

# MEMOFLOW 1.0

## Mediterranean Monitoring Center for Floating Offshore Wind turbines - Phase I

The floating wind turbine leads to the development of new components and materials that are highly sensitive to the environmental conditions of the selected site, conditions that will change over the operating period. The methods, tools and design rules that come from offshore oil and gas must be significantly adapted for floating wind turbines.

In view of the limited feedback available, it is essential to have continuous means of observation and measurement at sea concerning the environment:

- **Physical** (sea conditions, wind, current),
- **Physicochemical** (temperature, O<sub>2</sub>, salinity, turbidity...),
- **Biological** (biofouling, avifauna, marine life...).

This will make it possible to characterize the impact of the environment on the behaviour of ORE systems, periodically update predictions, anticipate maintenance operations, and also optimize the environmental integration of future fleets.

In its first phase, the **MEMOFLOW** project consists of procuring equipment and deploying it at sea to carry out observation and measurement campaigns. This project is being carried out at the MISTRAL test site, which is representative of the environment of the future pilot and commercial parks of the Mediterranean.

Beyond the knowledge provided to ORE fleet developers, the measurements will be used directly for collaborative R&D projects such as **ABIOP+** (knowledge and monitoring of the biocolonisation of EMR components).

Site characterisation



Technology design



Environmental integration



Farm optimisation



© France Energies Marines

### Objectives:

- Providing environmental data for resource assessment and sizing of ORE systems.
- Studying the impact of the marine environment on the behaviour of ORE systems, in particular anchoring solutions.
- Developing methodologies for characterization and modelling of the marine environment (physical, physicochemical, biological)
- Improving environmental monitoring protocols and means
- Studying and developing new equipment and materials in a known and instrumented environment.



© France Energies Marines



© France Energies Marines

This project was financed by Région SUD - Provence-Alpes-Côte d'Azur, Métropole Aix-Marseille Provence and France Energies Marines.

