



The Project

The Industrialization setup of a Floating Offshore Wind turbine (INFLOW) project participates in the development of an innovative solution for the offshore wind market. The solution consists of a floating wind turbine with vertical axis. The main role of the project will be to demonstrate the cost competitiveness of the solution and to bridge the gap between the development and industrialization phases of the technology. The development started with the validation of the new technology back in 2009 with the first 35 kW onshore.

In brief, the INFLOW objectives are:

(i) to optimize the prototype developed in the previous phases and (ii) to manage all aspects required to initiate a viable industrialization phase, in order to launch a pilot wind farm and to develop even larger farms in the future. It has to be stressed that the INFLOW project will rely on the results of the onshore wind turbine prototype of the VERTIWIND project. The blades and the arm profiles of the turbine along with arm to blade and arm to mast connections will be optimised, based on the test feedback of VERTIWIND. The floater concept and design will be upgraded, considering more cost effective solutions for a large-scale replication. Consequently the technology during the time frame of INFLOW will be out of the prototype phase and, due the maturity reached, be considered as pre-commercial. These are the main reasons why funding is sought through the European Commission's Seventh Framework Programme (FP7), that specifically addresses this type of innovative technology development phase.



The design has evolved toward an optimised system of 2 MW with two contra-rotating wind turbines with two straight blades each instead of a single turbine with three helical blades. The floating support of the first 2 MW offshore prototype to be tested in the INFLOW project is still a tri-floater system. Subsequent plans consider a pilot wind farm with multiple contra-rotating 5 MW wind turbines with a correspondingly optimized floating system. The delays in the VERTIWIND and the VERTIFLOAT projects have impacted the INFLOW project roadmap. An extension of the programme until August 2017 has been approved by the European Commission in December 2015.

