PRESS RELEASE

VHyTTA Project Kicks Off to Deliver Next-Level Hydrogen Refuelling Solutions for Large-Scale Transport

Brussels, December 3-4, 2025 – 20 partners from 7 European countries have gathered in Brussels for the official launch of **VHyTTA** (**Versatile Hydrogen Transfer for Transport Applications**), a 4-year European project focused on developing next-generation hydrogen refuelling infrastructure to support the decarbonisation of large-scale transport.

Co-funded by the European Union and supported by the Clean Hydrogen Partnership with a total budget of € 8M, VHyTTA will develop and demonstrate two multipurpose and flexible refuelling station concepts -one fixed and one mobile- for both compressed gaseous hydrogen (cGH_2) and liquid hydrogen (LH_2), tailored to the needs of the aviation, maritime, and railroad transport sectors. With this, the project addresses key obstacles to hydrogen adoption, including the substantial energy and CAPEX investment required for electrolysis, compression, storage, transportation, and distribution – factors that make hydrogen less competitive and costly compared to diesel and kerosene.

The Kick-Off meeting provided the opportunity for project partners to define the initial steps for achieving their ambitious targets. **Over the next 48 months, they will work toward the following key objectives:**

- **Develop, build, and operate a new concept of a fixed cGH_2 station** for heavy-duty vehicles, containers, and airport ground fleets
- **Design and construct a mobile LH_2 refueller** serving aircraft and ships
- **Develop and validate digital models of the stations** to support their performance
- **Demonstrate the technologies at TRL7**
- **Optimize logistics and value chain integration** for hydrogen hubs at airports

With these innovations, VHyTTA expects to contribute to the strategic objective of achieving **4 GW of hydrogen production and distribution capacity** and deploying more than **100 hydrogen refuelling stations across Europe by 2030**. In addition, project forecasts indicate that by 2035, **1,504 routes across Europe** could adopt LH_2 powertrains, potentially **reducing emissions by 33.6 million tonnes of CO_2**.

The VHyTTA consortium is strongly committed to advancing these efforts – setting new standards for sustainable mobility and accelerating Europe's transition to climate-neutral transport.

Clean Hydrogen Partnership
The project is supported by the Clean Hydrogen Partnership and its members.
Co-funded by the European Union

List of the project partners:

DNV Services UK Ltd (DNV) – United Kingdom is an independent expert in assurance and risk management, delivering world-renowned testing, certification and technical advisory services to the energy value chain, including renewables, oil and gas, and energy management. In the project, DNV will coordinate overall activities and lead the safety management of the demonstrators, including hazard identification (HAZID) workshops, Hazards and Operability (HAZOP) analysis, and the definition of credible failure scenarios. In addition, DNV will conduct a technology qualification and certification review of the hydrogen refuelling technology. https://www.dnv.co.uk/

ENGIE – France is a historical leader in gas marketing in France and the first operator of gas infrastructure in Europe with a portfolio comprising transport networks, distribution networks and storage. It is a demonstrator of green hydrogen injection into the gas distribution network in France and has contributed to the construction and maintenance of hydrogen stations for buses. In the project, ENGIE Solutions H_2 (ENGIES), a fully-owned subsidiary of the ENGIE Group, will lead the demonstration of the technical and economic feasibility of a liquid-to-gas hydrogen refuelling station (HRS), and the potential retrofitting of an existing gas HRS. https://www.engie.com/en

ZeroAvia Ltd – United Kingdom is a leader in zero-emission aviation with the mission of delivering a hydrogen-electric engine in every aircraft as the most environmentally and economically friendly solution for addressing the industry's climate impact. The company is developing engines for 9-19 seat aircraft with a 300-mile range by the end of 2025, and plans to scale up to 40-80 seat aircraft with a 700-mile range by 2027. In the project, ZeroAvia will be a key technology developer, focusing on the construction of a liquid hydrogen refueller primarily for aviation, with potential applications in other transport sectors, including maritime. https://zeroavia.com/

Clean Hydrogen Partnership

The project is supported by the Clean Hydrogen Partnership and its members.

