WINTUR Demo

In-situ wireless monitoring of on- and offshore WIND TURbine blades using energy harvesting technology – DEMOnstration / WINTUR Demo

Project code: SME-2012-1-315207
ES programme: Framework Programme 7 (FP7)
Duration of the project: 2012-2014

The objective of the project

The WINTUR Demo project will implement the technology demonstrated at the end of the preceding Research for SMEs project WINTUR. The purpose of the WINTUR Demo project is to further accelerate the pace of the technologies towards commercial maturity.

The follow-on project, WINTUR Demo, will comprise an industrialised monitoring system that will reliably inspect the structural integrity of the composite materials within a wind turbine blade.

Motivation

The need of the WINTUR DEMO project, arises because the vast majority of wind turbine blades are designed without the acknowledgement or the need for in-situ inspection. The technique presently used is visual inspection - a relatively slow, potentially dangerous, expensive technique of providing the user with the blade information sought. At present, the industry deploys hands-on-action as deemed necessary – usually long before a critical failure occurs.

The aim is to confine repairs to straight-forward up-tower repairs to prevent costly down-tower serious repairs that may require extended shutdowns. Autonomous condition monitoring will reduce or eliminate the need for inspection personnel to routinely visit these installations, which are often situated in hard-to-access sites in remote parts of the country.

Ultrasound institute

Will support the SMEs to all the technical issues concerning feasibility of system, validation of the prototype and installation procedures to new or existing wind farms.

Project partners

Innovative Technology & Science Ltd (UK), Miyama Composite Materials SA (Greece), A Division of Cellbond Ltd (UK), Smart Material GmbH (Germany), Innora Proigmena Technologika Systimata kai Ypiresies Eteria Periorismenis Ethynys (EPE) (Greece), Tecnitest Ingenieros S.L (Spain), TWI Ltd (UK), Kaunas University of Technology (Lithuania), Kentro Ereunias Technologias kai Anaptyxis Thessalias (Greece).