

## Rivian EV Truck

### **Introduction**

We all know that the automotive industry is a cut-throat one. With the advancement of electronic technology and its integration into modern vehicles, the securely established giants in Detroit are quickly beginning to be dragged down by a number of fascinating start-ups. Many of these new companies have excellent ideas but don't have the means to make them a reality. Rivian is 2019's perfect exception. Much like Tesla, Rivian have joined the electric vehicle market, which has not yet become fully competitive like traditional automobiles. Rivian's vision is to move towards "ride-sharing and driverless cars", in order to help the environment. Will they make it to production, or will they be trodden into the ground like so many start-ups before them?

### **Part 1: history of the founders and the company**

Rivian isn't a particularly old company; it was founded in 2009 by Robert Scaringe, who has a Master's and PhD in Mechanical Engineering from the Massachusetts Institute of Technology. At first, Rivian were named Avera Automotive before it was re-designated. In 2011, the company began to focus heavily on electric vehicles, which must have been a wise choice since only four years later, they received a hefty amount of money from investors and grew significantly; they were able to open new research facilities in Michigan and the Bay Area.

They moved their headquarters to Michigan in order to be closer to key suppliers, which helped them create a wide collection of electric autonomous vehicles and other services, which they refer to as their "ecosystem". It wouldn't be unfair to say that Rivian is very forward in fighting global warming and smog.

By 2017, Rivian had acquired a manufacturing plant in Normal, Illinois, which had formally been owned by Mitsubishi Motors. It set them back by the great sum of \$16 million. Of course, this resembled what was typical of automotive companies. Tesla had bought out a previously occupied facility in California not long before.

Now, with already-existing equipment and machinery at their fingertips, Rivian began to settle in and invest more money into development of their vehicles. They were granted \$49.5 million in tax credits from the state government.

At the end of 2016, Rivian had about a hundred new employees and this number continued to increase in subsequent years. However, the main spike of growth in the company came about only recently, and by this time Rivian has over 750 employees!

Rivian have several main vehicles. The R1T and R1S, the pick-up truck and an SUV respectively, were revealed in December of 2017, and in the Los Angeles Auto Show, they were gloriously unveiled to the public. Production is scheduled to start by 2020, and they no doubt seem ready to roll. Amazon and Ford Motor Company have made investments of \$1.2 billion collectively.

But the cash is all fun and games until Rivian takes into account what they'll have to deliver in return.

Rivian's R1T, a luxury electric pickup truck, is designed specifically for comfort. The battery is flat and low-lying, allowing for greater storage space within the truck interior. This compact battery comes in

three increasing sizes: 105kWh, 135 kWh and 180 kWh. Producing 560 Nm of torque, the first battery is nevertheless beaten, however, by the next two, which can output about *double* the torque.

The range of the R1T varies from 370 km to 640 km, depending on the battery installation, but probably the most impressive feature of the pickup truck is that it can accelerate to a top speed of approximately 200 kilometres per hour. It accomplishes an acceleration of 0-60 mph in 4.9s with the 105kWh battery, in 3s with the 135kWh battery, and in 3.2s with the 180kWh battery. With these specifications, the Rivian EV Pickup Truck isn't far from a *supercar*.

When it comes to dimensions, the four-door R1T checks in at 215.5 inches long, 79.3 inches wide and 71.4 inches tall.

But the Rivian truck is by no means a cheap buy. For all its incredible, modern features, you can only expect to pay the big buck, which is, in this case, \$69,000 – and that's just the starting price. That, of course, doesn't include shipping and the \$7,500 U.S. tax credit. As of yet, Rivian haven't publicly announced the shipping cost.

### **Part 3: will they make it and reach production? The challenges they'll face, and what it will take to make it in the very competitive automotive industry.**

The real challenge here is scaling up production once the orders start rolling in, but more importantly meeting any production deadlines which they set for themselves. This is always a struggle for every automobile company, but for a relatively new start-up like Rivian, it might prove to be problematic. Even though there are a lot of converging visions, it's quite hard to see how anywhere will be busier than the Rivian pickup truck plant in Illinois.

Currently, Rivian's employee size still won't cut it for such a demand in production. The CEO Scaringe has already hired Rivian's leadership team as well as a new product development team. However, this isn't enough. Now he must hire a large number of skilled workers for Rivian's plant.

Without a doubt, this will be Rivian's biggest challenge of the decade and it surely can't move forward without overcoming it. In the words of CEO Scaringe himself, "what will happen in the next two years is we'll have to, of course, add significant people to actually run and operate the plant". Which couldn't be truer. If Rivian wants to play it safe, they need to hire a large numbers of employees in anticipation of great demand for the pickup truck. However, it is arguably more important that they keep a balance and don't let hiring get out of hand. We've seen it happen too many times before, when companies attempt to become giants too early and destroy themselves.

Even with these issues dealt with, Rivian has a second blockade to jump over. Once an organized production system has been arranged, they will have to build retail, service and charging infrastructure. The Rivian EV pickup truck used the CCS charging standard and cannot be charged at one of Tesla's superchargers.

Much like Tesla, Rivian is choosing the direct sales model.

*On top of all this*, Rivian still may have potential challenges to face, including funding problems, operational problems and sales problems. For a new start-up, Rivian is very ambitious and extremely talented at what they do. But this has its downsides. Its success could literally *kill* Rivian. Many worry that they won't be able to cope with the large orders, combined with the difficulties of organizing such a large movement.

But fortunately for Rivian's funding, it seems apparent that Rivian's future has been secured owing to the large recent investments of Amazon and the Ford Motor Company, of \$700 million and \$500 million respectively.

In the case of Tesla, Elon Musk had to go around in a search for significant amounts of funding just to keep the company afloat. However, it may be that Rivian could avoid having to do this, since they seem, in general, quite stable – at least from the outside.

As for operational problems, we'll only know and be able to see these for ourselves when production begins in 2020, and, as is often the case, it might take a further few years until problems start arising. At this point, we don't know for certain whether the Rivian is a good choice for a long-term vehicle, or if it is just glam for a short while.

The determining factor for whether Rivian will be able to plough through this troublesome procedure proves is the attitude, determination and wisdom of the people at the top and the high leadership, who should work hard to prevent any problems, making sure that those which do arise are solved in the most effective and sustainable manner.

Regarding the sales, Scaringe has reiterated himself that Rivian's competition is not with the hundreds of thousands of Tesla vehicles taking to the road in the US, as would be assumed. Rivian's real competition is with the millions of *gasoline vehicles* that are still operating on the street, and from that perspective, it seems that the market is ripe for the entry and dominance of a new player.

#### **Part 4: Conclusion**

Through however many trials and tribulations Rivian goes, Two Bit has every bit of confidence that they'll manage to pull it out of the hat. But we'd like to know what you think! If you had \$69K spare, would you be willing to put down a payment on the truck? Or would you halt and reconsider the risks that Rivian, and in turn you, face? Many promised EVs like the Faraday Future cars and Lucid Motors, for example, have yet to reach manufacturing. As usual, leave us a comment, like and share this video, and let us know what you think about the Rivian Pickup.

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