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Floating offshore wind: successful launch of a buoy in the Mediterranean to study polyamide mooring lines



Hybrid mooring lines, made of chain and polyamide rope, are a promising technical and economic solution for future floating wind farms. The objectives of the MONAMOOR collaborative research project, led by France Energies Marines and Ifremer, are to gain a **better understanding of the ageing mechanisms of these synthetic fibres, to design and adapt modelling tools and to test monitoring instruments** concerning the long-term behaviour of this type of mooring.

In this context, sea trials lasting several months are being carried out to get as close as possible to the real conditions under which these mooring lines are used. For this purpose, **a demonstrator named MONABIOP was designed, assembled and successfully deployed on 18 February 2023 on the Mistral Mediterranean test site**. This demonstrator is a 7-tonne buoy, equipped with a hybrid semi-tensioned chain-nylon mooring and several tension and elongation sensors. It allows, on a reduced scale, to be representative of the average dynamic forces generated by a floating wind turbine. Another experiment is being conducted in parallel to study the colonisation kinetics of polyamide lines by living organisms (algae, molluscs, etc.) and the influence of elongation on this phenomenon.

The concessionaire of the Mistral test site, Valeco - EnBW, made the deployment area available for the 10 months of testing. Carefully prepared in advance, the operation to launch the demonstrator lasted a total of 4 days. It involved three scientists from France Energies Marines, the FOSELEV Marine vessel Castor 02 and its crew of nine, four divers and underwater guidance using an ROV. A team of divers from Ifremer will intervene this month to install additional sensors. The data from all the sensors will be compared with the results of the experiments carried out in the laboratory, thus enabling the validation of the digital tools previously developed. **Float designers and farm developers will thus be able to design future installations as accurately as possible.**

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MONAMOOR

This project is led by France Energies Marines and Ifremer.



⇒ Visit [project web page](#)

Duration: 42 months (2020-2023) | **Budget:** €2,047K

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