

PRESS RELEASE

HELION Hydrogen Power awarded by H2Tec-BV for the RESHIP project.



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- **HELION Hydrogen Power, one of the main French fuel cell manufacturers, wins a new contract in the maritime sector**
- **The company H2Tec-BV will be responsible for the integration of HELION's fuel cell onboard the "FORTUNA CRANE", an Offshore Support Vessel owned by the German shipowner OS Energy**
- **The 50 kW fuel cell will be fueled with HydroSil, a safe and green hydrogen liquid carrier developed by consortium leader HSL Technologies to save considerable space onboard the vessel**

06/11/2023_HELION Hydrogen Power, the 22-year experienced French manufacturer of high-power fuel cells and subsidiary of Alstom Group, has secured a contract to equip the FORTUNA CRANE with its hydrogen fuel cell technology. The vessel is operated by the German shipowner OS Energy GmbH.

The company H2Tec-BV, responsible for the system integration, has chosen the FC-Rack TM Marine from HELION Hydrogen Power. Specifically designed for the maritime sector, it generates electricity from hydrogen without any polluting emissions, thus paving the way towards the decarbonization of the maritime industry.

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The 50 kW fuel cell will be fed with hydrogen in a safe liquid form using a disruptive carrier, the HydroSil from HSL, a world first. HELION and HSL already had the opportunity to work together and are looking forward working on this new collaborative project.

The fuel cell / HydroSil combination aims at reducing the space required for onboard storage by two in comparison with standard gaseous solutions.

This unique vessel will also incorporate highly efficient propellers to reduce the size of the buffer storage and thus contributing to overcome this technical challenge.

“Through this demonstrator we intend to showcase our technological advancement by testing the compatibility of our fuel cells with liquid hydrogen carriers. Once retrofitted, this vessel will be a pioneer of its kind, addressing the high-power challenge of the maritime industry and proving the relevance of fuel cell technology for this sector”, says Vincent MAHEO, President of HELION Hydrogen Power.

The FC-Rack[™] Marine is expected to be installed onboard the FORTUNA CRANE by the end of 2024.

RESHIP program: a driving project for the transition to a cleaner maritime sector

This project is part of the RESHIP program, led by an Anglo-European consortium made up of 14 industrial, maritime and academic partners. Its objective is to improve the performance and energy efficiency of ships while addressing the onboard hydrogen storage challenge.

It will also ensure compliance with maritime safety standards through collaboration with Bureau Veritas, the Danish maritime authorities and the port of ESBJERG, in Denmark.

In addition to this contract, HELION Hydrogen Power is delivering a 200kW fuel cell for the world's first hydrogen hybrid dredger, HyDrOMer, with a double approval from the certification bodies Bureau Veritas and RINA.

Production based on a single, modular product, suitable for various applications

Since the announcement of an investment of nearly 6 M€ (in December 2021), HELION Hydrogen Power has the capacity to manufacture its own fuel cell stacks at its Aix-en-Provence site (in the South of France).

The company has also developed a subsystem based on a simplified and modular architecture that can be reproduced in series. This standardised brick, called FC-Rack[™], is composed of 4 stacks and can deliver an electrical power ranging from 100 to 200 kW.

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This flexible system, covering a wide range of power can power various heavy mobility and stationary applications, more specifically:

- Heavy mobility: rail, sea, river, construction, and mining equipment
- Genset: temporary power supply for specific events and construction sites, power supply for refrigerated containers, shore power supply for ships, power supply for auxiliaries for ships, etc.
- Emergency power supply for industrial sites, telecoms, and data centres.

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About Alstom

Alstom commits to contribute to a low carbon future by developing and promoting innovative and sustainable transportation solutions that people enjoy riding. From high-speed trains, metros, monorails, trams, to turnkey systems, services, infrastructure, signalling and digital mobility, Alstom offers its diverse customers the broadest portfolio in the industry. With its presence in 63 countries and a talent base of over 80,000 people from 175 nationalities, the company focuses its design, innovation, and project management skills to where mobility solutions are needed most. Listed in France, Alstom generated revenues of €16.5 billion for the fiscal year ending on 31 March 2023.

For more information, please visit www.alstom.com.

About HELION

A key player in the hydrogen industry, HELION Hydrogen Power, a subsidiary of the Alstom Group, specialises in the design, development and manufacture of fuel cells combining high power and long durability in highly constrained environments. It employs around 50 people at its site in Aix-en-Provence, in addition to around 50 subcontractors. The company, which has 22 years of experience, has more than 40 patents in hydrogen technology and just as many systems in operation.

www.helion-hydrogen-power.alstom.com

About H2Tec

H2Tec has extensive experience and a proven track record in delivering projects and solutions in the hydrogen and clean energy sectors. It specialises in integrated engineering solutions incorporating hydrogen technologies, including production, refuelling, storage, distribution, and fuel cells. It offers a full turnkey service from project inception and feasibility, design development, manufacturing, installation, and operation and maintenance.

H2Tec has built up over twenty-six years of expertise in hydrogen and fuel cell technologies. To date, it has designed, built, and installed hydrogen production & refuelling stations for the UK & European markets and is currently constructing further stations for buses, vans, passenger vehicles, and heavy-duty vehicles. It has also installed, commissioned, and maintained over 1MWe of fuel cells providing heat, power, and cooling in landmark buildings in the UK. H2Tec continues to provide independent advice and expertise to a wide range of blue-chip clients.

www.h2tec.co.uk

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Contact

HELION Hydrogen Power:

Laure MARIETTI – Tel.: +33 (0) 6 52 15 50 43
laure.marietti@alstomgroup.com

Alstom

Philippe MOLITOR – Tel.: +33 (0) 7 76 00 97 79
philippe.molitor@alstomgroup.com

Fabienne BOCCARD – Tel.: +33 (0) 6 80 59 80 63
fabienne.boccard@alstomgroup.com

H2Tec

Paul GILL – Tel.: +44 (0) 7894 218970
paul@loganenergy.com