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Fuel Cells Go Niche

While many expected fuel cells to reach consumer electronics first, many companies are coming out with fuel cells for industrial uses, recreational vehicles, and home generators.

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The first commercially available fuel cells weren't for laptops. They weren't for cell phones. And they certainly weren't for automobiles.

Despite many analysts' expectations, the first fuel cells on the market are for such applications as recreational vehicles, RFID readers, residential power generators, and industrial equipment.

Jadoo Power Systems' latest news is one example of fuel cells popping up everywhere except where expected. The Folsom, California-based company said this week it plans to unveil a hydrogen fuel-cell system for professional video cameras during the National Association of Broadcasters Convention from April 16 to 21 in Las Vegas. The system is the second version of the product.

Other examples are plentiful. Nuvera Fuel Cells said last month it will take orders for its 5-kW PowerFlow hydrogen fuel-cell system for industrial applications, such as material handling, ground support equipment, construction, mining, forestry, and utility vehicles, starting April 11.

Germany's Smart Fuel Cell launched a direct methanol fuel cell for recreational vehicles and industrial equipment, A25, as early as 2003. The company came out with a more powerful second version, A50, last year. New York City's MTI MicroFuel Cells in December announced it had shipped fuel cells to warehousing gear vendor Intermec Technologies for use in radio frequency identification (RFID) readers.

And Tokyo Gas, Matsushita Electric Industrial, and Ebara, all of Japan, last month introduced what they claim are the world's first commercial fuel-cell power generation units for a home—the home of Prime Minister Junichiro Koizumi.

Consumer uses

In the meantime, companies such as Toshiba, Medis Technologies, and Smart Fuel Cell don't expect to introduce fuel cells for consumer-electronics applications until later this year. And they're among the earliest. Ballard Power Systems in March released a report stating that commercially viable fuel-cell stack technology for automobiles won't be ready until 2010.

Farah Saeed, program manager for backup power solutions for Frost & Sullivan, said part of the reason that industrial, niche technologies have become early fuel-cell adopters are that many of those technologies are themselves experimental.

Trying something new is less of a risk for them than for laptop and cell-phone manufacturers, which are in highly competitive markets, she said. The cost of fuel cells just isn't low enough for laptops and cell phones, at least not yet, she added. "Fuel cells can't compete in that environment," said Ms. Saeed. "It's an obvious cost issue."

There's also a conflict for consumer-electronic manufacturers. Many of them are also battery manufacturers involved in the highly competitive lithium-ion and lithium-ion-polymer markets, she said.

Take the press release from Toshiba, which in March announced a nanotechnology breakthrough allowing it to dramatically reduce recharging times for its lithium-ion batteries. The headline from trade magazine www.h2cars.biz: "New Battery Technology to Postpone Fuel Cell Applications?"

Frost & Sullivan is one company that previously said the first commercial fuel cells would be for laptops. Ms. Saeed said laptops are still a primary market for the technology, but it has taken longer than expected for fuel cells to come down in price.