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## Fuel Cell Forklifts Gain Ground

U.S. Success Driving Growth in Europe

(Washington, DC—July 9, 2013) The U.S. materials handling market has been a growth sector for fuel cells. Hydrogen-powered fuel cell forklift fleets have expanded in warehouses, distribution centers, and manufacturing facilities as operators at global leaders such as BMW, Coca-Cola, Fed-Ex, and Wal-Mart recognize the quick refueling times and enhanced performance that fuel cell forklifts deliver.

[According to Fuel Cells 2000](#), there are over 4,000 fuel cell forklifts in use in the U.S. today. While Latham, NY-based Plug Power currently has an 85 percent market share, other companies are getting in on the action as European logistics firms look to put fuel cell lift trucks in their warehouses.

Plug is setting its sights high with a goal of shipping 3,000 units in 2014, which could bring up to \$70 million in revenue. The company currently has [a sales backlog of 1,133 orders](#).

To help meet this demand, Plug has raised over \$12 million in new investments, including [a \\$6.5 million stake from hydrogen provider Air Liquide](#), calming Wall Street's concerns about Plug's cash flow and [causing its stock price to triple](#). It also rolled out a new version of its GenDrive Series fuel cell specifically designed for materials handling applications. [The GenDrive 1900](#) has a refuel time of just two minutes, produces a constant output of 14 kilowatts, and drops in seamlessly in place of a lead-acid battery.

The company's revenues were bolstered by orders from new and repeat customers. [BMW added 175 fuel cell forklifts](#) at its Spartanburg, SC manufacturing facility, bringing its total to 275 units—the largest fuel cell forklift fleet in the world. BMW also has a pilot project to [generate renewable hydrogen from methane](#) taken from a nearby landfill in a partnership with the South Carolina Research Authority.

Ace Hardware recently became a Plug Power customer, [deploying 65 GenDrive fuel cells into Crown lift trucks at its Wilmer, TX Retail Support Center](#), while [Procter and Gamble purchased 140 additional GenDrive units for a Mehoopany, PA location](#), giving it a total of 340 fuel cell lift trucks across four facilities. Ace's fuel cell forklifts will be [fueled by Nuvera Fuel Cells' PowerTap on-site hydrogen generation and refueling solution](#), which can produce up to 50 kg of hydrogen per day. PowerTap is a steam methane reformer and Nuvera claims about 45% of the hydrogen will come from water, producing 70 tons less carbon dioxide and avoid 330,115 kWh of electrical consumption annually.

Genco Supply Chain Solutions concluded [a three-year test project](#) in which funding from the 2009 American Recovery and Reinvestment Act was used to help deploy 25 Plug Power forklift units at a Kimberly-Clark distribution center in Graniteville, SC, with Genco reporting positive results. [Department of Energy research](#) shows that cost-shared projects like this one often lead to additional private investment of up to three times the original government-sponsored amount.



ARRA money that directly funded the deployment of 465 fuel cell forklifts indirectly spurred the purchase of over 2,000 units.

Other fuel cell manufacturers are reporting sales in materials handling applications as well.

- Oorja Protonics, with the help of funding from the Department of Energy, has been [testing materials handling equipment powered by its direct methanol fuel cells](#). Oorja recently became an Approved Service Provider for UniPro, the largest cooperative for food and produce distributors in the U.S.
- Nuvera unveiled a new [Orion fuel cell stack](#) designed to be easily integrated into forklifts and other industrial vehicles.
- Infinitium Fuel Cell Systems Inc. (IFCS) of Texas [signed an agreement with ITM Power](#), based in the U.K., for ITM to become the exclusive European distributor of its fuel cell systems for materials handling equipment.

European supply chain companies are picking up on the fuel cell forklift trend.

- Austrian global logistics provider [DB Schenker purchased ten fuel cell-powered pallet trucks](#) with the help of funding from the Austrian Federal Ministry for Transport, Innovation, and Technology.
- [Air Liquide installed a hydrogen refueling station](#) at an IKEA distribution center near Lyon in France. The IKEA facility features 20 HyPulsion fuel cell forklifts and is funded partially by the Horizon Hydrogène Energie program.
- The [Hylift-Europe project](#) announced the goal of demonstrating 200 units of fuel cell powered material handling vehicles at hydrogen refueling stations across Europe.
- [ITM Power also signed an agreement with Marks & Spencer](#) for a six-week trial of fuel cell forklifts at its 1.1 million sq. ft. Prologis Park Distribution Center.

For more information about fuel cell vehicles, recent developments and announcements or fuel cells in general, please contact [Fuel Cells 2000](#).