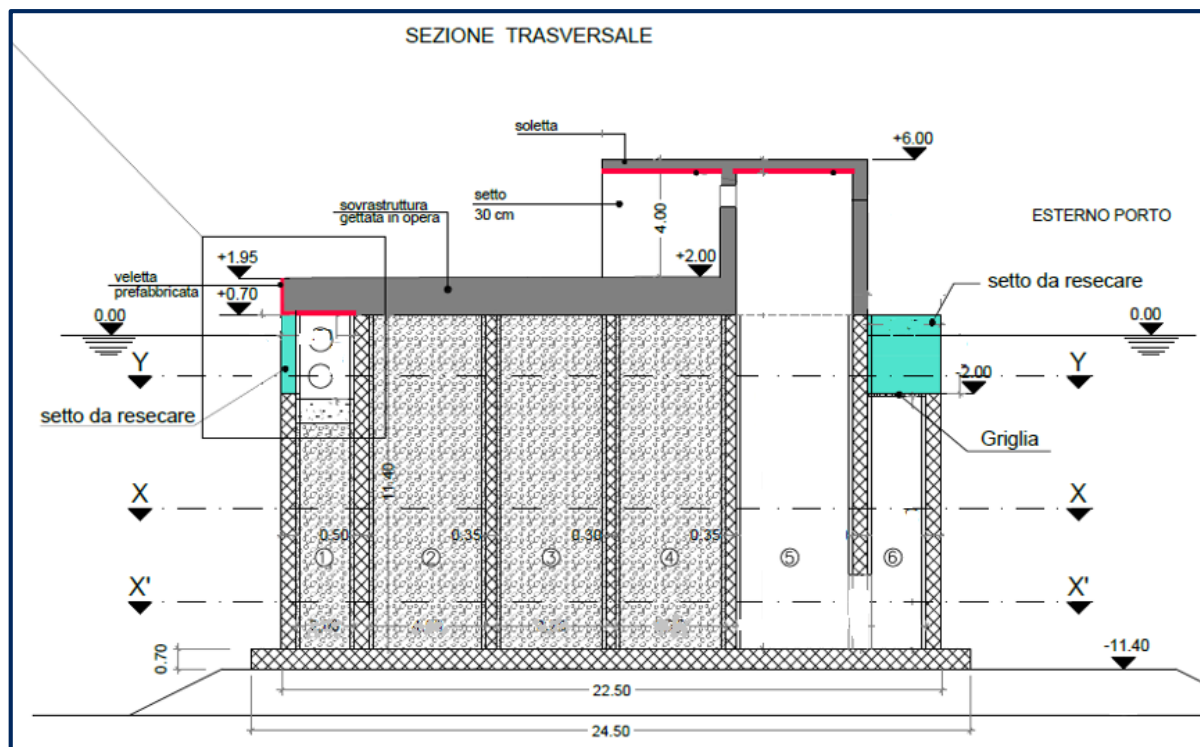


- Pneumatic chamber containing a water column in its lower part and an air pocket in its upper part, connected to the atmosphere via a small duct hosting a PTO
- Small vertical U-shaped duct for connecting the water column to the open sea
- Achievement of the natural resonance without the use of any phase control devices required in the conventional OWC enhancing wave energy absorption

