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MOBILITY

The Tesla Factor?

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The Tesla Factor?

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Summary

We discuss how the luster has been lost at Tesla. Without a new model for over 3 years amidst the EV dominance of China, what does Tesla's future in the global market look like? **Watch the full session here**.

Key takeaways

- Tesla's models have not changed in 3 years. Meanwhile, many new manufacturers and models have grown from within the Chinese market, so Tesla needs help to keep up with the pace of innovation. For anyone to make an objective recommendation regarding Tesla, they must visit China every six months.
- In 2022, BYD sold 1.86 million cars in China. Tesla is forecast to sell 800,000 vehicles this year, whereas BYD will sell that volume per quarter. In addition, Tesla lowered prices in China twice last year, while BYD raised prices twice. BYD is crushing Tesla in China. Thirty to forty percent of Tesla sales will need to come from China to get anywhere near selling 20 million units annually. They sell around 500,000 units per year in China, and the factory has doubled its output to 2.4 million units per year.
- The IRA benefits Tesla more than any other company because its battery production is more compliant with the rules of the IRA. Ford and other companies source batteries in a way that would make it difficult for them to benefit from the IRA unless rules change. Tesla is well placed in the US market, and their aging models are still viewed well. So, even if the competition starts over the next two years, Tesla would still be fine. In the US market, persuading people to buy EVs is a more pressing matter, so the market grows.
- LFP batteries are the future of affordable vehicles. Industry experts wonder if Tesla will abandon its standard 4680 battery because LFP cannot be produced in cylindrical form. Tesla battery packs are not reducing in size, and the overall average selling price (ASP) is not coming down, so it is still a niche product with a big market, but 20 million per year seems unlikely. Tesla needs a wider range of vehicles to compete, and as competition grows rapidly in the world's biggest EV market, the future looks quite challenging for Tesla.
- Tesla's sales were healthy in the last quarter. However, it needs to spend more on R&D and broader capex. It cannot build the number of vehicles that it claimed it would. It would need to build a new factory every quarter to achieve that.
- Tesla identified the energy storage market years ago. Tesla will make great energy storage solutions, but they are not cost-competitive, and their market is slick-looking home energy storage rather than grid-scale storage. Tesla should be an energy company, and the more it strays from that, the worse it will get.

Paul's observations

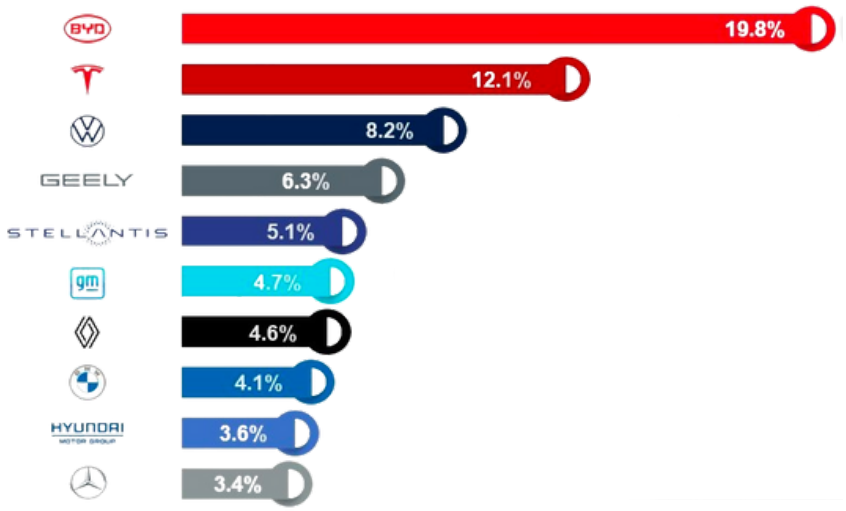
The luster has been lost at Tesla. Putting the unpredictable behavior of Elon Musk to one side, this is a company that has not produced a new model in 3 years, is getting crushed in China by BYD, and faces continued headwinds in the US as EV adoption rates are slower than expected. While Tesla will benefit from the Inflation Reduction Act (IRA) more than any other US automaker because it has battery infrastructure and local content, the notion of 20mm cars sold by 2030 is being scoffed at. On March 8, I read comments from Mr. Musk that he has cut costs to avoid bankruptcy. While I learned a very long time ago to ignore the comments of the Tesla CEO (remember the 2mm robo-taxis?), this company is not spending enough on R&D, has slashed marketing costs, and is still not cash flow positive. Does this sound like a constructive outlook for the world's largest auto company by market cap?

