



## FARWIND

### AUTONOMOUS HYDRO- AND SAIL-POWERED FLEET PRODUCING RENEWABLE ENERGY FROM OFFSHORE WIND

The FARWIND project is exploring the potential of hydro- and wind-powered drone vessels (FARWINDERS) to produce renewable fuel from offshore wind resources. This technology complements fixed or floating wind turbines which are unlikely to exploit this energy resource at distances greater than 100km offshore due to the high cost of tethering and anchoring.

Developed by Centrale Nantes, the FARWINDER concept involves a ship powered by modern sails – either rigid wings or Flettner rotors – fitted with a tidal turbine beneath the hull, which converts the current speed into electricity. An onboard chemical plant exploits the electricity to transform water into a renewable fuel – methanol, ammonia or synthetic petrol. This fuel is then collected by tankers and shipped to ports for sale.

The FARWINDERS are drones with no onboard crew. For reasons of security, the fleets will be accompanied by a surveillance vessel, which will also serve as a tanker for collecting the fuel once the FARWINDER tanks are full. The route taken by the fleets and tankers will be optimised using weather routing that combines performance, protection and safety.

The ambition of the FARWIND project is to formulate this new energy system and guide it towards (laboratory and advanced numerical tool) validation of its key components.

For more information on the FARWIND project, [click here](#).

#### Partners

##### Companies

BE Mauric, Nantes  
Euronovia, Paris  
Ineratec PME, Karlsruhe, Allemagne  
Meltemus, La Chapelle sur Erdre  
Technip-FMC, Paris

##### Research centers

École Centrale de Nantes [Project Developer]  
CEA Tech, Bouguenais  
NTNU, Trondheim, Norvège  
Politecnico di Milano, Italie  
TU Darmstadt, Allemagne  
UCC, Cork, Irlande

#### Funders

- Ademe  
- Conseil régional des Pays de la Loire  
- WEAMEC

#### Labelisation

25/01/2019

#### Overall budget

4 498 k €