Daimler, Ford Place Huge Bet on Hydrogen

Daimler has long believed hydrogen will be the fuel of the future, and today it joined Ford in making a $228 million bet that it will be right.

The two automakers have launched a new company, Automotive Fuel Cell Cooperation, by buying a majority stake in Ballard Power Systems' automotive fuel cell division. With most of the major automakers seriously investigating hydrogen's potential - and some of them already putting a limited number of cars in driveways -- Daimler and Ford want to lead the pack and make what has been frightfully expensive technology cheaper and more viable for daily use.

"With the newly founded company, we strengthen our leading position in the field of fuel cell technology and go full steam ahead in our preparations for the series production of fuel cell cars," Dr. Herbert Kohler, Daimler's vice president of advanced vehicle and powertrain engineering said.

That means we might see hydrogen fueled cars in big numbers far sooner than anyone expected. Find out why after the jump...

The joint venture shows Daimler and Ford are serious about hydrogen and, despite its significant hurdles - astronomical cost, questionable durability and lack of fueling infrastructure - confident it is the next evolution in automobiles. The two firms paid for the deal by returning to Ballard 34.3 million shares of stock, worth some $168 million, that they held in the Canadian company, Reuters reports. They also are investing $60 million in the new company.

"It sends a very clear message that there's a viable case to be made for fuel cell vehicles," Ron Cogan, editor and publisher of Green Car Journal, told us. "You wouldn't make an investment of this size unless you thought there was a market for the vehicles."

The venture also strengthens the two firms' position against mounting competition as other automakers bring hydrogen-powered cars to market, albeit in limited numbers. BMW has

been producing the 750hL for about a year now, although it uses an internal combustion engine that can burn hydrogen or gasoline. Honda recently announced the FCX fuel cell car debuting at the upcoming Los Angeles Auto Show will see limited production next year, and General Motors will roll out a test fleet of 110 Equinox fuel cell SUVs in January.

Daimler was among the pioneers, though, launching its first fuel cell vehicle, the Necar 1, in 1994. Today it owns more than 100 fuel cell vehicles that have racked up almost 2.9 million miles. The firm is betting it can have the Mercedes-Benz F-Cell widely available by 2010. It's already got some running around Iceland, where, Daimler says, the hydrogen is produced through geothermal or hydropower, making it entirely green.

Ford didn't join the game in any serious way until 2005, but it has assembled a fleet of 30 Focus fuel cell cars that have undergone more than 600,000 miles of testing in seven cities. It's also developing the Ford Edge HySeries Drive, a hybrid using a hydrogen fuel cell and gasoline engine to produce electricity stored in lithium batteries. Ford has even gone racing with fuel cells.

Both companies said launching a cooperative effort to further develop fuel cell technology and clear some of the hurdles to widespread implementation.

"The fuel cell remains one of the most viable solutions to develop a sustainable, zero-emissions vehicle," Dr. Gerhard Schmidt, Ford's vice president of research and advanced engineering, said. "The creation of the Automotive Fuel Cell Cooperation is an investment in our future."

Daimler predicts we'll see widespread commercialization between 2012 and 2015, but you've got to wonder if that timeline is more than a little optimistic. Ballard said one of the reasons it wanted to unload its automotive fuel cell division was the cost of development and the timeline for commercialization. Ballard will hold a 19.1 percent stake in the new venture and invest $60 million in it, but clearly intends to focus on areas where it has seen success - fuel cell applications for buses and power generators.

There are 179 fuel cell cars zipping around California, more than anywhere else in the world, according to the California Fuel Cell Partnership. But there are still a lot of hurdles to clear before we see them in any meaningful numbers. The greatest of them, of course, is creating the fueling infrastructure. There are 25 filling stations in California, most of them in the San Francsico and Los Angeles areas, and another 10 in the works. Despite politicians' talk of building a Hydrogen Highway, clearly a lot more work must be done.

Engineers and academics don't share the same optimism as the automakers, saying it could be decades before we can switch to hydrogen. Even Toyota says it'll be 2030 before it happens in any significant way. Some of the biggest challenges are improving durability and, perhaps most importantly, bringing down the staggering cost - several hundred thousand dollars apiece - of the vehicles by a factor of 100.

Daimler and Ford say achieving those goals are exactly why they're launching the venture. "We will work intensively on making this technology even more reliable and on cutting costs," Kohler said. Cogan shares the optimism, noting that the venture "can only help the technology. They've already figured out how to make (fuel cells) small enough to fit in a passenger car. Now they have to figure out the durability and the cost. But that's just a matter of time and money, and by working together, they're providing both."