ROVS SUCCESSFULLY PROVIDE OFFSHORE WIND INSTALLATION SERVICES

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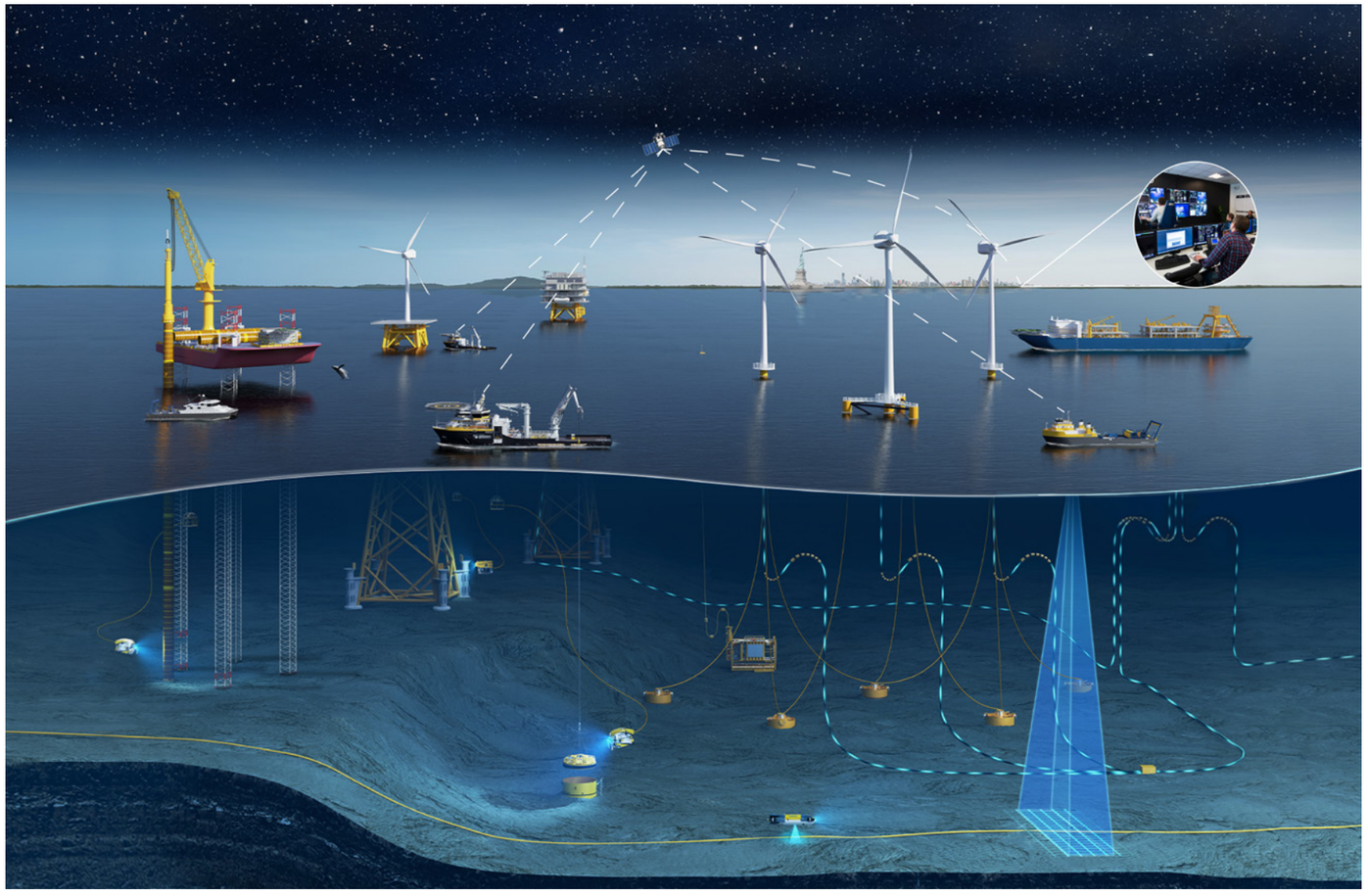
The offshore wind and renewables market faces several significant challenges, including the need for precise, efficient, and safe operations in harsh underwater environments.

