

European project sets out to boost the wind energy sector by further improving the reliability of wind turbines

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The WINDTRUST project kicked off in September 2013 with the objective of improving the competitiveness of the wind energy sector by developing and testing innovative components to further improve turbine reliability.

The effectiveness of [wind energy](#) generation depends on the wind turbine reliability and the ability to minimise down-times. WINDTRUST will meet this objective of improving the [competitiveness](#) of the wind energy sector by further enhancing the design of three key components with high improvement potential: the rotor blades, the power electronics and the wind turbine controller. For the blades, the use of carbon fiber will be optimised for a better cost-efficiency, while [power electronics](#) will be made more reliable through a new design that involves fewer and better integrated components. At the same time, WINDTRUST will evaluate several control algorithms in order to improve the detection of faults and the prevention of failures, thus contributing to the overall [reliability](#) of [wind turbines](#).

During the 3-year [project](#), key industrial players and research centers will work together to demonstrate the technical and economic feasibility of the selected technological solutions by fitting the new components onto an onshore 2 MW prototype turbine. The results will be extrapolated for implementation on larger turbines and off-shore locations. As part of the project, iCons's main role will be to disseminate

the project results and achieve the highest possible project impact and visibility, in close collaboration with Greenovate!Europe.

Increasing the performance and durability of these elements will positively affect the economic outcome of wind energy projects. Mauro Villanueva, Technology Development Director of Gamesa and Coordinator of WINDTRUST underlines: "the project is very practice-oriented. It will add practical experience to the existing theoretical data and be of direct use for the industry".

Besides the expected gain in performance, WINDTRUST will perform a thorough cost-analysis and develop a business plan for each of the new components, thus providing the tools for a successful market uptake.

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