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Launch of the Velella R&D project aiming at reducing the environmental impact of floating wind turbines

With a French Government grant of 5.7 million euros (as part of the" France 2030" program implemented by ADEME following the "DEMO Tase" call for projects), Velella has for objective to qualify several technology bricks & innovative methods needed to prepare the deployment of commercial floating wind projects under the best economic, social & environmental conditions.
This project will be a first in the MRE sector: each innovation will be driven by an eco-design approach, from life cycle analysis to recyclability and impact on the underwater environment. The Velella R&D project project brings together multiple internationally recognized industrial and academic players: BW Ideol, as consortium and project leader, Centrale Nantes, the OPEN-C Foundation, IFREMER, ENSTA Bretagne and IVM technologies.

This project will rely on the proven and patented floating technology designed by BW Ideol to structure its research and innovation activities. Lasting 4 years, the project is built around 3 main axes.

The first axis aims at pursuing efforts to optimize the economic and environmental performance of the BW Ideol floater, particularly within the framework of tomorrow's largest wind turbines (>20 MW).

The second axis will feature the on-site deployment of mooring lines made up of innovative materials, and by the implementation of new underwater surveillance and inspection methods to further reduce costs during operation.

The evaluation of socio-economic impacts and the structuring of the floating wind power sector will form the third axis.

Finally - and this is quite unique for such a marine renewable energy project – all efforts will be guided by an eco-design approach, where each innovation will be analyzed & assessed from life cycle analysis (LCA), recyclability and potential consequences on the marine environment points of view.

Tests will be carried out on various sites and assets owned by the partners, including BW Ideol's Floatgen wind turbine operating successfully for the last 5 years on Centrale Nantes's SEM-REV test site off Le Croisic, test site now operated by the OPEN-C Foundation.

"We are very happy to receive support from ADEME for this project. VELELLA is a key project whose objective is to develop technologies and methods to reduce the construction and operating costs of floating wind farms, while improving reliability and mitigating environmental impact. The environment

is becoming a priority and this project is once again an opportunity to demonstrate our commitment in this area" said Paul de la Guérivière, CEO of BW Ideol.

For Jean-Baptiste Avrillier, Director of Centrale Nantes*: "After hosting Floatgen on our offshore test-site for 4 years, we are particularly excited at the prospect of making our contribution to the Velella project. The themes, still little mentioned in the sector, related to the aging of concrete, the analysis of the life cycle and the recyclability of solutions, or the environmental impact study are in line with our commitment to sustainable development ».*

According to Bertrand Alessandrini, forerunner of the OPEN-C Foundation*, "The Velella project allows the OPEN-C Foundation to build feedback on 8 years of tests, a rarity even today in floating wind power. The data from the evaluation over several years of the socio-economic impacts and recyclability of wind turbines are now essential subjects for the development of the sector. The infrastructures and teams of the OPEN-C Foundation are eager to contribute to this new stage in the reception of Floatgen on the SEM-REV site".*

Bruno Gruselle, Managing Director of ENSTA Bretagne, declared *"By participating in the Velella R&D project, ENSTA Bretagne brings its expertise in the mechanical behavior of materials and structures in the marine environment and its ability to contribute to innovation and optimization programs, marine renewable energy capture systems, particularly in floating wind power, a field that the school knows well. »*

Vincent Chiaroni, President of IVM Technologies, declared *"The acceleration of the development of offshore wind farms induces economic and technical constraints that challenge historical models of inspection and maintenance. Committed since its creation to the optimization of underwater inspections, IVM Technologies aims to bring innovations that contribute to limiting the cost of offshore wind energy. We are delighted with the support provided by ADEME to the Velella project, which thus contributes to the social and economic development of IVM technologies."*

PRESS CONTACTS

Nicolas de Kerangal, Chief Financial & Partnerships Officer at BW Ideol – ir@bw-ideol.com
Thomas Soulard, ingénieur de recherche, responsable de projet VELELLA – thomas.soulard@ec-nantes.fr
Arthur de Pas, Responsable communication Ifremer Bretagne Manche Mer du Nord – Arthur.De.Pas@ifremer.fr

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