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EYES ON THE ROAD By JOSEPH B. WHITE



Electric Car Maker Aims For the Top With Sports Car

Tesla Readies \$98,000 Roadster And Looks to Expand Downward October 15, 2007

Tesla Motors is a car company that's both decades ahead of its time, and a year behind schedule. Soon, it will become clear which is more important to Tesla's long-term future, and the future of the disruptive ideas the company represents.

For those who somehow missed the blizzard of publicity that has swirled around this company for the past 18 months or so, Tesla (www.teslamotors.com¹) is a Silicon Valley start-up, bankrolled by some of the same people who brought you the Internet boom of the late 1990s. The company's stated ambition is to develop over the next several years a full array of electric cars. Tesla's fans -- many of them influential leaders of Silicon Valley's "clean tech" green-technology movement -- see Tesla as an icon of the broader effort to make big money by unshackling the U.S. economy from petroleum.



Tesla Motors

Tesla's first model will be a \$98,000 Roadster

Tesla and its approach to electrifying the automobile may well redefine the car industry. But first, Tesla needs to actually deliver the car. That was once supposed to have happened by early this year. Now, company co-founder Martin Eberhard says, the first Roadsters should come off the Lotus assembly line in Britain sometime during the first quarter of 2008.

Tesla's first model will be a \$98,000 electric roadster, developed around the architecture of a Lotus Elise, that uses 6,831 lithium-ion batteries similar to those used in laptop computers, a patented electric-motor system, and a highly sophisticated package of controllers and software to deliver an exotically attractive car that zaps from standstill to 60 miles per hour in under four seconds and can travel up to 245 miles on a single charge.

Tesla isn't planning any traditional advertising, but if it did, one slogan could be: "You can't kill an electric car you can't catch."

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"Our plan is to ramp up very gently," he says. The run of cars produced during the first quarter of 2008 could be only about 50 vehicles, with a goal of building a total of about 600 cars in the 2008 model year. Tesla recently told potential customers that it can no longer guarantee delivery of 2008 models.

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Newcomers to the waiting list might well get 2009s.

During an interview last week in his modest office in one of the nondescript warehouses Tesla occupies in the San Francisco suburb of San Carlos, Mr. Eberhard says he has gained respect for the challenges that conventional auto makers face.

Among the problems Tesla has encountered: The car's body had to be redesigned because the door sills were so high that getting in and out of the vehicle required excessive acrobatics, especially for women in skirts.

A supplier for the car's original transmission failed, and a subsequent decision to move from a one-speed transmission to a two-speed proved more difficult to execute than expected. In August, the car flunked a 30 mile per hour side-impact crash test, necessitating more last-minute design changes.

The logistics of getting components produced in Thailand, Taiwan, and the U.S. to arrive at the right time at the assembly plant in England have proven challenging. To manage this effort, Tesla in September hired Michael Marks, former chief executive officer of contract manufacturing giant Flextronics International Ltd. to become its CEO, replacing Mr. Eberhard, who remained as president of technology.

"Silicon Valley engineers find it easy to think they know everything and Rust Belt companies don't know anything," Mr. Eberhard says. "More often than not the knee jerk reaction, that these guys (in Detroit) don't know what they are doing, is wrong."

That said, Mr. Eberhard says conventional car makers did get it wrong on electric vehicle technology in the 1990s and early years of this decade.

Big car makers, led by **General Motors Corp.** and **Toyota Motor Corp.**, responded to a California mandate in the late '90s by producing vehicles that were supposed to prove that electric vehicles could be affordable and oh-so-politically correct. Unfortunately, the GM EV1 and the electric Toyota RAV4 struck mainstream customers as geeky, slow and impractical.

"Electric cars had a terrible black eye," Mr. Eberhard says. As far as the general public was concerned, "they sucked and they were dead."



WSJ's Joe White interviews Tesla Motors co-founder Martin Eberhard about his agenda for producing and marketing the electrical roadster his company plans to launch.

Tesla's Big Idea was to start with an electric car that appeals to the id, not the superego. From the start, Mr. Eberhard says he wanted a car that could outrun a Porsche in a 0-60 trial, and would go 250 miles on a charge. He says the production Roadster will hit the under four-second target for the 0-60 dash, and will get very close to the original goal on range.

More fundamentally, the Tesla Roadster is designed to ride the technology curve from the high end of the price ladder down -- the direction that has worked for most other forms of technological innovation from the VCR to the laptop.

But after the Roadster is launched, and the high-tech elite have shown off their status-defining 2008 models at Silicon Valley's finest restaurants and clubs, what can Tesla become?

Tesla so far has raised \$105 million from venture-capital firms and Chairman Elon Musk, the PayPal founder who was a ground floor investor. That's a lot for a tech startup, but it's chump change in the auto industry, where car programs with century-old, conventional technology can easily cost \$500 million to \$1 billion.

"Our ambition is, one step at a time, to become a real car company," Mr. Eberhard says. Tesla plans to develop more practical and more affordable electric vehicles, expanding its potential revenue. But the time frame for that is now 2010, not 2009 as once proposed.

Last May, Mr. Eberhard told a Senate committee that the company's second model would be a \$50,000 sedan built in New Mexico, followed by an even more affordable car. Now, Mr. Eberhard is cagier about exactly what Tesla's "White Star" model line will be, and exactly when it will appear. "We are deep, deep into that," he says. "We are planning on building (cars) in Albuquerque. It's possible we might want to do something different."

Tesla is named for Nikola Tesla, the godfather of alternating current and radio who nonetheless died poor, in part because his weirdness wound up obscuring his genius. In recent years, Tesla has become a patron saint of Silicon Valley.

But there's another ghost hovering over Tesla Motors -- one whose name Mr. Eberhard brings up before a visitor can get around to it: John DeLorean.

Mr. DeLorean, who died in 2005, was the charismatic General Motors executive who left GM after clashing with its stolid hierarchy, and who later founded a company to build what he called the "ethical sports car." The DMC-12, with its stainless steel body panels and gull-wing doors, was designed to appeal to wealthy enthusiasts with a taste for the exotic. But Mr. DeLorean's company collapsed in 1982, and he spent several years fighting and beating charges of drug dealing and fraud. The DeLorean company's failure is one of several examples of how hard it has been for upstarts to challenge the automotive oligarchy since World War II.

"What problem was DeLorean solving?" Mr. Eberhard asks in response to the inevitable question about how Tesla avoids DeLorean's fate. The DeLorean car, when it appeared, was not any better, in some ways not as good, as a Chevrolet Corvette that GM was offering for less money, he says. By contrast, Tesla is offering a product unlike any other. "Nobody produces a real electric car," he says.

What will define success for Tesla? Big car makers have tools, capital and experience in dealing with the harsh environment of the global auto market that Silicon Valley doesn't possess, even with its abundance of rich, smart technology visionaries and venture-capital firms. Mr. Eberhard says selling out isn't the plan, even though "we've been approached by many, many car companies."

"We are rolling everything we can back into growing the company," he says. "If we wanted to be a fancy sports car company, we could do that next year."

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