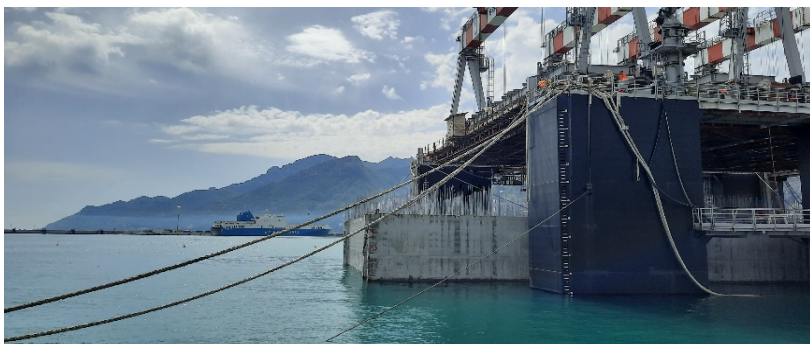
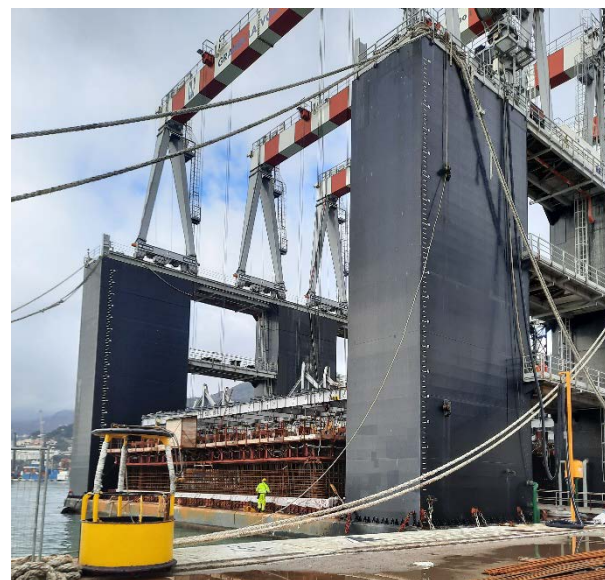
- Enlargement of the breakwater (200m)
- 3 REWEC3 caissons
- 10 active chamber per caisson



