

04 What does great innovation look like?

A picture says a thousand words, and the below case studies give colour to what we mean by great innovation. All of these companies have found a niche and leant on a range of support mechanisms to enable them to develop potentially game changing solutions.

Case Study: Proserv and ECG™: a disruptive subsea cable monitoring system

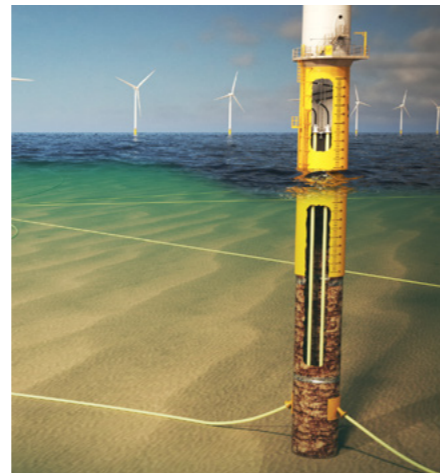
Related innovation priority: Minimising Cable Failures

Key enabler: Public R&D funding, Industrial Sponsorship

The ECG™ holistic cable monitoring system enables anomalies in cable performance at offshore wind farms to be automatically detected before faults occur.

A single cable failure in an offshore wind farm can cost £12 m to fix and lead to two months of downtime. An industry consortium led by Proserv set out to apply diverse expertise to address these challenges in offshore wind. With around £1m grant funding from InnovateUK and support from Offshore

Renewable Energy Catapult (OREC), the consortium combined the expertise of Proserv, Strathclyde University spin-out Synaptec and BPP Renewables. The collaboration led to the development of a successful product which, in 2022 secured a contract to monitor inter-array cables on phases A and B of Dogger Bank wind farm – among the World's largest. The cable monitoring system will be utilised later in 2023 on export and inter array cables at Hywind Scotland floating wind farm – the first of its kind in the World. .



Case Study: BladeBUG

Related innovation priority: O&M Robotics

Key enabler: Access to Test Facilities; Public R&D Funding

BladeBUG is a multifunctional compact robot designed to accelerate the green energy transition and presents its solution as a safe and efficient platform for inspecting and repairing wind turbine blades.

The roadmap to achieving commercial acceptance of their unique technology requires rigorous testing, verification and validation prior to piloting their technology with end users. BladeBUG

has worked closely with the Offshore Renewable Energy Catapult to test and validate their prototype robots by utilising the open access Levenmouth Demonstration Turbine and the Blyth test facilities. As part of this collaboration, BladeBUG successfully performed the world's first robotic blade walk on an offshore wind turbine and were able to validate a lightning protection test on an offshore wind turbine whilst being operated remotely.



Case Study: ELECTRODE

Related innovation priority: Minimise Cable Failures

Key enabler: Data sharing & coordination

ELECTRODE is a mechanism for the collection of anonymous data around subsea cable failures in offshore wind.

This data will provide insight that will pave the way for advancements and innovative solutions. The new platform will track failures, service downtime, as

well as the effectiveness of the repair and monitoring procedures, and use of technology in cable failures with anonymity as the core principle. Owner/ Operators will be able to identify recurring issues, accelerate innovation in reliability, and benchmark themselves against an industry average.



Case Study: Supergen ORE

Related innovation priority: Various

Key enabler: Stakeholder leadership and coordination

Established in 2018, the Supergen Offshore Renewable Energy (ORE) Hub is a £9m Engineering and Physical Research Council (EPSRC) funded programme providing research leadership to connect academia, industry, policy and public stakeholders, inspiring innovation and maximising societal value in offshore wind, wave and tidal energy.

Led by the University of Plymouth, the Supergen ORE Hub brings together

expertise from multiple UK institutions including University of Edinburgh, University of Aberdeen, University of Exeter, University of Hull, University of Manchester, University of Oxford, University of Southampton, University of Strathclyde and University of Warwick. The Supergen ORE Hub vision is to bring together and stimulate synergistic adventurous research that supports and accelerates the development of offshore wind, wave and tidal technologies.

