ORCHIDS Project to Improve Subsea Cable Monitoring

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Fraunhofer UK, Synaptec and the European Marine Energy Centre (EMEC) have teamed up to develop a new way to address cable and electrical infrastructure integrity within the marine renewable energy industry.

Funded by InnovateUK, the ORCHIDS project (Offshore Renewable energy Cable Health monitoring using Integrated Distributed Sensor systems) is looking to enhance subsea cable monitoring capabilities by combining emerging optical sensing techniques to enable a smart cable management system that can be utilised during manufacture, transport, installation, through to end of life.

“Subsea cable health is a particular challenge for marine energy and offshore renewables due to the hostile environment in which they are placed and have to operate,” said David Hytch, Offshore Renewables Specialist at InnovateUK.

“Failure of cables can also lead to costly losses of revenue and hefty repair bills. As business focused innovation experts, Innovate UK recognised the potential benefits of the ORCHIDS project to reduce the cost of offshore renewable energy and improve the use of these technologies for sustainable, secure and competitive power generation in the future.”

The feasibility study will include a market assessment looking at the commercial case for the technology alongside a technical review of different distributed fibre sensing techniques that can operate alongside Synaptec’s offering.

“We are delighted at this opportunity to work with Fraunhofer UK and EMEC to demonstrate the potential to combine our unique electrical sensing technologies with cutting-edge acoustic sensing techniques. We firmly believe that making full use of optical fibres that are now intrinsic to power transmission lines and cables will lead to improved instrumentation coverage in a cost-effective way, and to enabling a smarter, more adaptive electricity network,” Philip Orr, Managing Director at Synaptec Ltd, said.