

DOT-COM GENIUS **ELON MUSK** SPENT LAST YEAR RESCUING TESLA FROM THE RECESSION, AND IT NOW LOOKS MORE LIKELY THAN EVER TO GIVE US AFFORDABLE, PRACTICAL, EMISSIONS-FREE CARS. HIS NEXT JOB? SPACE EXPLORATION AND A COLONY ON MARS

*CAR meets the world's coolest geek*

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**Do not be** jealous of Elon Musk. Sure, Tesla's 38-year-old co-founder might have made two multi-million dollar dot-com fortunes by the time he was 31, including selling PayPal to Ebay in 2002 in a \$1.5bn deal. Yes, this tall, lean, South African-born physicist might have reinvested his fortunes in glamorous new ventures, with his own sports car, solar energy and space exploration firms. And yes, he might have the Bel Air mansion, the private jet and the skinny 24-year-old English actress fiancée. But you shouldn't be jealous, and for three good reasons.

The first is that Musk isn't merely a profit-seeker. He founded Tesla and Solar City, which develops high-efficiency solar panels, primarily to break our dependence on fossil fuels. Should our pillaging of the environment prove terminal, Musk plans, in all seriousness, to establish a human colony on Mars, and he founded SpaceX to develop reusable rockets that'll make interplanetary travel affordable. There's something of a benign Bond villain about him.

The second reason you shouldn't be jealous is that you don't cash out of the dot-com bubble twice and start three new businesses in wildly disparate fields without being annoyingly brainy. Musk is no bean counter – he's actively involved in the engineering of both his cars and his rockets.

And lastly, doing all this isn't easy. Trying to establish America's first successful new carmaker since Jeep in 1941, in the midst of a recession and using a radical new form of propulsion, isn't rocket science; it's harder than that. 'I'm working about a hundred hours a week,' he tells me. 'People often ask, "are you having fun?" I say I should be, but it wouldn't be true to say that I am. But I'm not asking people to feel sorry for me.'

Tesla's birth has been traumatic, with engineering problems, massive cost over-runs and lawsuits involving former employees. In late 2008 Tesla was down to its last \$9m; Musk had to lay off 80 staff, shut his Detroit engineering centre and stump up half of two further \$40m financing rounds, bringing his total investment to \$74m. 'It's been quite the soap opera. It certainly got very hairy there for a while. I've invested more than I'd expected and it has certainly strained my finances personally. But I was faced with a choice of either letting Tesla die, or doubling down. So of course I doubled down.'

The gamble worked. Daimler has taken a 9% stake for \$50m. Tesla will equip a trial fleet of 1000 electric Smarts, with affordable, production electric Smarts and A-classes following within three years. In June Tesla announced that its Roadster was now profitable, and that it would be one of the first three companies to receive a slice of the US government's \$25bn fund to encourage green cars. Tesla will use its \$465m loan to make the £50,000 Model S, a seven-seat electric hatchback capable of 60mph in 5.5 seconds, with a range of up to 300 miles and a charging time as low as 45 minutes. Tesla plans to build 20,000

cars a year at a new factory in Los Angeles.

So has Musk saved the electric car? 'I feel like I'm emerging from a long, dark, nasty period,' he says in his odd, unplaceable, neutral accent. 'We've really turned the corner. I don't want to get over-confident, but things are looking pretty good. We will need to raise some money down the road, but markets will have picked up so I don't expect it to be too much trouble.'

Musk can now get on with his mission of making electric cars both available and affordable, and he insists that having Daimler as an investor won't stop him working with other carmakers. 'With all the companies I've been involved in, no investor has ever lost money. But we're not going to hold back this technology for ourselves and not give it to anyone else. Daimler knows this, and all the other investors know it too. I have non-economic motives as well as economic motives and if they don't like that they shouldn't invest.'

But Tesla is still tiny; it has just built its thousandth car and will be stretched by its work for Daimler, getting the Model S into production and working on new models. And the third Tesla might be a pick-up. 'The Model S sits on a flat platform, and you can put almost anything on top of that skate,' says Musk. 'You also have the advantage that the torque-rpm curve of an electric motor is almost flat, so you don't have the dichotomy between a sports car and an SUV or a truck. A truck needs the torque at the low end, where a sports car or sedan needs power at high rpm. The same electric powertrain serves both.'

'I have some ideas for doing a crossover SUV, for the next-generation roadster and for a delivery van, but also some very neat ideas for a pick-up truck with very low drag. Most trucks are like barn doors. With trucks it's very much a business decision; how much is gasoline, what's the capital cost of the truck? There's much less room for subjectivity so if gasoline gets back up there there's going to be very high demand for electric trucks and vans. It's conceivable that if things go really well we could have another variant in 2012 but 2013 is more likely. We gotta learn to walk and chew gum at the same time.'

Daimler's investment already values the company at \$550m – nearly half what GM was worth just before bankruptcy. Musk says an IPO is likely within two years. 'Tesla will definitely be worth north of a billion dollars. If we've done well executing the Model S and our powertrains, maybe up to two billion.'

Musk's share of Tesla is currently 'around a third'; even if it slips to a quarter with further funding rounds he could end up with a stake worth half a billion for his \$74m investment. But like we said, don't be jealous. If Tesla goes public at that value it will be because Musk's gamble has worked, and he has achieved affordable, emission-free electric cars that cost pennies to run. Meanwhile he'll probably be busy designing the loo for your new home on Mars. **car**



C V // ELON MUSK

1971 | Born in South Africa 1983 | Sells first software – a space game called *Blastar* – for \$500 1989 | Moves to Canada; takes on some grim manual labour jobs 1992 | Wins physics scholarship to University of Pennsylvania; also gets economics degree from its prestigious Wharton business school 1995 | Starts post-grad program at Stanford; drops out after two days to start online publishing business 1999 | Sells it to Compaq for \$307m, founds PayPal 2002 | Sells PayPal to Ebay for \$1.5bn, founds SpaceX 2004 | Becomes chairman of Tesla 2007 | Sells his McLaren F1 for a profit: not green enough 2008 | Becomes Tesla CEO. Roadster goes on sale 18 months late. Falcon 1 is first privately built rocket to enter Earth orbit. Wins \$3.5bn International Space Station resupply contract from NASA 2009 | Tesla Model S (pictured) unveiled. Daimler takes stake in Tesla.