Making cars is difficult. A common expression in investing is that you should never allocate capital to anything with wheels. The reason for this is simple. The automotive industry has been a single-digit margin business for decades. Governments have underwritten national champion car makers since the Second World War, and automakers from Detroit and Munich have been bailed out multiple times. The transition from combustion engines to electric vehicles is an existential threat to the industry. Many car makers have struggled for profitability with a process they have been refining for 50 years. Outside of China, there is not a single EV producer that is profitable without the role of subsidies. Is it any wonder that Germany and Italy have pushed back on banning the sale of combustion engines in 12 years when global automakers have no pathway to profitability? Tesla has an edge against the EU and US peer groups, but the future is China, and they are struggling there.

The Telsa evangelicals will always embrace the dream. I'll sleep soundly without Tesla in my thoughts or portfolio.

"Tesla has an edge against the EU and US peer groups, but the future is China, and they are struggling there."

Global top 10 EV automotive groups' sales share, Q4 2022



Source: Counterpoint Research

Discussion

Snow Bull Capital relocates to Shanghai

Taylor Ogan:

Snow Bull Capital, in its entirety, moved from the US to China in early 2023. Following the pandemic, equity research from China was even poorer than before, and global perceptions of Chinese companies had weakened. As a result, Snow Bull relocated to be hands-on in the Chinese market to conduct due diligence.

China introduced policies that made it more attractive to foreign investors when the US struggled in various aspects. The Chinese market can only be understood from the inside, partly because of its speed and scale.

Tesla in China

Tu Le:

For anyone to make an objective recommendation regarding Tesla, they must visit China every six months. Tesla entered the market in 2014, selling a handful of Model-S and Model-X for several years and then breaking ground in Shanghai on the outskirts of Pudong. In 2020, they started shipping vehicles from the gigafactory in Shanghai to Europe.

Tesla's models have not changed in 3 years. Meanwhile, many new manufacturers and models have grown from within the Chinese market, so Tesla needs help to keep up with the pace of innovation.

Analysing Tesla's value

Taylor Ogan:

Analysts can look a year down the road for a company like Tesla, which cannot be said for most other industries or companies. The short time horizon makes near-tern catalysts even more significant, and they are not as exciting as they were a few years ago.

The sensible bull market case would suggest that Tesla will maintain market share in large auto markets. There is a perception that Tesla will achieve level 4 or 5 autonomy in the next few years and will do it first and better than any other company. Tesla also has the Cybertruck and the Semi, which relate to limited markets.

Tesla identified the energy storage market years ago, with Elon Musk commenting that it would be more significant than electric cars, which now looks likely. Tesla will make great energy storage solutions, but they are not cost-competitive, and their market is slick-looking home energy storage rather than grid-scale storage. Tesla should be an energy company, and the more it strays from that, the worse it will get.

Tu Le:

Ultra-bulls have discussed Tesla's FSD Beta model, remembering Elon's comment a few years ago that

Tesla would sell 20 million cars annually by 2030. Volkswagen and Toyota sell 9-10 million vehicles annually, so Tesla must double that. Elon has now backed away from the comment.
The Bulls look at the market as a 0-sum; in other words, if Tesla wins, everyone else has to lose. EV penetration outside China is still only single digits, so there is an enormous opportunity for EV manufacturers. Therefore, even if Tesla's market share shrinks, its sales volume could still grow significantly.

Market share and competition for Tesla

Tu Le:

Tesla relies heavily on selling just two models: the Model 3 and the Model Y. However, the Cybertruck looks unlikely to sell in large volumes, partly because there is increasing competition for pickups, including from Ram Dodge and GMC, who have now released EV models of their classic brands. As a result, they need more high-selling models in their catalog to significantly raise sales volumes.
Thirty to forty percent of Tesla sales will need to come from China to get anywhere near selling 20 million units annually. They sell around 500,000 units per year in China, and the factory has doubled its output to 2.4 million units per year.

