

Tesla Inc

10:19 23 Sep 2020

Tesla's battery ambitions are significant for patient, medium-term investors

Tesla Inc's (NASDAQ:TSLA) battery day event may not have been the blockbuster event on which many investors had pinned their hopes, but there were many ambitious ideas and significant moves on a medium-term timeline.

The big longer-term goals were laid out by founder and chief executive Elon Musk for **20mln cars, plus a 56% reduction of battery costs with 50% longer range, with the aim of developing a more affordable US\$25,000 Tesla**, all targeted within three years.

However, there was nothing from Musk about hydrogen fuel cells, or fuel cells as he has called them before, nor solid-state batteries, nor a specific target for cost reduction in dollars per kilowatt-hour, nor was anything actually tangible, as an analyst at Roth Capital complained.

At Bernstein, they said the event was long on vision and boldness, but short on specifics and near-term deliverables.

The stock fell 6% on Wednesday but many less impatient observers were impressed, though.

Deutsche Bank upgraded Tesla to 'buy' from 'hold', saying the Battery Day "showcased impressive trajectory for its technology, capacity and cost, which should help accelerate the world's shift to electric vehicles and extend Tesla's lead considerably".

Analysts at Jefferies felt the development of a new, larger battery and some of the industry trends laid out by Musk were "more ambitious than expected" and was "confirmation of Tesla's battery edge and better clarity on manufacturing ambitions that challenge industry practice - in process and investment cost".

'Tabless' battery round the corner

While a lack of immediacy may be a disappointment to some, a new battery technology was the closest to being tangible, or "close to working" as was said in the presentation.

This new '4680' battery cell, named because it is 46mm in diameter by 80mm tall, is able to produce six times more power and 16% additional range, with a manufacturing facility expected to be producing 10 gigawatts of batteries within 12 months.

The new battery will be capable of storing 380 Wh/kg (watt-hours per kilogram), which is 54% better than the Panasonic cells currently used in the Tesla Model 3, according to calculations from Electrification Coalition, with costs per kW-hour more than halving.

Production of this 'tabless' battery, pictured, called so as it removes the tab element from a battery cell and so should

Price: 567.6

Market Cap: \$538.03 billion

1 Year Share Price Graph



December 2019 June 2020 November 20

Share Information

Code: TSLA

Listing: NASDAQ

52 week High Low
607.77 65.45

Sector: Manufacturing & engineering

Website: www.tesla.com

Company Synopsis:

Tesla Inc. was founded in 2003 by a group of Silicon Valley engineers who set out to develop a new electric vehicle company. Tesla Inc. uses proprietary technology, world-class design and state-of-the-art manufacturing processes to create a new generation of highway capable electric vehicles. We utilize an innovative distribution model based on company-owned sales and service centers.

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allow lower manufacturing costs and improve power and range, has already begun, it was revealed, but kinks still need to be ironed out in the next 12 months.

Road to mass EV adoption

The Jefferies analysts said 18-36 months time frame to accrue 56% savings in dollars per kilowatt hour "looks logical".

This would still allow Tesla to maintain its "battery edge", Jefferies said, and enable the launch of the planned US\$25,000 vehicle by 2023 at parity to an internal combustion engine car.

Broker Liberum was also sanguine, saying the event "can best be described as an ambitious vertical integration scale-up plan" or "an attempt to take ownership of more of the EV ecosystem and drive down costs".

Deutsche Bank's analysts estimate that achieving an average battery cost of even just \$65 per kWh by 2025 would boost gross profit margins to mid-30% on Tesla SR+ Model 3s and Model Y.

This would enable Tesla to sell very large volumes of the newly-announced US\$25,000 "Model 2" at "respectable circa 20% margin", which could prompt mass adoption even without government support.

Tesla should now be able to deliver 2mln-plus vehicles and generate US\$15 earnings per share by 2025, according to Deutsche's new forecasts, up from 1.4mln vehicles and EPS of US\$12.25 previously after incorporating lower battery costs and higher volumes.

This resulted in a price target hiked to US\$500 from US\$400.

"With the stock price indicated down post market as traders "sell the news", we recommend longer-term investors take advantage of weakness to buy Tesla as the best way to invest in vehicle electrification," the Deutsche analysts said.

No mention of solid state and hydrogen

Given it was just a short event, Bernstein's analysts said the presentation at times was more visionary than specific, but that battery improvements were more comprehensive than anticipated, though they were surprised Musk did not discuss single-crystal technology, or the fabled million-mile battery.

But on this latter point, Liberum's analysts were questioning, "who needs something that can live for more than 50 years".

Another notable omission for some, was that Musk did not mention solid-state batteries, where the solvent liquid electrolyte is replaced with a solid material that can also act as the separator, which potentially offer six-times-faster charging and almost double the energy density.

But Liberum said this was probably not mentioned as it is not likely within three years.

So, something to look forward to in the next Battery Day.

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