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PIRIOU deals with French Occitanie Region for the design and realization of a trailing suction hopper dredger equipped with hydrogen fuel cell



©PIRIOU - 3D view of the future HYDROMER dredger

PIRIOU has just received from the south France Occitanie Region official notice of the order of a 70m trailing suction hopper dredger dedicated to the maintenance of harbours in the Gulf of Lion.

Designed in collaboration with toulousan LMG Marin naval architecture agency, this modern and efficient dredger enables a 1500 m³ capacity to transport sediments. It will also be fitted with a suction pipe to collect sand at a depth up to 32m and of a front unloading device used to replenish beaches.

The integration of a hydrogen fuel cell will enable to save up to 20% of the vessel fuel oil consumption.

The contract was awarded after more than a year and a half of international competition and plans to deliver the dredger in Sète-south France- in the 3rd quarter of 2023.

After delivering *L'Estuaire*, *Fromveur II*, *Breizh Nevez I* and the recent order of *Insula Oya III*, Piriou achieves another success and confirms its dynamism and competitiveness in this segment of public service vessels.



Vincent Faujour, PIRIOU group C.E.O. declares: ***'In obtaining this new contract we are happy we won the trust of a new Region, the Occitanie Region of south France and for them we will realize an innovative and complex vessel able to answer the requirements of very demanding operating conditions and optimum comfort for its crew.***

Integrating a fuel cell, batteries and hydrogen storage containers on a dredger is- beyond the environmental benefit- a technological challenge we take up as a player in the French marine hydrogen sector. Thanks to its low environmental impact, this future dredger will participate in the energy transition undertaken in the merchant marine sector'.

A modern, efficient and environmentally friendly ship

- A versatile high-performance dredger

The dredger is equipped with a 500 mm diameter suction pipe to suck up the sediment and a 6000 m³/hour pump driven by a variable speed electric motor. Its pumping capacity allows the hopper to be filled in less than 20 minutes. The sediments removed from the harbours are dumped through doors located at the bottom of the hull. The dredger is also equipped with a suction pipe extension to reach depths of 32 m in order to collect sand to replenish the beaches on the coast. This operation is achieved from the bow of the vessel by connecting the dredger to a floating discharge pipe of 500m or more in length.

- Optimised manoeuvring equipment

The future dredger will be able to carry out dredging turns within a short timeframe while transporting a maximum amount of sediment (50% more than the former *Cap Croisette* dredger), hence the very precise study of the hull and its propulsion. The vessel is equipped with a set of three variable-speed electric thrusters - two 360° steerable thrusters at the stern and a high-powered bow thruster - this combination gives it the manoeuvrability essential for dredging harbour channels.

- A comfortable and aesthetically pleasing vessel

The crew accommodation includes ten individual cabins of respectable size, soundproofed, air-conditioned, with the capacity to accommodate an additional four people. The accommodation is arranged on three levels and the elevated and forward wheelhouse provides a 360° view of the water and dredging equipment.

The lines of the vessel are sleek, in order to combine elegance with the robustness and constraints of a working vessel. The dredger will carry the Region's livery, with a H2 marking as a reminder of its hydrogen capabilities.



© PIRIOU – 3D view of the HYDROMER dredger

• An environmentally friendly dredger

Equipped with IMO 3 engines, the dredger meets the latest environmental standards. Whether docked or at anchor, and in order to limit noise and environmental pollution, the vessel can be powered entirely by its fuel cell. The available power will be sufficient to allow the crew to remain on board without any generator in service. Whether at berth or in operation, particular attention has been paid to reducing air and water noise pollution.

Main characteristics

Length:	70.0 m	Power plant (4 GE + H2 cell):	2 500 kW
Breadth:	13.6 m	Deadweight:	2 110 T
Depth at main deck:	5.3 m	Well capacity:	1 500 m ³
Max. draught:	4.45 m	Fore deck capacity:	4 x 20' H2 containers
Crew accommodation:	14 p	Dredging depth:	32 m
Max. speed:	11 kn	Dredge pump:	6 000 m ³ /h / 700 kW
Hull / superstructure:	steel		
Steerable thrusters:	2 x 700 kW		
Bow thruster:	1 x 480 kW		



About PIRIOU

Involved in shipbuilding, repair, naval engineering and services since 1965, PIRIOU specializes in producing vessels up to 120 m with high added value through a combination of high-performance engineering and a global network of industrial sites in Europe, Africa and Asia. With over 500 ships built and delivered worldwide, PIRIOU provides bespoke solutions as well as a complete range of standardized or customized vessels that satisfy the requirements of international shipowners, whether they be private or public, civilian or military.

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