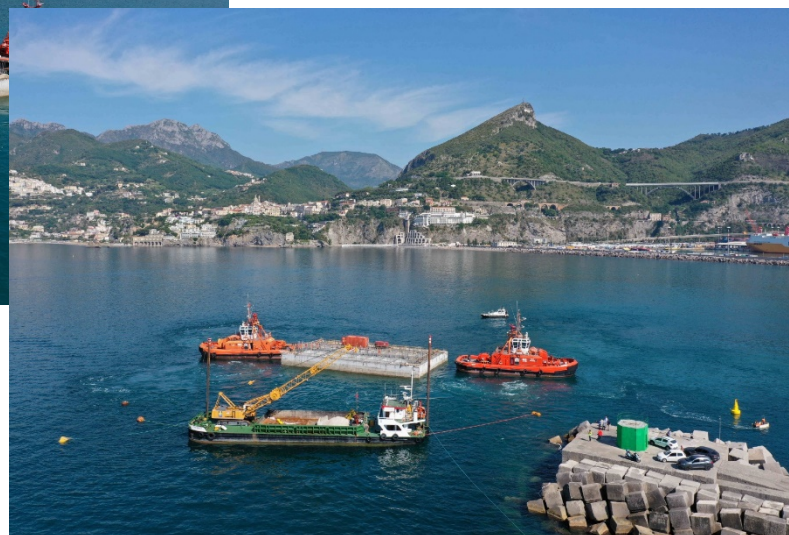
The REWEC3 plant in the Port of Salerno



The construction phase



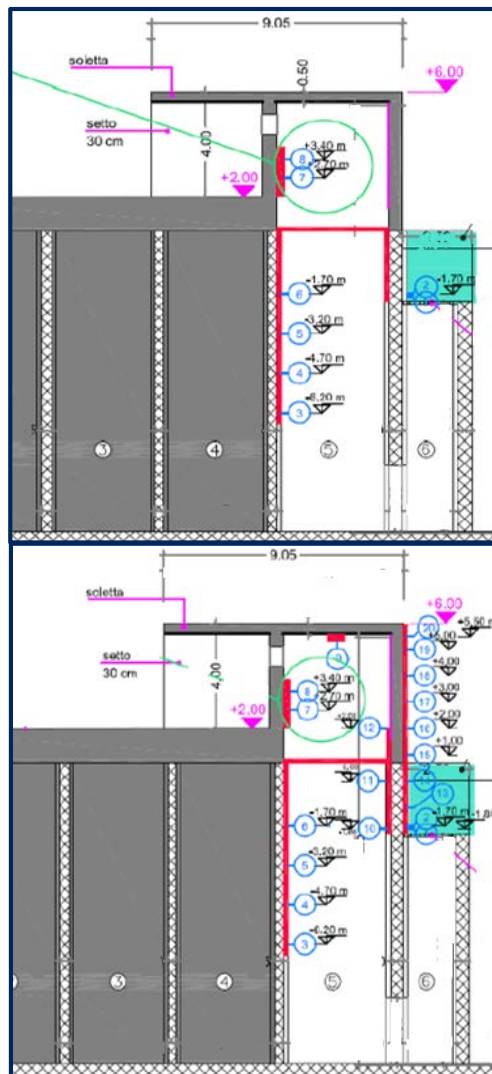
The construction phase



The construction phase



The monitoring system



