



HyLIFT

Clean Efficient Power
For Materials Handling



www.hylift.eu

HyLIFT-EUROPE

Large scale demonstration of fuel cell powered material handling vehicles

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*Programme Review Days 2017
Brussels, 23-24 November*

PROJECT OVERVIEW



- Call year: 2011
- Call topic: SP1-JTI-FCH.2011.4.1: Demonstration of fuel cell-powered Material Handling Equipment vehicles including infrastructure
- Project dates: 01 JAN 2013 - 31 DEC 2018
- % stage of implementation 01 NOV 2017: 80%
- Total project budget: 15,680,960.20 €
- FCH JU max. contribution: 6,896,871.00 €
- Other financial contribution: 0 €
- Active partners: Ludwig-Bölkow-Systemtechnik, STILL, FAST/EHA, Air Liquide, Prelocentre
- Terminated partners: MULAG, Air Products, CHN, Element Energy, JRC, Heathrow Airport, H2 Logic, Dantherm Power

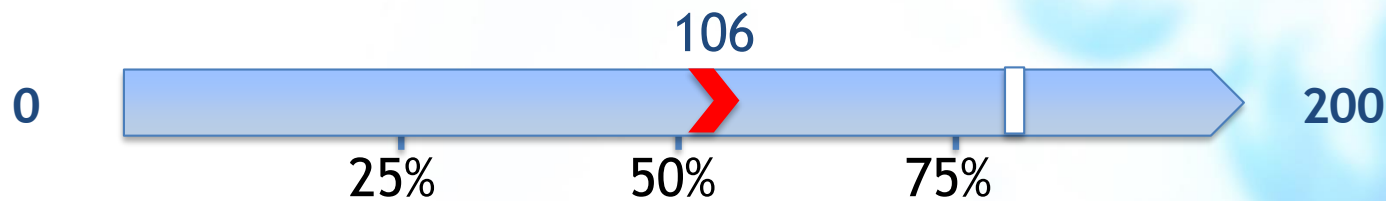
The aim of HyLIFT-EUROPE is

- to demonstrate more than 200 fuel cell materials handling vehicles and associated refuelling infrastructure at 2 sites (the initial plan foresaw 5-20 sites)
- to make it the largest European trial of hydrogen fuel cell materials handling vehicles so far
- to continue the efforts of the previous FCH JU supported project HyLIFT-DEMO
- to demonstrate fuel cell systems in material handling vehicles from the partner STILL and from non-participating OEMs

PROJECT PROGRESS/ACTIONS

Aspect 1 - Vehicle deployment

 Achievement to-date
 % stage of implement.



Aspect addressed	Parameter (KPI)	Unit	SoA 2017	FCH JU Targets		
				Call topic	2017	2020
Vehicle deployment	Number of industrial and off-highway vehicles	[#]	n.a.	50	n.a.	n.a.

Future steps:

In the meantime sufficient customer contracts have been signed. The project has been extended by one year in order to achieve the target of demonstrating 200 FC materials handling vehicles and keep the demonstration going for at least for one complete year

PROJECT PROGRESS/ACTIONS

Vehicles at Prelocentre



Source: Air Liquide / H.Lucas_S.Guillemain



Source: Air Liquide / H.Lucas_S.Guillemain

Prelocentre: > 40,000 fillings realised during the last 30 months

PROJECT PROGRESS/ACTIONS

Vehicles for second HyLIFT-EUROPE fuel cell vehicle user




Source: STILL GmbH

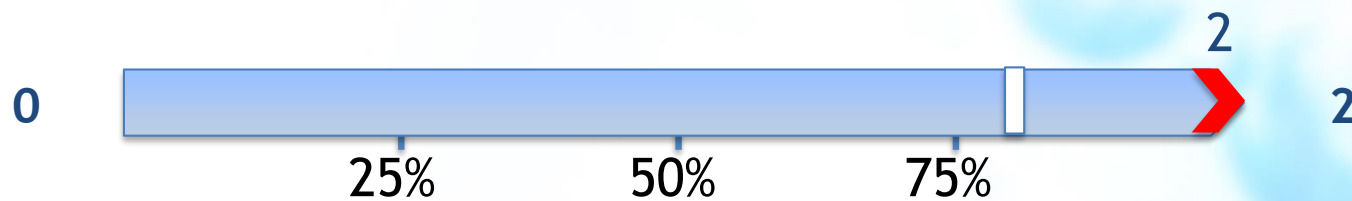


Source: STILL GmbH

PROJECT PROGRESS/ACTIONS

Aspect 2 - Hydrogen Refuelling Station deployment

 Achievement to-date
 % stage of implement.



