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Sensorisation and bio-inspired drones: Navantia Seanergies applies dual-use innovation to offshore wind

Navantia Seanergies has presented at WindEurope, Europe's leading wind energy event, the dual-use applications of its technological developments for offshore wind, through the collaboration between Navantia's deep-tech research and development area, *monodon*, and the Navantia COEX Green Energies centre of excellence.

The heads of both innovation areas, Patricia Sierra and Sara Oliveira, also outlined how early-stage technological developments can evolve into solutions applicable to offshore projects, with a direct impact on design, decision-making, and the reduction of risks and costs.

The projects presented include an advanced sensorisation system for structural health monitoring of offshore infrastructures; a biofueling project aimed at improving the efficiency and sustainability of operations; a bio-inspired drone modelled on a manta ray, designed for seabed data collection and featuring dual-use applications; and a seabed sensing and mapping device with potential use in site surveys and in the design of mooring solutions for offshore wind.

These developments make it possible to explore innovative approaches and validate high-potential solutions prior to industrialisation. In this context, *monodon* acts as the hub for the research and development of disruptive technologies, while Navantia COEX Green Energies plays a key role in steering these technologies towards scalable applications, aligned with the technical, operational and commercial requirements of the offshore market.

"Innovation is no longer an option but a necessity to anticipate the future, and our shared objective is to ensure that innovation delivers real impact for the offshore wind business," both representatives agreed during the session held at the Navantia Seanergies stand at WindEurope.

This approach enables Navantia Seanergies to strengthen its technological positioning, support more informed design decisions, optimise solutions for clients and market needs, and contribute to the development of offshore projects that are more efficient, competitive and sustainable, in line with the protection of the marine environment.

ABOUT NAVANTIA SEANERGIES:

Navantia Seanergies is the division created by Navantia to contribute to the development of green energy through the construction of components for offshore wind farms and the development of hydrogen as an energy transport vector. Navantia Seanergies, which arises from synergies with the other divisions of the state-owned company specializing in shipbuilding and high-technology systems integration, provides all types of solutions in foundations for offshore wind farms and substations and represents a strong industrial partner, with proven experience, innovative capacity, modern facilities, and a consolidated value chain in support of the energy transition.

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