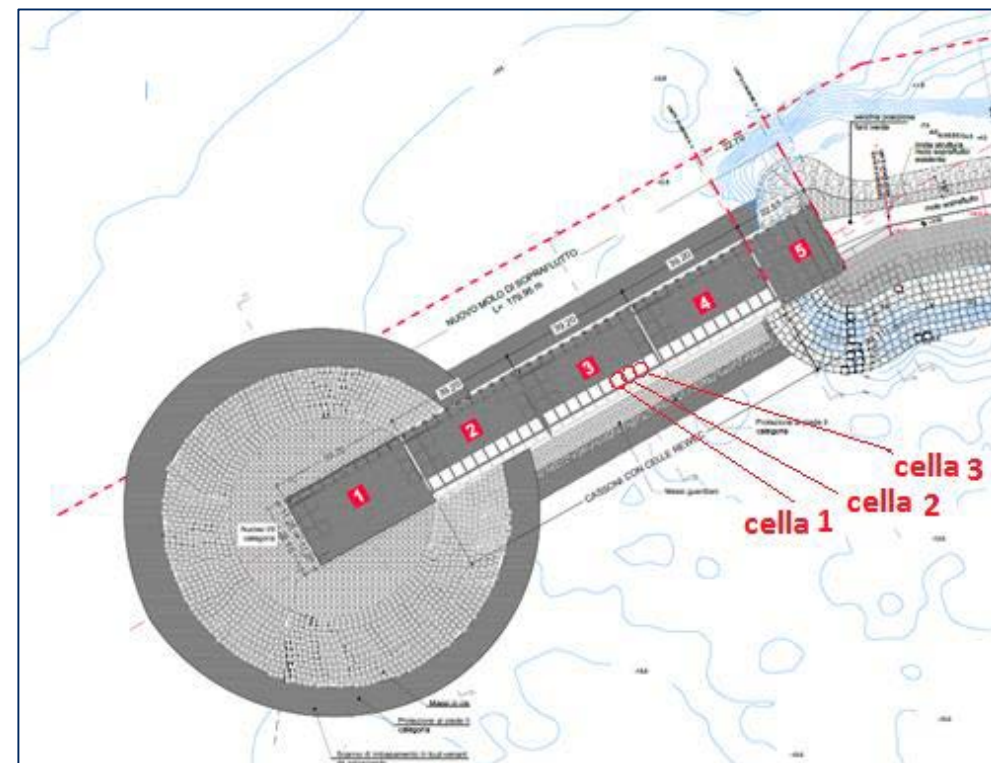
Chambers n.1 - n.3

8 pressure transducers

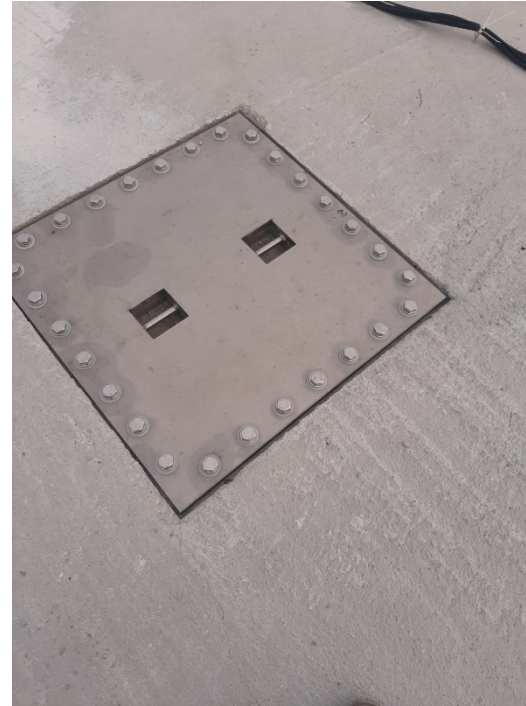
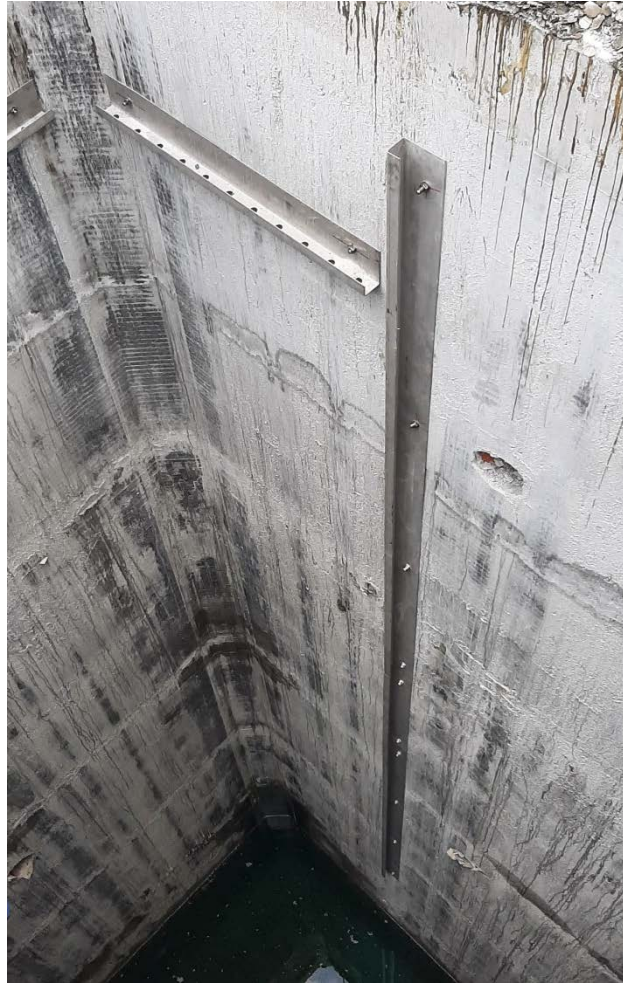
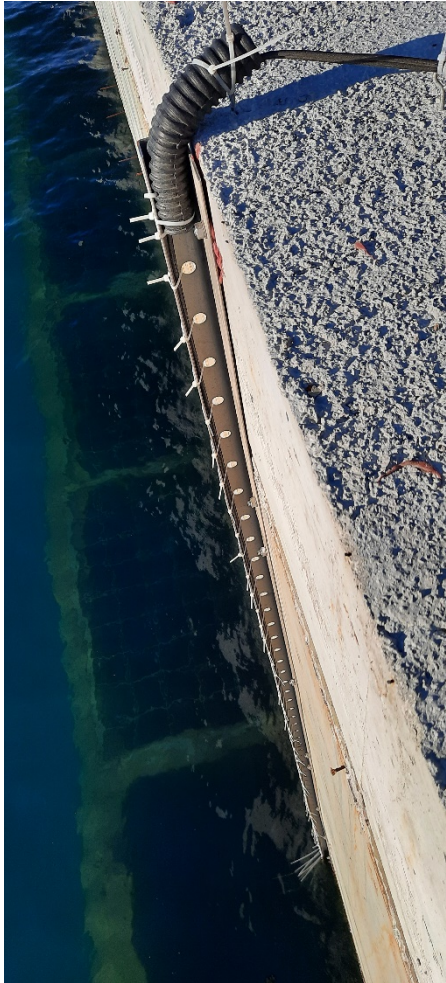
Chamber n.2

