



# Leading bolt inspection services across the wind sector.

## BUSINESS PROFILE

- Echobolt was founded in 2018 to provide specialist bolt inspection and maintenance services for the wind industry.
- With a highly competent, diverse team of energy industry professionals, EchoBolt is passionate about making a genuine difference in the sector.
- EchoBolt has developed market-leading bolt inspection technologies to enable owners and operators to better manage asset health throughout the lifecycle.

## SUPPORT RECEIVED



GRANT FUNDING

EchoBolt is a leading provider of bolt integrity management services for more than 10GW of installed wind capacity, empowering operators to switch from time-based torque maintenance to informed, condition-based practices.

EchoBolt's ultrasonic hardware and software applications deliver fast, accurate, and repeatable bolt preload measurements. Technicians can inspect bolts in under 10 seconds each, eliminating routine re-torquing, reducing maintenance costs by up to 90%, and boosting turbine availability by avoiding significant planned downtime associated with extensive use of heavy, hydraulic tightening tools.

## A closer look at bolt tightening

Bolt tightening is the single largest scheduled maintenance task in offshore wind operations, an often time-consuming and costly process. EchoBolt's innovative software, BoltWatch, addresses this challenge by giving customers real-time and retrospective insight into bolt integrity through a cloud-based digital analytics platform, visualising and validating asset integrity, and confirming the effectiveness of installation practices.

Their latest innovation, BoltWave takes this a step further. The lightweight, iOS integrated, ultrasonic inspection device has been developed through EchoBolt's vast experience in delivering services, integrating seamlessly with BoltWatch and enabling quick, accurate on-site measurements. This not only accelerates inspection workflows but also empowers operators with self-perform capability, reducing reliance on external services and unlocking greater operational efficiency across offshore wind assets.

## Solutions for the offshore wind industry



EchoBolt offers advanced ultrasonic inspection of bolted connections to confirm installation preload; monitor operational bolt condition to eliminate routine retightening; manage end of warranty condition; and validate life extension.

EchoBolt's in-house developed BoltWave technology fully integrates with their BoltWatch platform, delivering a full-service solution for structural integrity management.

EchoBolt's technology can reduce bolt maintenance costs by up to 90%, driving significant savings for offshore wind operators.

## Impact of the support

Commercial licensing of EchoBolt's ultrasonic bolt inspection hardware, BoltWave and an increase in 3 FTE during 2024 to directly support BoltWave development.

Expansion of contracts to cover more than 35% of the UK's Offshore Wind capacity.

Estimated 15% increase in turnover and 60% increase in global exports by 2027 with project support.



## Before

Prior to engaging with OWGP, EchoBolt was a start-up SME operating in the offshore wind sector. The company conducted routine on-site inspections for clients, followed by periodic reporting of asset integrity.

EchoBolt sought access to a larger share of the market with its ultrasonic inspection technology, BoltWatch – an internal data analysis software tool without a customer interface.

## During

After securing funding through an OWGP Development Grant funding programme, EchoBolt embarked on a project with ORE Catapult to conduct a market assessment and cost reduction analysis of its inspection technology, clearly identifying the requirements to facilitate a self-perform feature for customers as a value driver for its growth.

Working with major players across the renewables sector including RWE and SSE Renewables, user requirements were mapped and software development targeted to overcome customer pain points, resulting in a software product truly optimised for the sector.

Building on the success of this initial engagement, EchoBolt secured a second Development Grant from OWGP to accelerate the commercialisation of BoltWave, a next-generation hardware and software system for bolt inspections. Designed using novel in-house ultrasonic technology, BoltWave simplifies and streamlines inspection workflows, sending real-time data directly to BoltWatch via a connected mobile app.

EchoBolt's development of BoltWave has brought together engineering experience and expertise in-house, including customer feedback, to ensure end user ease of use whilst ensuring optimum speed and accuracy of measurements. EchoBolt's development of BoltWave marks a step-change in customer enablement.

## After

OWGP's support has been instrumental in enabling EchoBolt to scale its technology and expand its presence across the offshore wind sector. Since completing its development projects, the company has launched a fully integrated bolt integrity platform, combining BoltWave hardware, a mobile user interface, and the BoltWatch analytics portal, designed to eliminate re-torquing, improve safety, and reduce inspection time to seconds per bolt.

EchoBolt's solutions are now deployed across over 10 GW of wind capacity, delivering up to £1 million in annual savings per installed GW and reducing bolt integrity management costs by as much as 90%. The company works directly with many of the sector's leading operators, and continues to grow its team of engineers, developers, and specialists, now numbering fifteen across site services, product development, and business operations.



OWGP's support has been invaluable to EchoBolt's growth. Development grant funding initially launched the evolution of our BoltWatch asset health platform, and now, with our groundbreaking BoltWave technology, we offer customers a truly integrated approach to bolt condition management.



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