



News

## **ROMEIO: New monitoring strategies to reduce operation and maintenance costs for offshore wind farms**



### **About Author**

Ramboll is a leading multidisciplinary independent consultancy company. Our 1,500 experts in energy provide our customers with cost-effective energy and climate solutions that meet today's standards. We are among the leading consultants in the world within important energy, climate mitigation and climate adaptation services:

- Sustainable development of liveable cities
- Least cost energy planning and strategies
- District heating and cooling
- Combined heat and power
- Heat pumps
- Waste to energy
- Large scale solar water heating
- Thermal storage tanks and storage pits
- Wind farm infrastructure on and off shore
- Power grids
- Integrated smart energy system
- Climate strategies
- Waste management
- Biogas
- Exploration of oil and gas
- Natural gas transmission and distribution
- Natural gas storage

Our multidisciplinary approach also includes other renewable sources, hydro power, geothermal energy, energy efficiency in building and industry and low energy buildings. Furthermore, Ramboll's experts address global water and climate challenges by working across the water cycle from water resources and supply, processing and treatment, to sewerage and discharge. Working with municipalities,

utilities, and industrial clients we draw on multidisciplinary expertise to create innovative, sustainable and liveable solutions for our customers and society. Our more than 700 water consultants – mainly engineers, hydraulic specialists, water consultants and landscape architects, but also economists, legal advisors and management consultants – work with water projects on a global scale with more than 50 years of proven experience. Discover more in this video about Ramboll's global water practice. To learn more about Urban Energy Solutions, see Ramboll's blog

ROME0: New monitoring strategies to reduce operation and maintenance costs for offshore wind farms

By Ramboll, 04 Nov 2018

As part of an international consortium, Ramboll is involved in the ROME0 research and development project. The project intends to advance the energy transition in Europe and reduce the costs of offshore wind energy

Ramboll is part of the ROME0 project, an initiative supported by the EU research programme Horizon 2020. The project aims to reduce the operating and maintenance (O&M) costs of offshore wind farms and systems. This should be achieved by real-time analyses of relevant operating parameters within wind farms.

ROME0 is currently Europe's most ambitious research and development initiative to meet the commitments related to climate change and the energy transition. ROME0 aims to create a platform that enables efficient analysis of operational data to derive and implement optimal, risk-based O&M strategies. These will in turn improve operations, extend life expectancies and reduce maintenance and costs. The project is scheduled to finish in 2022 and is supported by the most advanced information and communication technologies, such as "Internet of Things" (IoT).

Condition-based maintenance with digital twin  
Ramboll supports the consortium with sound offshore expertise. With many years of extensive experience in structural design, structural health monitoring (SHM), risk analysis, and O&M of offshore wind power generation facilities, Ramboll is a key partner to the international consortium of 12 recognised and experienced players.

Ramboll is overseeing the structural health monitoring (SHM) by using a digital twin, risk analysis and the O&M strategy. In its final stages, the project will include a comprehensive test of the monitoring techniques developed by Ramboll, as it will be tested in two operating offshore wind farms, ensuring that it is feasible to streamline. The two locations are East Anglia ONE (United Kingdom) and Wikinger (Germany), respectively. This is an important step on the path to condition-based maintenance

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