Traditional methods relying on human divers can be risky and less effective, particularly in deep or murky waters. Remotely operated vehicles (ROVs) present a superior alternative, offering enhanced safety, operational efficiency, and the capability to perform complex tasks in challenging conditions.

Over the last decade, Oceaneering has built a successful track record in the renewable energy sector by delivering safe, cost-effective, and environmentally-friendly offshore projects – from development to decommissioning.



DYNAMIC INTER-ARRAY CABLE INSTALLATION

In the second quarter of 2023, Oceaneering contributed to a groundbreaking project off the Norwegian coast, supporting the installation of dynamic inter-array cables at the world's largest offshore floating wind farm. The project, executed in collaboration with Ocean Installer and their Normand Vision vessel, leveraged two Millennium ROVs from Oceaneering to perform a series of intricate tasks.

The 12-person Oceaneering team embarked on a 45-day mission, which involved extensive tooling reconfigurations of the ROVs. The primary technical challenge was ensuring precise load transfers from the installation vessel to the floating structures. This was achieved using clump weights deployed to the seafloor and a modified ROV interface frame designed to relieve the ROV manipulators. The expertise of Oceaneering's ROV pilots was pivotal, as they managed the project's complex operations without incident.

Following the installation, the ROVs conducted post-installation surveys using multibeam echo sounder (MBES) equipment mounted on the vehicles.

These surveys confirmed the successful deployment of the inter-array cables, which linked existing turbines to five new units commissioned in August 2023. This connection enabled a significant reduction in CO2 emissions by providing cleaner energy to nearby oil and gas assets.

SPANISH FLOATING WIND TURBINE INSTALLATION

In August 2023, Oceaneering supported the installation of a floating wind turbine off Spain's northeast coast using a Magnum ROV. The project involved a six-person Norwegian-based Oceaneering crew integrated into a larger project team with various third parties.

The technical scope included performing disconnect operations, setting up the tension required for positioning the turbine with a single point of mooring, and executing the pull-in and as-left surveys of the dynamic cable. The ROV operations were executed smoothly over nearly two weeks, with no downtime reported. The successful installation of the turbine allowed the client to advance their activities at the site efficiently.

ROV INSTALLATION SUPPORT FOR FRENCH PROJECT

In October 2023, Oceaneering's ROVs facilitated the installation of three floating wind turbines off France's southern coast. The operation, conducted from the Normand Installer vessel, involved two Millennium ROVs and a seven-person Oceaneering crew.

Despite the project scope requiring only one ROV, having a second ROV on standby ensured operational continuity and enhanced safety. The primary technical challenge involved executing precise manoeuvres in shallow waters with poor visibility. The ROVs were equipped with a suction skid to enable the landing of suction piles. This required the pilots to perform precise reverse manoeuvres onto an orientation plate, secure the piles, and hold their position while the piles were lowered into the seabed.

Additionally, the ROVs were tasked with installing mooring lines, engaging locking pins, and securing tension lines at the seabed. These operations were completed efficiently and without incident, underscoring the reliability and effectiveness of Oceaneering's ROV technology in challenging conditions.

Oceaneering's involvement in these global floating offshore wind projects highlights the company's technical proficiency and adaptability in the sector. Our technologies and services support low-carbon and renewables projects, including fixed and floating offshore wind, hydrogen, and carbon capture and storage developments.

By employing advanced ROV technology and a skilled workforce, we consistently deliver high-quality, efficient, and safe solutions. Oceaneering's successful track record in renewable energy projects positions the company as a key service provider in the transition to cleaner energy sources.

For further details on Oceaneering's renewable energy solutions, please visit Oceaneering.com/renewables