Gazelle Wind Power Unveils Third Generation Floating Offshore Wind Platform Technology

DUBLIN, Ireland (April 25, 2023) - Gazelle Wind Power (Gazelle), the developer of a modular floating offshore wind platform, is unveiling third generation technology this week at WindEurope 2023 in Copenhagen, Denmark. The company's enhanced design further refines Gazelle's solution to address the primary challenges facing the offshore wind industry—such as cost, supply chain bottlenecks, and sustainability—by providing a lightweight, cheaper design that minimizes the impact on fragile marine environments while using existing port infrastructure.

As a third-generation technology, the platform delivers enhanced mooring innovation that enables serial production. The platform makes first generation technology—which was primarily designed to float and survive harsh ocean conditions—obsolete and improves on second generation designs that are focused on industrialization. Instead, Gazelle's platform moves away from archaic models that are stationary, heavy, bulky, and difficult to assemble and transport while reducing costs by 30% compared to conventional semi-submersible designs. Part of this improvement comes from the reduction in steel versus traditional offshore platforms. For example, a one-gigawatt offshore wind farm using Gazelle's solution would save 71 kt of steel and reduce emissions of approximately 100 kt of carbon dioxide.

The company's platform can be quickly and simply installed at project sites because it requires no specialist cranes or vessels thanks to a cost-effective, innovative design using globally available components and a modular assembly process.

"On top of lowering costs and taking advantage of pre-existing infrastructure, every aspect of Gazelle's floating offshore wind platform is designed to minimize environmental impact by using less steel and materials that protect the biodiversity of marine ecosystems, eliminating seabed scouring, and reducing installation impact," said Gazelle CTO Jason Wormald.

The platform's unique geometry provides reduced draft in port, which means it floats higher in the water enabling the use of shallow ports with high stability in towing and wet storage. Pivoting arms allow the platform to move with the wind, waves, and tides that result in lower forces, enabling a lighter—and therefore cheaper—structure.

The Gazelle platform utilizes an innovative, dynamic mooring system representing a paradigm shift from an active ballast to a natural, passive system that balances forces and motions through a counterweight, keeping the turbine pitch low and improving operational efficiency. Vertical mooring lines attached to the pivoting arms reduce the platform's environmental footprint by minimizing impact and allowing for a 75% reduction in mooring length when compared to semi-submersibles with catenary mooring in depths of 100 meters or more.

IMAGE: Gazelle Wind Power's Next Generation Floating Offshore Wind Platform

VIDEO: How it Works - Gazelle Wind Power's Floating Offshore Wind Platform

"Through industrial innovation, the platform components can be adjusted to accommodate all forecasted offshore wind turbine sizes, including the current 15MW or greater capacities," said Wormald. "Additionally, our platform can be produced anywhere in the world, supporting job creation through regionalized manufacturing."

For more information on the design of our revolutionary floating offshore wind platform, visit our team at WindEurope (Booth S10 in the Startup Pavilion), or visit our website at https://gazellewindpower.com/.

About Gazelle Wind Power

Gazelle Wind Power Limited is unlocking the massive deep-water offshore wind market to achieve global decarbonisation. The company's durable, disruptive hybrid floating platform with a high stability attenuated pitch surmounts the current barriers of buoyancy and geographic limitations while reducing costs and preserving fragile marine environments. The company is based in Dublin and has a presence in Dubai, London, Madrid, and Paris. For more information, visit www.gazellewindpower.com.

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