

**Project title:** FLOTANT – Innovative, low cost, low weight and safe floating wind technology optimized for deep water wind sites

**Partners:** 17 partners from 8 countries

**Duration:** 04/2019 – 04/2022

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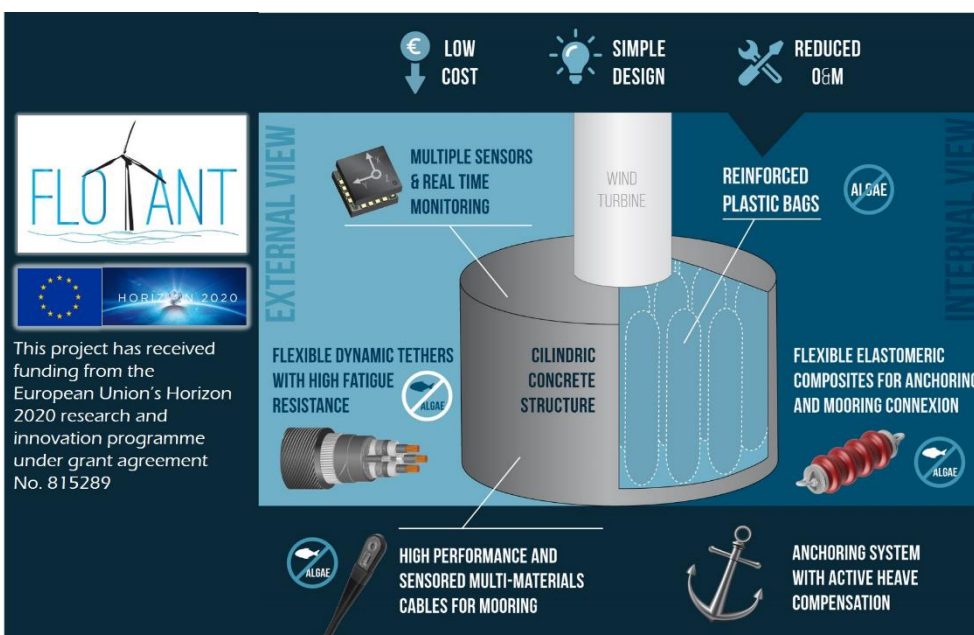
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### Mission Statement

The main objective of FLOTANT project is to develop the conceptual and basic engineering of a hybrid concrete-plastic floating structure implemented for Deep Water Wind Farms (DWWF). FLOTANT includes performance tests of the mooring and anchoring systems and the dynamic cable to improve cost-efficiency, increased flexibility and robustness. The FLOTANT project aims at the concept deployment in water depths from 100 m to 600 m, optimizing the Levelized Cost of Energy (LCOE) of the floating solution (85 – 95 €/MWh by 2030)

### Approach

FLOTANT is proposing to develop an innovative, integrated floating offshore wind turbine (FOW) optimized to operate a typical 10+ MW wind turbine generator (WTG) in deep waters (100 – 600 m).



This will be achieved through the following specific objectives:

- To develop a lightweight, smart and high-performance mooring cabling.
- To optimize mooring line seabed, anchoring and platform connections.
- To develop a lightweight and high-performance dynamic cabling.
- To develop novel components to facilitate quick Plug&Play operations.
- To develop a new solution for offshore floating substructure.
- To optimise global performance of the integrated FLOTANT solution.
- To validate FLOTANT main components.
- To design and assess a cost-efficiency installation and removal techniques based on FLOTANT novel components.
- To develop a full controlled and remote monitoring floating technology.
- To assess and quantify FLOTANT system cost reductions.
- To maximise project sustainability and assess the environmental impact reduction of the novel designed FOW solution.
- To maximize socio-economic impacts of FLOTANT. Including public engagement and social acceptance.

A holistic approach will be taken, and realistic designs will be tested in relevant environments. ITA will be part of two main innovations developed through the FLOTANT project. The Partners TFI Marine and Future Fibres will lead together with ITA the design of a new concept of mooring system based on the use of high-performance polymer/carbon fibre mooring cables. The development of a flexible power cable is also supported by ITA. Challenges besides the sensor integration are especially the integration of anti-bite and antifouling properties to protect the ecological system of the oceans. ITA supports the partner AIMPLAS in the development and implementation of this innovative power cable and the mooring systems.

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