

# Putting wind in the sails of Europe's offshore energy sector

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Credit: AI-generated image ([disclaimer](#))

Through a unique training programme that brought industry and academia together, the EU-funded MARE-WINT project has helped to fill a significant skills gap in the burgeoning offshore wind energy sector.

The end result of the MARE-WINT project has been impressive. PhD degree specialists covering fields such as aerodynamics, structural mechanics and operation and maintenance have come through this unique programme with the knowledge and skills to develop Europe's offshore wind sector and enable it to realise its full potential.

'Wind generation has been identified by policy makers and industry alike as a clean and secure means of reducing dependency on polluting fossil fuels and limiting over reliance on energy imports,' says MARE-WINT project coordinator Professor Wiesław Ostachowicz from the Polish Academy of Sciences in Gdańsk. 'It also requires very little water to produce electricity - unlike nuclear and fossil fuels - and this is hugely important given the growing threat posed by water scarcity.'

But while the environmental case for [wind energy](#) has been effectively made, the perceived cost of producing electricity from wind turbines has somewhat constrained market growth. 'This is why the offshore energy industry is focused on increasing the reliability of [offshore wind turbines](#) and reducing the need for maintenance,' explains Ostachowicz. 'Finding new ways of achieving these aims is crucial if the offshore wind turbine sector is to accelerate and grow.'

## **Training tomorrow's offshore experts**

The EU-funded MARE-WINT project was launched following recognition that a crucial skills gap exists. Knowledge from disciplines ranging from mechanical engineering and material science to metrology, fluid mechanics and computer simulation are desperately needed in order to design, build and operate the next generation of reliable and efficient turbines. In order to achieve this, MARE-WINT brought together six universities, seven research institutes and ten private sector enterprises to form a training network and provide doctoral programmes tailored to the future needs of the offshore wind sector.

'In practical terms, we've helped to provide the missing connection between employers – wind turbine industry companies – and their potential workforce by training 14 future offshore wind turbine researchers,' says Ostachowicz. 'This will also help to accelerate research in areas targeted by European policy makers, such as renewable energy, in order to prevent global warming and climate change.'

The participation of 13 private sector partners active in off-shore developments was essential for the success of the project. Industrial partners were involved in hosting, training and defining the training needs of the researchers. The strong involvement of industry will give PhD students the widest possible employment prospects.

## **Sustainable energy benefits**

Whilst the MARE-WINT project achieved its key objective of decreasing skill gaps in the sector, it has also provided advances in the design and operation of turbine blades, drive-trains and support structures that will be of benefit in the long term. A number of industrial partners were able to fine tune existing tools and methods that are used on a daily basis, thereby improving performance immediately.

Finally, the project's outcomes have been presented in a published book that will be used in universities as training material for courses on wind energy technologies. The future for wind energy remains bright; the sector contributed EUR 32 billion to the EU economy in 2010 and as of 2012, 250 000 people in Europe had a job linked to wind energy. By 2020, the sector is projected to have generated 520 000 jobs.

**More information:** For further information please visit the MARE-WINT project website: [www.marewint.eu/](http://www.marewint.eu/)

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