

PayPal tycoon bounces back

Six months ago Elon Musk had run out of cash and relied on loans from friends, but the entrepreneur's gamble has paid off

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Published: 31 October 2010



Elon Musk was stony broke, in a way that only entrepreneurs in California can be.

His \$200m (£127m) fortune, earned when he sold PayPal, his electronic payments system, to eBay for \$1.5 billion, was gone — or at least all tied up in an array of ventures from sports cars to solar power and space rockets.

Even his brush with Hollywood couldn't pay the bills. Musk's gung-ho style reputedly inspired Robert Downey Jr's interpretation of Tony Stark, the rocket scientist-turned-superhero in Hollywood's version of Marvel Comics' Iron Man.

Away from the big screen, the 39-year-old South African was up to his neck trying to support his loss-making electric sports car firm, Tesla Motors. SpaceX, a rocket company aiming to launch Nasa astronauts into orbit, was also burning up cash.

"It was tough," Musk said recently at Tesla's Silicon Valley headquarters. On top of business pressures, his estranged wife was listing her divorce demands on a blog that had become a must-read for gossips in the west coast venture-capital community.

In a posting last May entitled “Golddigger”, she wrote: “This is what I asked for, from my ex-husband and the father of my five children, Elon Musk, who is a billionaire (albeit with cash/ liquidity issues, which I would work with him to work around) and utterly brilliant.”

The list of her demands read: “The house, alimony and child support, \$6m cash, 10% of his stock in Tesla, 5% of his stock in SpaceX (and he retains all voting rights) and a Tesla Roadster (I really, really want one . . .)”

Court filings in June showed that Musk was paying out \$170,000 each month in legal fees and child support — but was earning just \$2,800 at Tesla.

At one point, he ran out of cash and had to rely on loans from wealthy friends — although, it has to be said, he did still have a private jet and a fully functioning space rocket at his disposal.

Six months on, and there are plenty of Roadsters to go around. Thanks to a stock-market listing of Tesla, Musk’s finances are in better shape and 20 Roadsters now roll off the assembly line each week.

“I never thought I’d have to invest as much of my own money [in Tesla] as I did,” he said. “I thought I would invest \$20m to \$30m of my own funds and in the end I had to spend \$70m, which was quite painful.”

When Musk made his first, modest \$7m investment in Tesla in 2004, that pain was all in the future. The economy was booming, green technologies were cool and mass-market electric transport seemed to be just around the corner. However, building cars turned out to be a lot trickier than writing software.

“The biggest single error we made with the Roadster was not starting from scratch,” said Musk. “The Roadster is a very compelling car but we could have created a more compelling car in less time and cost if we had started with a clean sheet.” Instead, Musk chose to base the \$110,000 Roadster on the stylish Lotus Elise, replacing its 1.8-litre Toyota petrol engine with a brand new electric motor, regenerative brakes and thousands of rechargeable lithium ion power cells.

As the Roadster engineering team got to work, they had to stretch the Lotus chassis to accommodate a huge, liquid-cooled battery pack. Then the seats had to be adjusted, the brakes needed to be completely replaced and Musk even decided the original door sills were too high.

By the time the Roadster’s design was finalised, the car was a third heavier than an Elise and had less than 7% of parts in common. The final straw was an altered weight distribution that invalidated the Elise’s crash tests, forcing expensive and time-consuming repeats.

“We tried to take a short cut and sometimes short cuts end up being a long way round,” said Musk. By early 2008, the Roadster was eight months late and Tesla was in serious

financial difficulties, burning through Musk's millions in the middle of a global economic slowdown.

"Starting a car company is difficult at the best of times and these were pretty close to the worst of times," he said. In a last-ditch attempt to save the company, Musk fired 60 people and committed the last of his cash. "It exhausted all my capital, even to the point where I had to borrow money from friends, cap in hand," he said. "Fortunately, I have some very good friends."

His gamble paid off. The 125mph Roadster sold steadily (especially to trendy Californians) and a prototype electric Smart car cobbled together in just six weeks persuaded Daimler to invest in the start-up.

The American government then chipped in with a loan of almost \$500m and this summer Tesla became the first American carmaker to go public since Ford in 1956, raising \$225m on Wall Street.

It is not the only reason he has for giving thanks to Barack Obama. The president's proposed cuts to the space programme mean that his other high-tech start-up, SpaceX, is in line to transport astronauts to and from the International Space Station on behalf of Nasa. Solar City, which designs solar energy systems, is also making progress.

His bank accounts recharged, Musk is now working on the Tesla Roadster's successor, an all-electric saloon car called the Model S. This time, he says, the company will do it properly and build the car from the ground up: "For the Model S, 100% of the experience is Tesla: designing, engineering and manufacturing. The Model S will be the most advanced car in the world. Nothing I have heard announced from anyone would compare to the powertrain in the Model S."

The vehicle will squeeze an engine, single-speed gearbox and battery pack into its floor pan. This creates space for a boot at the front where the engine would normally be and an extra row of child seats at the back, allowing it to carry a maximum of seven people. Battery packs will charge in as little as 45 minutes and give a range of up to 300 miles. Despite its family-friendly credentials, Musk claims the Model S will also accelerate from 0 to 60mph in under six seconds and have a top speed of 120mph.

At \$56,000, Musk expects the Model S to compete with luxury cars from Jaguar, Aston Martin, Audi and Lexus — and to blow other electric vehicles clear off the road. "We are aspiring to produce vehicles of a calibre that people have come to expect from a premium German, Japanese or English manufacturer," he said. "For anyone who can afford the Model S, that will be the car they buy. They are not going to choose to buy the GM Volt, [the forthcoming Chevrolet electric car] unless they can only afford the GM Volt."

Those big words sound bigger still when you consider that the Model S factory in California is little more than an empty shell, less than two years from the car's promised launch date. "It's just a question of us getting the engineering fully refined and getting the production facility up and running," said Musk blithely. As if that were not enough to

keep the fledgling company busy, Tesla has also signed up to provide motors, electronics and gearboxes for a new electric Toyota RAV4, due in 2012.

Musk's money troubles might not be over, either. Tesla Motors is losing more than \$35m every quarter and predicts that those losses will grow as it tools up the Model S factory. The flotation money and government loan are unlikely to keep it running for more than a couple of years, raising the possibility of another cash crunch just as the Model S hits the streets.

JB Straubel, Tesla Motors' chief technology officer, thinks Musk wouldn't have it any other way. "Elon is most comfortable when he's pushing at the edge of what everyone feels is possible," he said. "He never fails to dream big. He imagines the hugest ideas and the hugest outcomes."

With so much ambition, at least Musk's private life has finally settled down. He lives in the super-rich enclave of Bel Air, California with his new British wife, Talulah Riley, the St Trinian's actress who also appeared in the Leonardo DiCaprio movie Inception.

He has more challenges on the horizon. "Starting next year, we will be looking at styling and advance engineering for a crossover SUV, a cabriolet and a coupé based on the Model S platform. Beyond that will be our third-generation vehicle, which will sell a couple of hundred thousand units a year at a price of about \$30,000," he said with confidence. "My personal goal is that Tesla will become one of the great car companies of the 21st century."

Fasten your seatbelts, it's going to be a bumpy ride.