



Case Study

Continuing a decade-long partnership, AcraDyne HT Tools continue to be the bolting tools of choice for GE Renewable Energy's Haliade-X offshore wind turbine assembly

Heavy Hitter for Haliade-X

Building one of the world's most powerful offshore wind turbine presents unique challenges. At 260 meters in height (close to the height of the Eiffel Tower) GE's Haliade-X 14 MW turbine unites a 220-meter rotor, three 107-meter long carbon/hybrid blades, and the largest wind PM (permanent magnet) generator in a massive structure capable of powering one UK household for two days with just one rotation.

Construction on such a large scale requires components that are able to withstand extreme loads and extreme conditions. The tools used to assemble these components must also be powerful and reliable. Structural integrity hinges on accurate and consistent bolting. To meet this demand, AcraDyne has been awarded several contracts to supply high-capability "smart" tooling on all critical fastening applications for the GE Haliade-X 14 MW turbine. Already a partner with GE since 2013 at the startup of the GE/Alstom wind turbine production plant in St. Nazaire, France, AcraDyne supplies HT tools, chosen by GE because of their unique features and technical capabilities that outperform the competition.

Traditionally in the wind industry, hydraulic tools have been used to fasten critical bolts because of their high working torque and power-to-weight ratio. However, hydraulic tools are heavy and slow. Also, applications in the wind industry may require better accuracy than hydraulic tools can deliver. In an industry that is necessarily moving toward digital tools for analyzing data, remote diagnostics, and optimizing operations, AcraDyne's advanced precision-instrumented, data-generating fastening system, which is governed by the state-of-the-art Gen IV iEC Controller, is well-suited to this evolution. The AcraDyne HT DC Nutrunner System provides faster speed and more accurate results than hydraulic tools. Fastening specs can be continually monitored, adjusted, and proven. This makes AcraDyne tools some of the most accurate and reliable high-torque tools in the world.

AcraDyne HT DC Nutrunner's offer many unique tool configurations, providing flexibility on a wide variety of application demands. Multiple handle styles ensure the safest, most ergonomic tool for a specific application. An optional dual-lever design helps further safeguard operators from potential injury.

Need

The GE Renewable's project requires many powerful high torque tools for assembling one of the world's largest wind turbine, the Haliade-X.

Challenge

Tools for this job need to be powerful and accurate enough to assemble larger wind tower components than have ever been assembled, including longer blades and bigger rotors.

Solution

AcraDyne provides multiple solutions for various bolting stages in the production line. AcraDyne tailors each solution to the specific fastening application, and provides tools capable of the reliability and data traceability required for safety and verification.

Result

Solutions meet all of the customer's expectations and requirements. AcraDyne tools are used throughout the Haliade-X manufacturing facilities.



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