19 pressure transducers

1 ultrasonic probe



The monitoring system



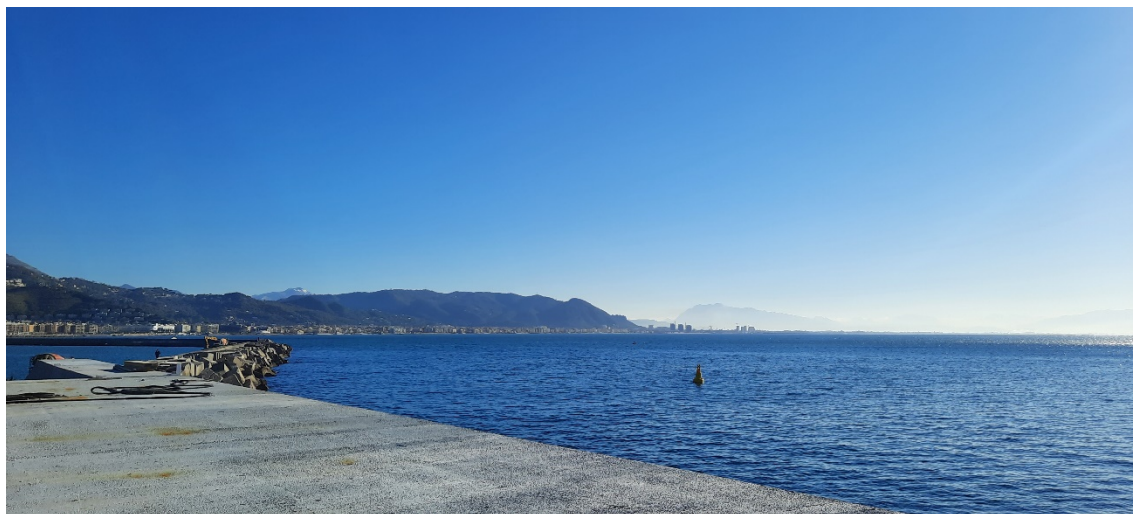
Current status

- REWEC3 caissons construction completed
- Installation of sensors for the monitoring activity
- Realization of the technical room for the acquisition system and other equipment
- Cables connection



