



Image: MultiLife™ Bearing for Offshore Turbines.
Project team: Pam Robson NWIP Project Manager with Ricardo UK and University of Sheffield.

Project Outline

The Northern Wind Innovation Programme (NWIP), a two year project funded through the Northern Way Partnership and delivered by Narec and Envirolink Northwest was created to support businesses to develop solutions to address the challenges for the deployment of offshore wind turbines.

The aims of the programme were to:

- Drive innovation in the offshore wind sector through provision of a £3 million research fund.
- Support businesses to develop new products and processes and increase knowledge transfer between academia and industry.
- Enable companies with capabilities or potential in the offshore wind sector to access market information, identify and realise these opportunities.
- Enhance the reputation of the north of England as an international centre for wind technology.

Narec developed supply chain mind maps which were information tools allowing companies to engage and appropriately position themselves within the offshore wind sector. Four technology areas were identified as being significant to supply chain development at that point in time, these were:

- AC/DC Electrical Conversion;
- Foundation System Optimisation;
- Bearing Quality Improvement;
- Installation Technologies.

Narec led the project from start to completion and were responsible for:

- Establishing the NWIP;

- Generating applications;
- Facilitating the application process;
- Issuing contracts and collaboration agreements;
- Overseeing the successful projects during the execution phase;
- Generating route-to-market opportunities for the projects.

Project Outline

6 information events were held around northern England and these were followed with 3 workshop events to raise awareness of the project and encourage companies to form a consortia and submit a project application.

The statistics from the selection process was as follows:

- 400 companies registered an interest in the project
- 162 companies attended the information events
- 98 expressions of interest received
- 27 applications received
- 10 project were funded

The projects were independently judged on their technical validity, quality of consortium and ability to deliver their plan as well as potential for business growth. At least two of the successful projects were formed as a direct result of the workshop/facilitation approach.

The standards of applications was extremely high, therefore an additional £400k funding was added to the project allowing for an additional two projects to be included in the programme. Ultimately a total of 10 projects were funded.

Project Summary

The original project outputs agreed at the start including; creating jobs, knowledge transfer from Universities to SMEs, and inclusion of Wind Turbine Producers and Investors have been over achieved. In addition to this, it is anticipated that a further 40-50 jobs will be created as a direct result of the project during the next 2 years and additional private sector investment has already been secured.

The table below outlines the projects and consortium partners.

Other successes include:

- Ricardo reported placing a large order for components as a direct result of meeting a suitable supplier at an NWIP information event.
- At least 3 companies who joined a successful consortia were new entrants to the offshore wind sector as a direct result of NWIP.

- Many of the companies involved in the selection process reported a benefit in attending the events, gaining access to the information on the NWIP website and receiving technical support from Narec.

Future Developments

As a result of NWIP a further 10 follow on projects have been defined and valued at £11 million and are currently being considered for a Regional Growth Fund application or TSB funding. The NWIP process is easily replicated, allowing for similar projects in the future.

For further information visit www.nwip.org or email pamela.robson@narec.co.uk

Projects and Consortium Partners		
Projects	Lead Company	Consortium Partners
Lightweight Turbine Gearbox Feasibility Study	Composite Metal Technology Ltd	David Brown Gear Systems Ltd, Ricardo MTC Ltd, Durham University
Bearing Reliability Test Rig	David Brown Gear Systems Limited	Design Unit – University of Newcastle upon Tyne
MultiLife™ Bearing for Offshore Turbines	Ricardo UK Ltd	University of Sheffield
Understanding bearing reliability in wind turbine permanent magnet generators	Romax Technology Ltd	University of Sheffield
Future HVDC System Topologies	Siemens Transmission and Distribution	University of Sheffield
BearInspect: Novel integrated monitoring system for wind turbine components	TWI Ltd	University of Sheffield, CMR (UK) Ltd, SKM, James Walker & Co Ltd, Applied Inspection Ltd, Le Carbone (GB) Ltd
FabFound – Rapid fabrication of optimised marine wind turbine foundations	TWI Ltd	RCID at Newcastle University, SEtech Ltd, Parson Brinckerhoff Ltd, McNulty Offshore Construction Ltd, Vattenfall Wind Power, Scottish Power Renewables UK Ltd, Clipper Windpower
Improved splash zone coatings for 40 year design life (IMPCOAT)	TWI Ltd	University of Manchester, Monitor Coatings, McNulty Offshore Construction Ltd, Vattenfall Wind Power
FASTWIND: Optimum North England Offshore Wind Turbine Assembly & Installation Factory	Xanthus Energy NE Ltd	Able UK Ltd, Ekspan Ltd



Images: Selection of images from various NWIP projects

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