

ROMEEO project presents advances for key offshore wind stakeholders in Copenhagen

- Around 150 people participated in the workshops organized by ROMEEO in the frame of the Wind Europe Offshore 2019 event in Copenhagen held between the 26th and 28th of November.
- At only half way of its life-cycle, the project (2017-2022) - supported by the Horizon2020 programme of the European Commission, has already made significant advances in data modelling and processing and in the establishment of architectures for the condition based maintenance maintenance for offshore wind farms

ROMEEO, European project backed by the [Horizon 2020 programme](#) of the European Commission, presented the progress made in the framework of the [Wind Europe's Offshore 2019](#) event, that took place between the 26th and 28th of November in Copenhagen, gathering some of the key stakeholders of the industry.

During the event, where industry leaders and specialists discussed the main trends in offshore wind, exchanged scientific points of view, analysed technological achievements and reviewed economic perspectives, ROMEEO, the European flagship initiative, had its own exhibition space in the Innovation Park supported by the [EIT InnoEnergy](#).

Prior to the Offshore Wind Europe event, ROMEEO held its annual Technical Committee, hosted on this occasion at Ramboll headquarters in Copenhagen. In addition to sharing the technical advances of the project and discussing about the next steps, the partners participated in a demo virtual reality Lab visit organized by the Danish company.

The offshore sector is key to meet the objectives of climate change and carbon neutrality of the European Union by 2050. This fact becomes more relevant these days that COP25 is being held in Madrid. ROMEEO is a key project to allow the offshore industry to reduce its costs and advance the generation of clean electricity.

Aligned with this context, during the event in Copenhagen key players launched the message that targeted Research & Innovation is needed to accelerate the large-scale deployment of cost-competitive wind energy and support the existing European supply chains. This is according to a [new report](#) from the [European Technology & Innovation Platform on Wind Energy](#) (ETIPWind), released during the event.

Patrick Child, Deputy Director General of the Directorate General for Research and Innovation (DG RTD), visited the ROMEEO stand to know more about the initiative, and a meeting was also held with



the [European Wind Energy Academy](#), which will continue to collaborate with ROMEO in future events and scientific presentations.

ROMEO partners Iberdrola/Scottish Power, Siemens Gamesa, Ramboll, Bachmann, and Laulagun took part of the exhibition with their own stand and collaborated with the ROMEO's workshop and dissemination programme during the fair.

Over the three days of continuous work during the exhibition about 150 people participated in the workshops organized by ROMEO and visited the stand.

This occasion was also a meeting point to compile the feedback from industry stakeholders. These opinions will serve to improve the progress of the project.

Workshops presentations

The main highlight of the ROMEO programme was the workshop on "Digitalization concepts to optimize O&M strategies in Offshore Wind Energy" held during the opening session of the event, the 26th of November. It was introduced by César Yanes, ROMEO project coordinator on behalf of Iberdrola with [opening remarks](#). Teresa Ojanguren (Iberdrola), moderated the thematic slots with the speakers.

After ROMEO's presentation, the experts Cristian Rodenas-Soler, from Siemens Gamesa, and Elena González, representing Iberdrola - Scottish Power offered a presentation followed by a discussion panel to address [novel approaches for the diagnosis and prognosis of critical failures affecting offshore wind turbines](#). They explained the first outcomes achieved as result of implementing a combined approach based on physical models with Machine & Deep learning techniques.

Ursula Smolka, from Ramboll, explained [how a digital twin can be used to enhance the entire asset value chain](#). Ursula showed the promising results reached in the structural elements of wind turbines of Wikinger, as unquestionable evidences about the potential of Digital Twin models to provide operational insights and recommendations on how to maintain and utilise the asset in a cost-effective way.

Later, Daniel Rodríguez, from Minsait INDRA, Moritz Gräfe, from Uptime, and Michael Nidd, from IBM Research Zurich, gave [key insights about disruptive digitalization concepts and cloud-based ecosystems](#). During the session the speakers showcased how ROMEO is working on the transition from a Cloud concept, towards a Hybrid Edge/Cloud ecosystem in which the chain of information acquisition has only one step, and intelligent processing is carried out globally in a single "virtual place", the cloud itself. In order to achieve this, the partners are working in a common architecture, capable of integrating, processing and reacting to data in real time directly in the field at the same time that is capable of managing and generating value on the cloud on massive amounts of information. This process allows to make the information usable integrating multiple data sources, analysing and



combining the information, centralising the O&M platform for access by multiple stakeholders, supporting the maintenance process, and reporting.

The workshop ended with a fourth session about the development of an [open access O&M tool for availability and cost estimation of offshore wind farms](#) by the expert of the University of Strathclyde Athanasios Kolios. This tool allows to analyse a flexible and modular O&M evaluation model, calculation of various KPIs such availability, energy consumption and LCA, cost and revenues, and stochasticity.

Additionally to this workshop, Uptime and Minsait Indra offered the presentations "Analytics based Maintenance for Offshore Wind Turbines" the 27th of November, and "Novel monitoring and control architectures for wind generation management" the 28th, also on the Innovation Pavilion Stage.

ROMEO's presence at the conference was part of the project commitment with the reinforcement of the links with the main European actors in the field of wind and renewable energy.

All the presentations can be downloaded from www.romeoproject.eu

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