



January 17, 2010

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Gaining a Toehold for the E-Bike

By **[BRAD STONE](#)**

TECHNOLOGY has eliminated many of life's milder physical demands, like getting off the couch to change the channel, or going to the store to buy a book.

The latest exertion to be conquered: biking uphill.

Electric bicycles — a regular pedal-driven bike with a motor for steeper slopes and an optional extra boost — is an idea that has been around for more than a century. But while e-bikes have caught on in certain parts of the world, particularly China, where tens of millions are sold each year, they have never quite captured the imagination of auto-obsessed Americans.

That may be about to change. At the [Consumer Electronics Show](#) in Las Vegas this month, [Sanyo](#), the Japanese electronics maker and a major producer of car batteries, showed off a sleek, lightweight e-bike called the [Eneloop Hybrid Bicycle](#).

The Eneloop, priced at \$2,300, came to stores in the United States late last year. It operates like any normal bike and, save for the black [lithium](#)-ion battery strapped to the frame beneath the seat, looks exactly like one as well. But when you press a button on the left handlebar, a 250-watt motor gently kicks in, providing about twice the power as your own pedaling — and making you feel like [Lance Armstrong](#) on even the steepest slopes.

"The average auto trip in the U.S. is five miles or less," said David Cabanban, bicycle business manager at Sanyo North America. "At the end of the day, how do you lower pollution and get people healthy? We've got to get people back to riding bikes."

For years, e-bike proponents have argued that these machines can get people to abandon their cars and cut down on pollution, all without working up the unsightly sweat acquired when biking to work. But early e-bikes were never very good.

In the 1990s, people like Lee Iacocca and Malcolm Currie, the former chief executive of Hughes Aircraft, got into the e-bike business. Their bikes had heavy steel frames and the same lead acid batteries used in automobiles, which themselves could weigh 80 pounds. The entire Eneloop weighs about 50 pounds.

Those older e-bikes (many were more like electric mopeds) often needed repairs and service. And their

regulatory status was ambiguous — were they motorcycles? bikes? — so many retailers were afraid to sell them. The federal government resolved the legal obstacle with legislation in 2002, classifying any two-wheel, pedal-driven bike with a maximum speed of 20 miles an hour as a bike, which does not need turn signals or licensed riders.

New technology has addressed the other obstacles. Lead acid batteries have given way to efficient and lighter lithium-ion batteries.

The earliest e-bikes of the 1990s got about 15 miles on a single charge. The Eneloop's battery can power the bike about 46 miles before it needs to be plugged into an outlet and recharged for around three hours; it also partially recharges when the rider brakes or coasts downhill.

Other e-bike makers brag about similar performance.

“If it wasn't for the lithium battery I wouldn't be in this business. It's made this category possible,” said Marcus Hays, founder of [Pi Mobility](#), a company in Sausalito, Calif., whose red, angular bikes cost \$2,500 and can operate as a bike, a moped or both at the same time.

E-bike makers in the United States saw something of a mini-boom in 2008, when gasoline prices spiked and people started looking for eco-friendly alternatives to the automobile.

Some basic e-bike models, like the Ezip Trailz by [Currie Technologies](#), now sell for as low as \$500. Trek and Schwinn, traditional bike makers, both began selling e-bikes last year, the latter in conjunction with Toshiba.

E-bike makers say that some of the stigma surrounding the bikes — critics see them as a tool to avoid actual exercise — has faded.

“Four years ago, we encountered many people saying, ‘Oh wow, we are so lazy, we need motors on our bikes’ ” said Scott Shaw, president of [EcoBike USA](#), an e-bike maker in Southern California. “Now people are understanding and saying, this is more a utilitarian vehicle for commuting and getting outside on two wheels rather than four.”

RETAILERS have also sensed the growing opportunity. Big-box stores like [Wal-Mart](#), Sears and Costco have dabbled in the category for about a decade. Last year, [Best Buy](#) started selling e-bikes experimentally in three test markets: Los Angeles, San Francisco and Portland, Ore.

E-bikes, like regular bikes, still face plenty of challenges. In many parts of the world, biking is an important form of transportation; in the United States it is seen primarily as recreation. Many major cities still do not have bike lanes, and the most important sales channel in the industry — independent bike shops — has been shrinking for more than a decade.

But there may be a greater challenge for companies like Sanyo and other e-bike makers. People tend to think of their transportation, like their clothes or cellphones, as an expression of their identity.

In China, riding an electric bike conveys professional achievement, even a certain degree of wealth. People in the United States, said Ed Benjamin, an independent consultant in the bike business, don't quite know whether these bikes are fashionable. The e-bike is "an ambiguous statement," Mr. Benjamin said.

The next few years, he said, could bring higher prices for gasoline and airline tickets. "We have to make some fundamental changes, and e-bikes can be a part of that," he said.