Co-funded by the European Union

PRF – GÁS, TECNOLOGIA E CONSTRUÇÃO, SA (PRF) – Portugal is an engineering and technology company specializing in the design, construction, and operation of infrastructure and equipment for gases, including hydrogen refuelling stations (HRS). In the project, PRF will provide extensive expertise, knowledge and technology on HRS. It will contribute to designing the detailed architecture of the system, elaborating its functional specifications, and building and commissioning the prototype. It will also participate in the operating stages by providing experience on remote health monitoring and developing a model for predictive maintenance. https://www.prf.pt/en/

L'Institut national de l'environnement industriel et des risques (INERIS) – France is dedicated to the prevention of risks posed by economic activities to the health and safety of people, property, and the environment. The institute specialises in research and expert analysis of technological hazards, aiming to gain a better understanding of phenomena that can damage health, assets, and the environment. In the project, INERIS will provide specialised expertise in safety management by contributing to Hazards and Operability (HAZOP) studies, developing a methodological approach and models for probabilistic assessments, developing hazard models specific to liquid hydrogen, and developing the safety management plan. https://www.ineris.fr/en

Absolut System SAS – France is an engineering and industrial SME providing advanced technologies and smart solutions for devising a new hydrogen ecosystem. It has experience on LH_2 for supercars and is involved in several ongoing projects, mainly linked to the space industry, aimed at delivering smarter and more efficient solutions. In the project, Absolut System will leverage boil-off gas assessments to define, design, and manufacture a boil-off gas management system for testing campaigns. https://absolut-system.com/home/

Alfa Laval – Switzerland/France is a leading supplier of cryogenic pumps and has developed several technologies and pumps for cryogenic gas transfer. In the project, Alfa Laval Switzerland (AlfaLS) will develop the low pressure/submerged cryogenic pump technology -including the design, assembly, prototyping, testing and result analysis-, and will provide on-site support during the operation phase of the project. On the French side, Alfa Laval Golbey SAS (Alfa Laval) will manufacture and assembly the high-pressure cryogenic pump technology. https://www.alfalaval.com/

Clean Hydrogen Partnership
The project is supported by the Clean Hydrogen Partnership and its members.
Co-funded by the European Union

H3 DynamicsSARL (H3D) – France is a technology company focusing on decarbonising aviation and advanced air-mobility through hydrogen-electric propulsion and related solutions. In the project, they will provide use case and technology demonstration, along with operational safety support. https://www.h3dynamics.com/

University of Stuttgart – Germany is one of the top 9 leading technical universities in Germany, with more than 100 years of experience in aircraft design, flight testing, and composite materials. It has a team of experts specialising in alternative propulsion concepts and working on developing new aviation technologies. In the project, the university will lead value chain integration activities, focusing on investigating the scale-up of the LH_2 refuelling system for different aircraft sizes, developing infrastructure and supply chain models for efficient H_2 distribution to airports, and assessing the design requirements of LH_2 hubs at airports and harbours. https://www.uni-stuttgart.de/en/

The European Research Institute for Gas and Energy Innovation (ERIG) – Belgium is a European research and development organisation with the objective to guide gas in the transition process towards a future renewable based energy system. In the project, ERIG will ensure the effective dissemination, communication and exploitation of the project results. https://erig.eu/

University of Groningen – The Netherlands is an international university covering all major disciplines of science and technology, and with with a special focus on the research areas of Energy and Climate, Public Health, Sustainable Development, and Digitization and AI. In the project, it will develop the economic and business models for the airports, as well as the logistics models for hydrogen distribution. https://www.rug.nl/

Benkei – France is a consultancy company supporting its clients in defining and implementing their innovation strategies and collaborative projects. Benkei has specialised expertise in open and collaborative innovation, as well as in setting up and managing collaborative projects. In the project, Benkei will support the project coordination and management. https://www.benkei.eu/

Groningen Airport Eelde nv – The Netherlands is taking a pioneering role in sustainable aviation that suits the region of the Northern Netherlands – Europe's first hydrogen region. The company is committed to the application of hydrogen in aviation.

