



Deliverable 7.3 Press releases and case studies on 2 sites

Summary of Press releases and articles on the two HyLIFT- EUROPE Demonstration sites

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Acronyms and Abbreviations

FC	Fuel Cell
FCH JU	Fuel Cell and Hydrogen Joint Undertaking
H ₂	Hydrogen
MHV	Material handling vehicles
LPG	Liquefied Petroleum Gas

Introduction

The two demonstration sites of the project HyLIFT-EUROPE have aroused a lot of attention due to their importance at European level as the largest deployments of fuel cell material handling vehicles. In order to convince other end users to adopt the technology, the project consortium organized two workshops to increase the visibility of the demonstrations and to give the chance to the key stakeholders of the sector to see the operations of the fuel cell forklifts powered by hydrogen in an industrial environment.

This deliverable aims at reporting the articles and the press releases produced by the project partners on the two case studies.

1 From HyLIFT-DEMO to HyLIFT-EUROPE

1.1 Press Release 11th June, 2013

Hydrogen to revolutionise drive trains of materials handling vehicles in Europe

Munich, 11 June 2013

The HyLIFT-DEMO and HyLIFT-EUROPE projects, co-funded by the Fuel Cells and Hydrogen Joint Undertaking (FCH JU), enter into the next phase: the large scale demonstration of hydrogen fuel cell materials handling vehicles at end user sites. These projects are an important step towards commercialization of fuel cell vehicles for materials handling in Europe and have demonstrated in excess of 1,000 operating hours per truck and 1,000 refuelling events per station to date. Opportunities remain for fleet operators to take advantage of the high efficiency, zero emission vehicles available under these projects.

The overall aim of the HyLIFT projects is to conduct large scale demonstration of hydrogen fuel cell materials handling vehicles to accelerate commercial market introduction of this technology.

A hydrogen-powered materials handling vehicle with a fuel cell combines the advantages of diesel / LPG and battery powered vehicles. Hydrogen provides the same consistent power and fast refuelling capability as diesel and LPG, whilst fuel cells provide energy efficient and zero emission electric propulsion similar to batteries.

The HyLIFT projects will see the demonstration of the 2.5 ton STILL forklift RX 60-25 and other STILL trucks, and the MULAG airport tow tractor Comet 3 FC. In total the demonstration of 200 vehicles is planned. HyLIFT-DEMO involves the partners LBST (coordination), H2 Logic (fuel cell system supply), DTU (R&D of future product generations), Linde (hydrogen competence), JRC (fuel cell system laboratory testing), SINTEF (accelerated durability tests), FAST/EHA (dissemination) and TÜV SÜD (certification support) whereas HyLIFT-EUROPE involves the partners LBST (coordination), STILL (forklifts and warehouse trucks), MULAG (airport tow tractors), Air Products (relocatable fuelling station supply and hydrogen competence), CHN (hydrogen stations), Element Energy (total cost of ownership calculations), FAST/EHA (dissemination), JRC (validation tests), Heathrow Airport (support vehicle usage) and H2 Logic (fuel cell systems and refuelling hardware).

An initial success of the projects is that first vehicles have clocked over 1,000 hrs of operation at an end-user site while the number of refuelling procedures at the corresponding hydrogen refuelling station has amounted to 1,000 to date.

This shows that fuel cell drive trains are a feasible and sustainable alternative for customers using either diesel or LPG today.

“We hope that we are able to tie in with the success of fuel cell trucks in the USA as well in Europe with support of the HyLIFT-EUROPE project”, states Michael Arndt, Head of Product

Management of STILL GmbH. STILL provides customized solutions for intralogistics worldwide implementing the intelligent management of material handling equipment, software and services.

“The market is requesting alternative drive systems to reduce emissions. We believe in fuel cells as a leading drive system for the future”, states Dr. Peter Esser, Managing Director of MULAG Fahrzeugwerk. MULAG is a leading manufacturer of Ground Support Equipment for airports and industrial tow tractors.

“We are ready to showcase that fuel cells for material handling vehicles are emerging as a competitive alternative on parameters such as performance, cost, service and in particular emissions”, states director in H2 Logic, Jacob Krogsgaard. H2 Logic is a leading manufacturer of fuel cell systems for material handling vehicles such as forklifts and tow tractors and hydrogen refuelling stations for fuel cell powered vehicles.

Market introduction has already begun in the USA where customers are increasingly opting for fuel cell material handling vehicles offering an attractive value proposition whilst providing energy efficient and zero emission electric propulsion.

For details of how to participate in the vehicle demonstrations and for further information please visit www.hylift.eu or contact [coordinator\(at\)hylift.eu](mailto:coordinator(at)hylift.eu).

2 Prelocentre site

2.1 EHA post 9th June, 2016

<https://www.h2euro.org/latest-news/eha-in-action-home/live-encounter-at-europes-first-h2-powered-forklift-truck-site/>

The mid-term workshop of the European project HyLIFT-EUROPE - Clean efficient power for materials handling - took place yesterday at the Prelocentre site, the first fleet of 100% hydrogen-powered fuel cell forklift trucks in Europe in Saint-Cyr-en-Val, near Orléans (France). The Workshop organised by the HyLIFT-EUROPE consortium gathered around 40 participants including representatives from relevant companies such as Toyota, Colroyut, STILL and LBST, local authorities including the Mayor of St Cyr-en-Val and the DREAL territorial unit of Loiret as well as the European Commission with the FCHJU which funded the project. Participants had the possibility to visit the indoor installation: the hydrogen station and fuel cells and refuelling of the forklift trucks as well as the outdoor hydrogen tubes. The event was opened by Philippe Giroux, director of Prelocentre, followed by the speeches of the Mayor Christian Braux, Enrique Giron from FCH-JU, Xavier Pontone from Air Liquide and Jose-Luis from PlugPower, which highlighted the importance of investing in hydrogen and fuel cells to bring down costs and facilitate first markets.