Aspect addressed	Parameter (KPI)	Unit	SoA 2017	FCH JU Targets		
				Call topic	2017	2020
HRS deployment	Demonstration of supporting hydrogen infrastructure at demo sites	[#]	n.a.	≥ 1	n.a.	n.a.

Future steps:

Operation of the HRSs according to the needs of the vehicle fleet at customer sites

PROJECT PROGRESS/ACTIONS

Hydrogen refuelling - fuel supply and outdoor compressor station



Source: Ludwig-Bölkow-Systemtechnik GmbH



Source: Ludwig-Bölkow-Systemtechnik GmbH

PROJECT PROGRESS/ACTIONS

Hydrogen refuelling - indoor dispenser



Source: Air Liquide / H.Lucas_S.Guillemain



Source: Ludwig-Bölkow-Systemtechnik GmbH

- **Interactions with projects funded under EU programmes**
 - HyLIFT-DEMO: Can be seen as the preceding project of HyLIFT-EUROPE. All experiences, learnings & non-confidential info such as improvements in the customer identification process could be taken over
 - HAWL: HyLIFT-EUROPE coordinates with the HAWL project and has provided inputs to warehouse installation guidelines and to RCS work in this field via its public deliverables
- **Interactions with national and international-level projects and initiatives**
 - CIN / NOW: e.g. participation in 1st International Workshop Hydrogen & Fuel Cells in Materials Handling, Intralogistics and Ground Support Equipment at Airports, annual workshops, information exchange, ...

Public deliverables

- D5.1 Supply of provisional HRSs and hydrogen for temporary sites
- D7.1 Participation at “CeMAT 2014” & “Inter Airport Europe 2013” fairs

Conferences/Workshops

- 1 organised by the project
- 23 in which the project has participated (but not organised)

Social media



Publications: 9

- Greener power for material handling: Industry Europe, Volume 26/5, 2016, p. 6-8
- Lift für Brennstoffzellen: HZWEI, 15. Jahrgang, JAN 2015, p. 38-39

Patents: 0

- n.a.

DISSEMINATION ACTIVITIES

Workshop at Prelocentre

- Prelocentre, one of the first locations in Europe to operate multiple hydrogen powered fuel cell forklift trucks and an Air Liquide hydrogen refuelling station offered an excellent location to perform the HyLIFT-EUROPE mid-term dissemination workshop

Attendees:
representatives from

- relevant companies
- local authorities
- European institutions



INVITATION

Discover the first 100% hydrogen-powered fuel cell forklift truck site in Europe

HyLIFT Europe, in cooperation with Prelocentre and Air Liquide, is pleased to invite you to discover the operation and recharging of the first fleet of 100% hydrogen-powered fuel cell forklift trucks in Europe on June 7th, 2016, at Prelocentre site, Saint-Cyr-en-Val, near Orléans (45), France.

June 7th, 2016
11:00 - 14:00

Prelocentre Site
Rue des Genêts,
45590 Saint-Cyr-en-Val

About the HyLIFT Projects

The HyLIFT projects HyLIFT-DEMO and HyLIFT-EUROPE, co-financed by the Fuel Cell and Hydrogen Joint Undertaking (FCH JU), have supported the development and demonstration of European manufactured fuel cell powered trucks and the hydrogen recharging infrastructure since 2009.

Programme

- ▶ 11:00 Welcome: Philippe Giroux, Prelocentre Director
- ▶ 11:15 Site tour: hydrogen station, fuel cells and refuelling of the forklift trucks
- ▶ 12:15 Speeches: FCH JU, local authorities, Air Liquide, HyPulsion, Colruyt
- ▶ 13:00 Cocktail



Source: FAST/EHA

DISSEMINATION ACTIVITIES



Source: Air Liquide / H.Lucas_S.Guillemain

<https://www.youtube.com/watch?v=uUPVJBO9rh0&t=14s>



Thank You!

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