

SHIPPING INNOVATIONS FOR DECARBONIZATION

Our constant ambition is to lead the maritime industry through its energy transition Edouard Louis–Dreyfus, President, Louis Dreyfus Armateurs

On a global scale, shipping represents 2.5% of greenhouse gas emissions.

The IMO GHG Strategy has set an enhanced common ambition to reach net-zero GHG emissions from international shipping by 2050. Our Pioneering spirit leads us to pursue and implement new ideas and research for a better, more efficient and more sustainable maritime industry.

LOW CARBON

- **RO-ROLINE**
- Reduction by up to 70% CO2 emissions using wind and dual- fuel propulsion (emethanol/MGO).
 - Airbus Ro-Ro Line: Saint Nazaire Mobile : 3 RoRo vessels by 2026.
 - *LDA Ro-Ro Line*: Project of regular fortnight service between US East-Coast and Europe in 2027.

DECARBONIZATION Initiatives

- **HVO: Reduction up to 80-90% CO2 emissions** on vessels running with HVO (Hydrotreated Vegetable Oil) since 2022.
- Ocean routing: Reduction of 5% of fuel consumption, studying ocean and sea current through satellites, allowing the vessel to adjust the propulsion and the speed with the help of the natural current.
- Wind assistance: Reduction of CO2 emissions between 10 to 15% on vessels equipped with suction wings and kite system.

LOW CARBON Ship D<u>esign</u>

- Blade Runner: XL Ro-Ro for Wind Turbine components of next generation. Optimized logistics for heavy and oversized nacelles and blades.
- FRESH: Floating Renewable Energy Solution for ammonia and hydrogen logistics and supply for shore and offshore.
- WindTainer: Low Carbon Container Ship. Alliance of three French Companies (LDA, Alwena Shipping, VPLP Design) to develop logistics solutions through methanol fueled and wind assisted/propelled pure container ships.





1 - Rendering of the new Low-Carbon RoRo Line. 2 – Airseas® kite traction trial on the vessel Ville de Bordeaux. 3 – Rendering of the vessel Ville de Bordeaux, chartered by Airbus and operated by Louis Dreyfus Armateurs, and equipped with three bound4blue eSAILs®. 4 – Rendering of Blade Runner, XL Ro-Ro for Wind Offshore. 5 – Rendering of FRESH, our Floating Renewable Energy Solution for Hydrogen. 6 – Rendering of Wind Tainer, low emissions container vessels developed and designed with VLPL Design and Alwena Shipping.

