

## PRESS RELEASE

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## HyLIFT-DEMO Project Showcases Hydrogen Powered Fuel Cell Forklift Trucks at CeMAT logistics Fair May 2-6

Hannover, May 2, 2011

The project HyLIFT-DEMO, co-funded by the European Joint Undertaking for Fuel Cells and Hydrogen FCH JU, already enters into its next phase, the selection of end users for its 30 hydrogen powered heavy duty fuel cell forklifts. The project will showcase the 2.5 tons forklifts at the CeMAT logistics fair in Hannover, Germany, from 2 – 6 May.

The overall purpose and ambition of HyLIFT-DEMO, started in January 2011, is to conduct a large scale demonstration of hydrogen powered fuel cell forklifts, which enables a following deployment and market introduction starting no later than 2013.

A hydrogen powered forklift with fuel cells combines the advantages of diesel / LPG and battery powered forklifts. Hydrogen exhibits the same consistent power and fast refuelling capability as diesel and LPG, while providing energy efficient and zero emission electric propulsion like batteries.

Nine partners from five European countries are commonly heading for the early market introduction of fuel cell forklifts:

The developer of fuel cell hybrid power systems H2 Logic and the forklift manufacturer Dantruck A/S have since 2006 collaborated on developing a new hydrogen powered forklift with a fully integrated H2Drive™ fuel cell system from H2 Logic. The result is a new powerful 2.5 tons forklift for heavy duty applications, developed entirely to be powered by hydrogen. H2 Logic is establishing the hydrogen refuelling infrastructure and will take care of its operation while the gases and engineering company Linde supports with advice in terms of hydrogen supply.

The research organisations SINTEF and JRC are performing accelerated tests on durability, vibration, shock and climate resistance on the next generation fuel cell system. The Technical University of Denmark will assist H2 Logic in the optimization of the fuel cell hybrid system. TÜV SÜD supports the third party safety certification of the fuel cell systems and the integration into the fork lifts as well as of the hydrogen refuelling infrastructure. The European Hydrogen Association (EHA) in collaboration with the Italian Federation of Scientific and Technical Associations, FAST, is working towards writing a guidance document for conducting project activities on fuel cell forklifts, targeted towards regional and local actors, as a help for them in setting up own projects. EHA will also be collaborating in the organization of dissemination activities and workshops.

The project is coordinated by the consultancy Ludwig-Bölkow-Systemtechnik GmbH which will also carry out the project monitoring and assessment activities to report the performance of the hydrogen forklifts and the refuelling infrastructure and will assist in the development of the commercialisation plan by contribution of the experiences and lessons learned collected during the coordination of previous projects.

The main objectives of the HyLIFT-DEMO project are a 2 year demonstration of at least 30 units of 2.5-3.5 tons forklifts with a fully integrated 3<sup>rd</sup> generation fuel cell system and the demonstration of the associated hydrogen refuelling infrastructure at end-user sites accompanied by planning and ensuring the initiation of a commercial market deployment by end of 2013.



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At the CeMAT logistics fair in Hannover both the newly developed zero emission hydrogen fuel cell system for forklifts H2Drive<sup>™</sup> as well as the 2.5 tons heavy duty hydrogen powered fuel cell fork lift will be showcased by H2 Logic (booth J01, hall 25) and respectively DanTruck A/S (outdoor booth FG L12).

In total H2Drive™ is a feasible and sustainable alternative for customers using either diesel or LPG today.

"We are ready to showcase that fuel cells for forklifts is emerging as a competitive alternative on parameters such as performance, cost, service and in particular emissions," states Sales Manager in H2 Logic, Steven Westenholz.

Market introduction has already begun in the U.S. and an increasing number of end users are opting for fuel cell forklifts offering an attractive value proposition whilst providing energy efficient and zero emission electric propulsion.

"In the U.S. there are already more than 1,000 fuel cell forklifts in daily commercial operation and Europe will be next", summarizes project coordinator of HyLIFT-DEMO and project manager in LBST, Hubert Landinger, on the market opportunities of the fuel cell forklifts.



Dantruck A/S Model 3000-FC