

H2Cool Prelude - Cool transport with hydrogen truck

Go-ahead for lower emissions in truck frozen food transports

Bremen/Bremerhaven, 11.03.2021: *The H2Cool Prelude project is researching how hydrogen and fuel cell technology can be used in truck refrigerated transport in the future to achieve positive effects for the environment. The aim of the project is to develop concepts for avoiding fossil fuels and reducing or even eliminating harmful emissions: Greenhouse gases, air pollutants, noise.*

A discontinued model: freight transport using fuel from fossil energy sources, because hydrogen is considered the fuel of the future. The project is investigating many aspects that are essential for the development and successful implementation of hydrogen technology for refrigerated transport. The project significantly supports environmentally friendly and resource-saving technology development and testing. H2Cool Prelude thus contributes to counteracting climate change, environmental pollution and excessive resource consumption. The results of H2Cool Prelude will subsequently be realized in an implementation project with the retrofitting of a refrigerated truck.

"The application of fuel cell and hydrogen technology for refrigerated transport is an extremely innovative research approach, which at the same time offers a particularly high potential for application solutions," said Dr. Nils Meyer-Larsen, project manager, ISL. "Also, the power supply of the refrigeration unit by the fuel cell of the tractor or the self-sufficient operation of the refrigeration unit by hydrogen while the trailer is parked contribute to comprehensively avoiding environmentally harmful emissions."

"Since 2008, FRoSTA AG has been intensively addressing the issues of climate and CO₂. By using refrigeration systems with heat recovery and other measures, we have been able to achieve significant savings in consumption and CO₂ emissions at all plants in recent years," discusses Thorsten Heitland, Head of SMC Logistics, FRoSTA AG. "With H2Cool Prelude, we want to further improve our carbon footprint and become more sustainable when transporting our goods."

Ulf Brüssel, Managing Director, Brüssel & Maass Logistik GmbH, added: "We want to change the economy by acting in an ecologically and socially sustainable way. We emit 4,000 tons of CO₂ every year - this is one of the key levers we want to tackle. Currently, there are no production-ready hydrogen trucks available - that's why, as a partner in H2Cool Prelude, we want to take up this aspect and be there from the start when it comes to alternative drives with hydrogen."

The consortium includes the research institutes ISL and Bremerhaven University of Applied Sciences, the company akquinet port consulting GmbH and the association H2BX - Wasserstoff für die Region Bremerhaven e.V. Within the framework of the project, the forwarding company Brüssel & Maass Logistik GmbH and the well-known frozen food company FRoSTA AG as well as the company Clean Logistics, which converts existing trucks to climate-friendly hydrogen hybrid propulsion, will be involved as end users for the development and validation of the technical, ecological, economic as well as legal and safety-relevant concepts.

The project is funded by the Applied Environmental Research (AUF) program of the Bremen Senator for Climate Protection, Environment, Mobility, Urban Development and Housing with money from the European Regional Development Fund (ERDF).

Caption: H2Cool Prelude sets the course for successful model: conversion of existing trucks to climate-friendly hydrogen hybrid drive.



About ISL:

ISL - Institute of Shipping Economics and Logistics was founded in Bremen in 1954. With the combination of tradition and modern science, it has since then established itself as one of the leading institutes for maritime research, consulting and know-how transfer in Europe with a focus on Maritime Intelligence, Maritime Environment, Maritime Security, Maritime Supply Chains and Maritime Digital Innovations. For more information please visit www.isl.org/en

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About Bremerhaven University of Applied Sciences:

Its maritime profile is characteristic of Bremerhaven University of Applied Sciences. This is due not only to its geographical location directly at the mouth of the Weser River to the North Sea, but also to its innovative, modern and maritime-influenced degree programs. Around 3000 students from 40 nations are currently studying in the 24 technical, scientific and economic bachelor's and master's degree programs at the "Hochschule am Meer".

The range of studies includes 2 departments from the fields of interest energy and marine technology, life science, logistics and information systems as well as tourism and management. Both within the range of studies and in research & development, the university has meanwhile set significant accents in the field of renewable energies, especially wind energy, as well as the generation, storage, distribution and use of hydrogen.

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About akquinet AG:

akquinet AG is an internationally active, continuously growing IT consulting company headquartered in Hamburg. Currently, 920 specialists with comprehensive knowledge in future-oriented technologies are employed. The company specializes in the implementation of ERP systems (SAP and Microsoft) and the individual development of software solutions. AKQUINET has many years of industry expertise, especially in the healthcare and social economy sectors, as well as in mechanical and plant engineering, the public sector and logistics. In four high-performance data centers in Hamburg, Norderstedt and Itzehoe, AKQUINET operates IT systems in outsourcing for companies of all sizes.

akquinet port consulting GmbH, based in Bremerhaven, is the logistics specialist within akquinet AG. With worldwide experience in consulting and software development for the simulation and emulation of logistic processes in ports and in the transport industry, it has been accompanying corresponding projects for years. From feasibility studies to project management and implementation in the operational area, akquinet port consulting develops customized solutions for seaport and transport logistics. Here, it also provides its customers with the scientifically based CHESSCON software family for the development and optimization of their processes and terminals.

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About H2BX - Hydrogen for the Bremerhaven Region e.V.:

The association H2BX - Hydrogen for the Bremerhaven Region is committed to promoting and establishing hydrogen fuel cell technology and aims to anchor this future technology in Bremerhaven and the region. The more than 120 members, ranging from private individuals to companies, research institutions and municipalities, are committed to this goal.

In addition to many events and initial projects, H2BX is now striving for further research projects around hydrogen as an energy carrier. In close cooperation with various partners, the generation from renewable energies, on-site storage, but also the concrete practical application of hydrogen and fuel cell technology, e.g. in logistics and shipping, are to be researched.

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