Clean Hydrogen Partnership
The project is supported by the Clean Hydrogen Partnership and its members.
Co-funded by the European Union

In the project, it will examine the potential of a hydrogen hub for airports and assess its scalability. It will establish and oversee an airport advisory board, providing guidance on airport specifications, regulations, and expectations. Furthermore, the mobile refueller will be tested at Groningen Airport Eelde. https://www.groningenairport.nl/en

Vanguard Sustainable Transport Solutions Limited (Vanguard) – United Kingdom is a leading expert in the provision of hydrogen fuel and hydrogen refuelling services in the rail industry. In the project, Vanguard will provide proven rail application expertise and specifications to ensure the hydrogen refuelling station (HRS) developed will also be applicable to rail refuelling operations. https://vanguardsts.com/

Energy Observer Concept (EO Concept) – France is developing a 160m autonomous, zero-emission feeder powered by liquid hydrogen for commercial maritime routes. In the project, EO Concept will be involved in sizing and scaling up the LH_2 bunkering at harbour locations. The objectives are to reduce costs, minimize delays at quay, enable simultaneous operations, enhance safety, and eliminate hydrogen losses. https://www.energy-observer.org/

Compagnie du Ponant – France is a luxury cruise-line operator involved in hydrogen-related sustainabiliy efforts, particularly through R&D and future vessel concepts that integrate hydrogen technologies. In the project, it will act as an end-user, providing input on sizing, operational requirements, and environmental constraints for the sizing and validation of the LH_2 refuelling demonstrator. https://uk.ponant.com/

Aéroports de Paris SA Groupe ADP – France is a public company which develops, maintains and operates airport platforms. It manages Paris-Orly, Paris-Charles-de-Gaulle and Paris-Le Bourget, as well as 150 other airports in 50 countries. In the project, the company will host the fixed hydrogen refuelling station (HRS) and mobile refueller and will be part of the Airports Advisory Group. https://www.parisaeroport.fr/en

Persee – France develops targeted digital solutions and services to enable decision-makers to make faster and more informed decisions. Throughout the lifecycle of hydrogen infrastructure projects, Persee supports its clients in addressing the questions at stake to secure investments whilst mitigating uncertainties in the hydrogen market and related technologies. In the project,

Clean Hydrogen Partnership
The project is supported by the Clean Hydrogen Partnership and its members.
Co-funded by the European Union

Persee will lead the development of models and tools required to digitalise the refuelling stations. https://pers-ee.com/

Hyggle – France is a software editor building an integrated platform of services for live energy operations to help operators deliver green energy sustainably. The Hyggle platform integrates a Hypervision solution developed for gaseous refueling networks (H_2 and biogas), which provides real-time visibility and decision support for operators, maintenance teams, and safety officers. In the project, Hyggle will lead the design and implementation of such a platform for the hydrogen refuelling stations. https://www.hyggle.fr/en

For more information, please visit www.erig.eu

Press Contact:

Katharina Römling
Project Manager
European Research Institute for Gas and Energy Innovation (ERIG)
Rue Belliard 40
1000 Bruxelles, Belgium

Tel.: +32 456 68 06 28
Mail: roemling@erig.eu

*The **VHyTTA (Versatile Hydrogen Transfer for Transport Applications)** project is a 4-year European initiative aimed at developing next-generation hydrogen refuelling infrastructure for large-scale transport. The Consortium brings together 20 leading partners from 7 European countries, combining expertise from hydrogen technology, aviation, maritime, rail, engineering and software development. Together, they are developing and demonstrating -at TRL7- two multipurpose refuelling station concepts -one fixed and one mobile- for compressed gaseous hydrogen (cGH_2) and liquid hydrogen (LH_2), tailored to the needs of aviation, maritime, and rail sectors. By delivering these innovations, VHyTTA addresses key barriers to the widespread adoption of hydrogen and accelerates Europe's transition to climate-neutral transport.*

Clean Hydrogen Partnership
The project is supported by the Clean Hydrogen Partnership and its members.
Co-funded by the European Union