Future steps

- Monitoring activity
- Installation of an optimized PTO

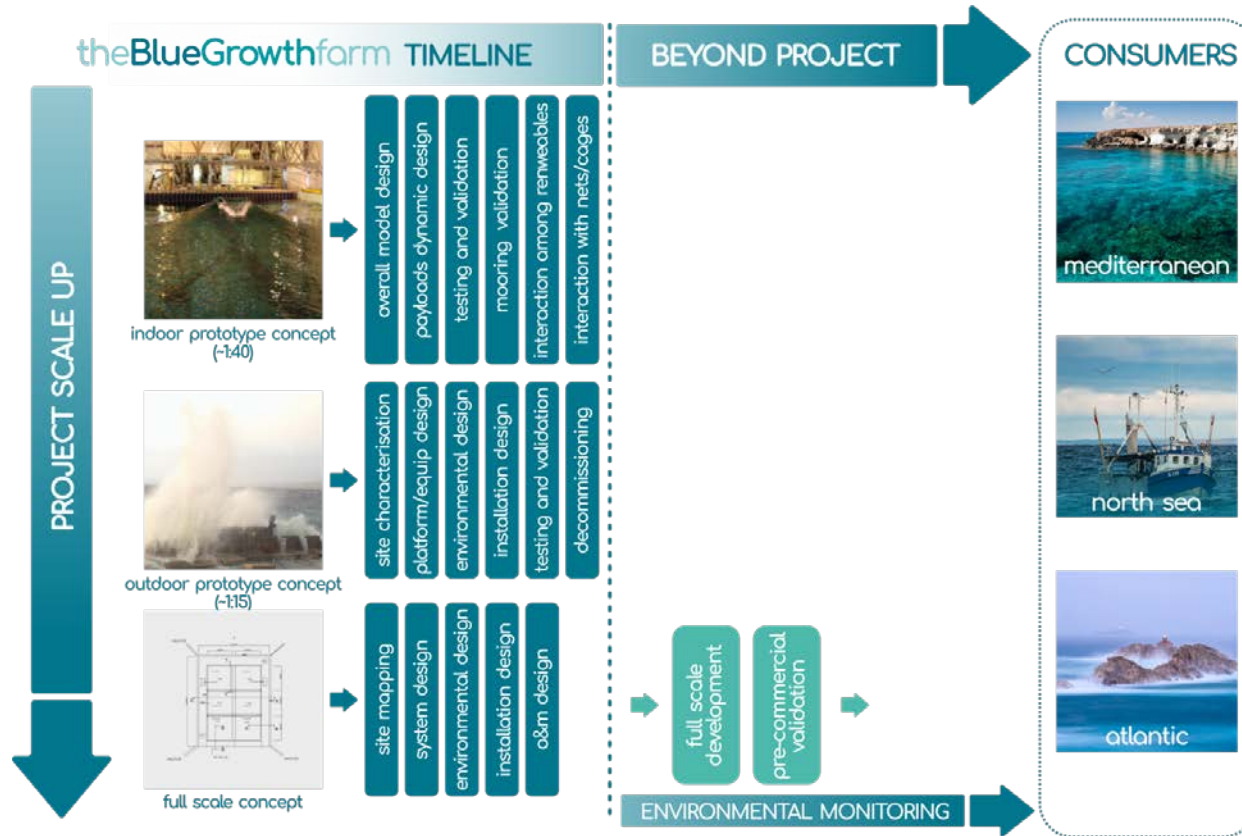


The Blue Growth farm project

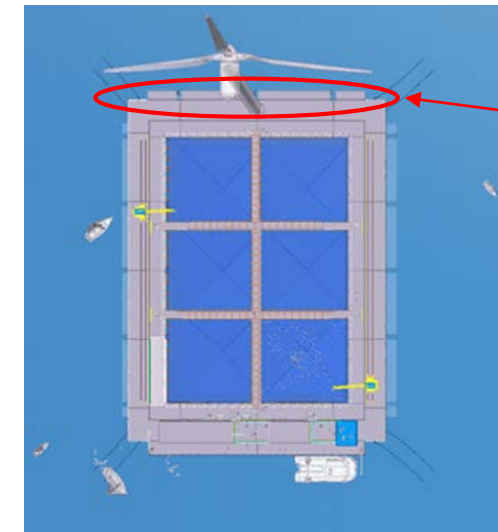
- Horizon2020 – Grant n. 774426
- Development and demonstration of an automated, modular and environmentally friendly multi-functional platform for open sea farm installations of the Blue Growth Industry



The Blue Growth farm project



The platform will use the electricity generated from a wind turbine and a number of wave energy converters, to farm fish in a protected pool at its centre. The ambition is that any extra electricity produced by the renewable technologies can supply the local grid and provide a sea-based charging service for electrical or hybrid vessels.



WECs

The Blue Growth farm project

- Experimental activity at NOEL lab in Reggio Calabria (march–september 2021)
- 1:15 scaled model



THANK YOU



www.wavenergy.it

ANITA SANTORO
PhD in Ocean Engineering
Wavenergy.it srl
e: ceo@wavenergy.it