2.2 Articles on Prelocentre site

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<https://www.insidelogistics.ca/dc-and-warehouse-operations/hydrogen-forklift-fleet-show-europe-145047/>

<https://www.marketwatch.com/press-release/plug-power-to-participate-in-showcase-tour-of-first-european-forklift-fleet-100-percent-powered-by-hydrogen-fuel-cells-2016-06-06-7184055>

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<https://www.actu-environnement.com/ae/news/air-liquide-recharge-chariots-pile-hydrogene-prelocentre-27017.php4>

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July 2016

<https://medium.com/@cH2ange/philippe-giroux-logistics-director-prelocentre-hydrogen-is-above-all-a-tool-7cf3e7f2c637>

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September 2016

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October 2016

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<http://www.evtechexpo.eu/49/news-and-editorial/exhibitor-news/2016/10/14/first-all-hydrogen-fleet-in-europe-is-french,-forkliftaction-reports/>

3 Carrefour site

3.1 Press Release 22nd November, 2018

The largest deployment of hydrogen powered fuel cell materials handling vehicles in Europe in operation at Carrefour Vendin Le Vieil in the framework of HyLIFT-EUROPE project

On 22nd of November 2018 the supermarket chain Carrefour, one of the largest retailers on European level, has inaugurated the operation of its fleet of 137 hydrogen powered fuel cell materials handling vehicles in its warehouse located in Vendin Le Vieil, France, today the largest deployment of this type of vehicles Europe has ever seen.

This is the result of a collaboration of Carrefour with major industries such as Air Liquide that developed the hydrogen refuelling station and STILL, the provider of the fuel cell vehicles, in the framework of HyLIFT-EUROPE project co-funded by the Fuel Cells and Hydrogen Joint Undertaking (FCH JU).

The HyLIFT-EUROPE project paves the way for a self-sustaining market for hydrogen powered fuel cell materials handling vehicles in Europe by increasing the volumes of vehicles in operation by reaching the ambitious goal of deploying two very large fleets of fuel cell materials handling vehicles, counting more than 200 vehicles in total. The fleet in Carrefour is the largest one developed in this context; a second fleet of 75 fuel cell vehicles was deployed already in 2016 at Prelocentre, a logistics provider for fruits and vegetables.

Fuel cells, in particular in industrial environments, bring advantages to the material handling sector: the hydrogen powered material handling vehicles are efficient and reliable; they can be rapidly refueled in less than 3 minutes, boosting productivity by eliminating the time associated with battery changing and charging; they generate only water and heat with no local pollutants allowing indoor operations.

Olivier Danneels – North France warehouses Director, Carrefour Supply Chain

“We can say today that hydrogen doesn't only answer to environmental requirements but allows a better operational efficiency (performances, agility, working conditions). The use during the next months must confirm this”

Bart Biebuyck – Executive Director FCH-JU

“The Carrefour site in Vendin Le Vieil will be looked at by others who will want to assess the technology and the business model, therefore it is a very important example for the future expansion of fuel cell application in the logistics sector in Europe”

Björn Grünke - Product Manager Energy Systems, STILL

“The Carrefour project with 137 trucks has proved, that fuel cell technology works in intralogistics. We are excited to observe the further developing of the fleet and are looking forward to the competition of energy technologies for the future”

Erwin Penfornis – COO Air Liquide Hydrogen Energy World Business Unit

“Hydrogen is at the heart of the energy transformation. What we see today here at

Carrefour Supply Chain is just the beginning. A lot is going on around hydrogen thanks to pioneers like you"

Jose Luis Crespo – General Manager Plug Power Europe

"This is the largest deployment of Plug Power's GenDrive units in Europe, with every truck that is turned over to hydrogen and fuel cell power, Carrefour is taking another step forward in its philosophy to adopt clean energy in its operations into its employees and stakeholders. Plug Power congratulates Carrefour on its business expansion. We look forward to many of this type of deployments in the near future in Europe"

Hubert Landinger – HyLIFT-EUROPE project coordinator, Ludwig- Bölkow Systemtechnik

"With this deployment of 137 hydrogen powered fuel cell materials handling vehicles at Carrefour we have for the first time the possibility here in Europe to showcase the potential of this technology at scale. This might serve as starting point for a broad roll-out and as an incubator for further stakeholders in the whole supply chain to join in"

The technology of hydrogen powered fuel cell forklifts and warehouse trucks and related infrastructures for the hydrogen refuelling are ready for the market roll out and represent a serious option in the materials handling market.



3.2 Articles on Prelocentre site

- HyLIFT-EUROPE consortium:

http://www.hylift-europe.eu/public/Publications/PressRealease-HyLIFT-EUROPE-Carrefour_Final.pdf

- Air Liquide:

<https://energies.airliquide.com/air-liquide-opens-new-hydrogen-station-carrefour-supply-europes-largest-forklift-trucks-fleet>

- Plug Power:

<https://www.ir.plugpower.com/Press-Releases/Press-Release-Details/2018/Carrefour-Supply-Chain-Showcases-GenDrive-Powered-Lift-Truck-Fleet-at-Grand-Opening-in-France/default.aspx>

- STILL:

<https://www.still.com.br/22375+M53873476ece.0.0.html>

FRENCH

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ENGLISH

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<https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=91638>

<https://forklift-dealer.com/batteries/carrefour-deploys-second-hydrogen-fleet/>