



First hydrogen filling station for forklift trucks in France, for IKEA

press release

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Air Liquide is going to provide IKEA, the leading specialized retailer, **with a hydrogen filling station** to supply part of its logistic platform in Saint-Quentin-Fallavier, near Lyon in France.

In the context of this project, the hydrogen filling station **will supply around twenty forklift trucks powered by hydrogen fuel cells produced by HyPulsion** (a joint venture 80%-owned by Air Liquide's subsidiary Axane and 20%-owned by Plug Power). **These electric forklift trucks are hydrogen-powered, they reject only water and offer extended run time for 8 hours.**

Air Liquide's filling station will supply hydrogen at a pressure of 350 bar, with **refills in 3 minutes**. Replacing electric batteries with fuel cells provides **greater flexibility and productivity** thanks to a longer operating range for users and a shorter down-time for refilling.

With a surface area of 100,000 m², IKEA's distribution centre in Saint Quentin-Fallavier is a key warehouse for the upstream logistics of IKEA's stores in Southern Europe, organising the receipt and storage of products delivered from all over the world.

The use of **hydrogen as an energy carrier** for logistic platforms has been developing in the U.S. and Canada, with over **3,000 forklift trucks** currently running on hydrogen. The conversion of just **10% of the worldwide fleet** of forklift trucks would represent a **potential hydrogen market of €7 billion**.

Gert Bruggers, General Manager Distribution Service Provider IKEA France, declared: **"This project is in line with other innovative energy projects that our Group is conducting. Moreover, this allows us to increase our operational efficiency. It contributes to the evolution of the regulatory environment, which will allow an increase in hydrogen energy applications in France."**

François Darchis, Senior Vice-President and a member of Air Liquide's Executive Committee, commented: **"After the contracts in North America, the Group is proud to set up this first filling station on a logistic platform for IKEA in France. This project, which is a first in Europe, proves the competitiveness and technical maturity of this solution for electric forklift trucks.**

And thanks to the cooperation between public and private partners, it is the opportunity to drive change in the regulations to allow the development of hydrogen energy in France."

This project is the result of work carried out by the partners of the **"Horizon Hydrogène Energie" program in France**, funded by OSEO, and the fruit of effective cooperation with public authorities.

Hydrogen, a clean energy carrier

A fuel cell produces electricity from hydrogen on its place of use, with **no greenhouse gas or particle emissions, and no noise**. Hydrogen can be produced from a various range of energy sources.

Through the **Blue Hydrogen initiative**, Air Liquide is committed to producing 50% of the hydrogen for its hydrogen energy applications from renewable sources.

Air Liquide **masters the entire hydrogen energy chain** with 200 production sites, 2,000 km of hydrogen pipelines - the biggest distribution network in the world - and hydrogen filling stations.

HyPulsion

Air Liquide recently increased its stake in HyPulsion, alongside its strategic partner Plug Power (global leader in fuel cells for forklift trucks). The Group is supporting the development of this market, just like that of hydrogen energy for buses and cars. HyPulsion is part of the Group's Advanced Business and Technologies network of entrepreneurial companies.

Air Liquide is the world leader in gases for industry, health and the environment, and is present in **80 countries** with **50,000 employees**. Oxygen, nitrogen, hydrogen and rare gases have been at the core of Air Liquide's activities since its creation in 1902. Using these molecules, Air Liquide continuously reinvents its business, anticipating the needs of current and future markets. The Group innovates to enable progress, to achieve dynamic growth and a consistent performance..

Innovative technologies that curb polluting emissions, lower industry's energy use, recover and reuse natural resources or develop the energies of tomorrow, such as hydrogen, biofuels or photovoltaic energy... Oxygen for hospitals, home healthcare, fighting nosocomial infections... Air Liquide combines many products and technologies to develop valuable applications and services not only for its customers but also for society.

A partner for the long term, Air Liquide relies on employee commitment, customer trust and shareholder support to pursue its vision of sustainable, competitive growth. The **diversity** of Air Liquide's teams, businesses, markets and geographic presence provides a solid and sustainable base for its development and strengthens its ability to push back its own limits, conquer new territories and build its future.

Air Liquide explores the best that air can offer to preserve life, staying true to its sustainable development approach. In 2012, the Group's revenues amounted to **€15.3 billion**, of which more than 82 % were generated outside France. Air Liquide is listed on the Paris Euronext stock exchange (compartment A) and is a member of the CAC 40 and Dow Jones Euro Stoxx 50 indexes.