Smart Blue Regions
Output 4.3 - Transnational blue growth cooperation projects

Project theme: Modular production and installation of the OWF mills

Challenge to be addressed:
OW constructions are getting bigger and heavier, their transport becomes an issue. On site modular production could be a solution, followed by modular installation of the mills in situ at the sea. This would require innovative technology and equipment.

Expected results:
Feasibility study, risks and liability issues?, cost-benefit in-depth analysis.

Target groups:
- Turbine producers,
- Monopile producers,
- OWF installators and operators
- ?

Main activities and timeframe:
Proposal from Paweł Flaszyński (Szewalski Institute of Fluid-Flow Machinery of Polish Academy of Sciences (IMP PAN)): Aerodynamic loading evaluation by means of numerical simulations (3D flow - CFD) and/or experimental investigations in wind tunnel. Numerical simulations for hydrodynamic analysis

Partnership:
Idea proposed by Lykke Joergen (Inrotech)

Organisations that expressed their interest: TELEMOD, A&O Experts, Szewalski Institute of Fluid-Flow Machinery of Polish Academy of Sciences (IMP PAN), LOTOS Petrobaltic

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Possible contribution:

While modular construction of offshore wind turbines can be a successful solution to numerous logistical issues, the components require a careful application of joining and fastening methods in order to ensure the robustness of the connections between the individual modules. With our experience in numerical modelling and mechanical design, A&O EXPERT can develop appropriate joining technology ensuring rigidity, ease of assembly, long lifespan, and maintainability of the connections. This can be accomplished with self-locking couplings, pre-tensioned elements and other fastener solutions.

At A&O EXPERT, we can contribute to this project with the following:
- development of module joints
- numerical analysis of various designs
- prototyping and testing

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