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News

Innovation and Industry

Wind Energy

Press release
Paris, 25th June 2024

The CAP project (Contrôle Avancé des Parcs éoliens - Advanced Wind Farm Control) led by GreenWITS, in partnership with IFPEN and Epsiline has been awarded funding by ADEME and France 2030 as part of the DEMO-TASE call for projects.

The main objective of the CAP project is to demonstrate the performance of a control solution at the farm scale in real conditions, using wake steering and allowing significant gains in wind farm production by reducing the impact of the wake. This solution is co-developed by the consortium and marketed by GreenWITS.
The production of wind farms, particularly offshore ones, is largely impacted by wake losses resulting from aerodynamic interactions between wind turbines. Wake redirection techniques make it possible to limit these interactions by orienting the wind turbines in a collaborative way, but they are very difficult to implement in real time because they require a precise knowledge of the wind field in the farm. The innovative solution developed within the CAP project overcomes these difficulties thanks to closed-loop control, based on GreenWITS digital solutions derived from IFPEN's R&D and on the use of wind measurement by Epsiline's WindEagle lidar, and can achieve production gains of more than 3%.
The 4-year CAP project aims to demonstrate and certify the performance of this solution on an offshore and on an onshore wind farm. This ambitious project will contribute to the marketing of an innovative solution that will strengthen the competitiveness of the onshore, fixed offshore and floating offshore wind energy sectors, and can be deployed on farms already in service or on new projects.

Daniel AVERBUCH, **President of GreenWITS**, said: *" We are delighted that the CAP project has been selected by ADEME for France 2030 funding; By relying on a strong and close partnership, the project will demonstrate and certify the performance of our wind turbine control solution at farm scale."*

Benjamin HERZHAFT, **Executive Vice President of IFPEN's Energy Systems Results Center**, said: *"France 2030 offers the CAP project consortium the opportunity to implement innovative wind turbine control technologies derived from IFPEN R&D based on the redirection of wake effects within wind farms. IFPEN is proud to support two young French companies in this new field, including its subsidiary GreenWITS."*

Christophe LEPAYSAN, **President of Epsiline**, said: "We are honored that the CAP project is a winner of the France 2030 program. This selection validates our efforts to innovate and offer sustainable and competitive solutions. It offers a unique opportunity to strengthen our position in the wind energy sector."

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About GreenWITS
GreenWITS offers advanced simulation and digital solutions to wind farm developers and operators to improve performance and reduce risks. Building on over 12 years of R&D at IFPEN, GreenWITS' offerings cover the design and operation phases of wind farms. GreenWITS provides solutions for

wind farm design, advanced turbine and foundation engineering, digital performance and structural health monitoring, and wind turbine control at the farm scale. GreenWITS is an IFPEN Group company.

About IFP Energies nouvelles
IFP Energies nouvelles (IFPEN) is a major research and training player in the fields of energy, transport and the environment. From scientific concepts within the framework of fundamental research, through to technological solutions in the context of applied research, innovation is central to its activities, hinged around four strategic directions: climate, environment and circular economy – renewable energies – sustainable mobility – responsible oil and gas. IFPEN develops innovative solutions across the entire wind energy value chain, from wind resource assessment to the operation and maintenance of wind turbines and wind farms.

About Epsiline
EPSILINE is an innovative company located in Toulouse (headquarters), Madrid & Dublin offering cutting-edge technological solutions that enable wind farm operators around the world to maximize wind turbine efficiency, increase their lifespan, and reduce maintenance costs. EPSILINE has deployed its solutions in 20 countries across 400 wind farms in Europe, North and Latin America, and Asia. More information on the website epsiline.com

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