Taylor Ogan:

In 2022, BYD sold 1.86 million cars in China. Tesla is forecast to sell 800,000 vehicles this year, whereas BYD will sell that volume per quarter. In addition, Tesla lowered prices in China twice last year, while BYD raised prices twice. BYD is crushing Tesla in China
Moreover, other Chinese manufacturers, like Nio, Geely, and Xpeng, are tiny compared to BYD, but they will dent Tesla's sales in China. Tesla has done a great job in China, selling relatively dated cars, which wouldn't typically sell. However, if a broader range of Chinese manufacturers starts shipping cars abroad, Tesla will be in deep trouble.
China is the world's biggest car market, and two years ago, people who considered Tesla would not have thought of anything else, but now, they might consider 8 or 10 alternatives.

Innovation and new products from Tesla

Tu Le:

Tesla thought their brand would be well entrenched in China, but the market and its competitors are innovating quickly and leaving them behind. As a result, Tesla has now reduced their prices in China to the extent that they are priced similarly to some BYD models.
BYD will have the capacity to make 4 million units by the end of this year, and they have contracts in 35 countries to supply EVs. Tesla still has broader geographical coverage, but BYD is more aggressively priced and affordable across its range. Tesla's global production capacity is much lower than BYDs.
Tesla made agreements with Shanghai about factory utilization rates and employment, and they will have to pay penalties if they do not stay at those agreed rates. In addition, as Tesla's Berlin gigafactory comes online, the Shanghai factory will ship more to Japan, Singapore, Australia, and New Zealand. As a result,

they might need to reduce pricing to achieve sales in those markets.
A new version of the Model 3 is scheduled for launch in Q3 or Q4 of 2023.

The US EV market and the IRA

Taylor Ogan:

Tesla's scope in the US is similar, with or without the IRA. The IRA benefits Tesla more than any other company because its battery production is more compliant with the rules of the IRA. Ford and other companies source batteries in a way that would make it difficult for them to benefit from the IRA unless the rules change. Several American EV manufacturers are considering Mexico to bring production into North America in compliance with the IRA. Tesla is well placed in the US market, and their aging models are still viewed well. So, even if the competition starts over the next two years, Tesla would still be fine. In the US market, persuading people to buy EVs is a more pressing matter, so the market grows.
The sparsity of charging infrastructure is restricting the EV market in the US and, therefore, Tesla's growth. The big issue with DC fast charging is that the chargers could be more reliable. The number of L2 and L3 chargers per EV is one of the highest in the world, and there is no current investment opportunity there for the next five years because it is already adequate.
In the US, Tesla has a very effective supercharger network, with chargers between cities and malls providing good coverage. However, in China, the chargers are urban, and in any case, an EV would not make it from one city to the next using public charging.

Tu Le:

A lot of EV charging will respond to the IRA so the charging infrastructure will expand rapidly in the US in the next few years. In China, 20% of parking spaces for new buildings must have chargers, which has a significant impact because the rate and density of dwelling construction are very high. Europe and the US have less high-density construction and less construction in general. The IRA will help Tesla, but it is designed to help the rest of the market catch up to Tesla. Rather than create a wider range of vehicles, Tesla has focused on building capacity, including their gigafactory in Berlin.
About 70% of EV uptake in the US is in California, and around 40% is Tesla's market share. Their brand is so strong that they will likely continue to sell well in the US for the next few years at least. However, the Chinese market is more critical to Tesla's success because of the potential for volume sales and the rapidly developing market.

Trends in battery chemistry

Taylor Ogan:

If there is a technology museum a hundred years later, BYD's LFP Blade will be featured. Before 2020, analysts thought that LFP was heavy and low-density but cheap, so its possible use was in buses and eventually in golf carts. But in Q2 of 2020, BYD launched the Blade, which completely changed how the industry views LFP. CATL caught up very quickly, producing LFP batteries as well. As a result, LFP is now the dominant battery chemistry.

Tesla launched the 4680 cell, which is a bigger version of a laptop battery. It is cylindrical, which Tesla claims will make it more robust and easily cooled. They also said there would be no cobalt, but there is some cobalt in the production of the current 4680 battery. Cobalt boosts energy density but is expensive, and its extraction is synonymous with safety and human rights concerns.
Industry experts are wondering if Tesla will abandon the 4680 because LFP cannot be produced in cylindrical form, and even if Cobalt is removed, it still would not be as safe as LFP. However, Tesla has experimented with different battery types in different models, and they have not come to any conclusions. This is emblematic of the US, where there are courses at just a handful of universities where students can learn how to make batteries. In contrast, China, South Korea, and Japan have whole universities dedicated to battery making.

Tesla in the European market

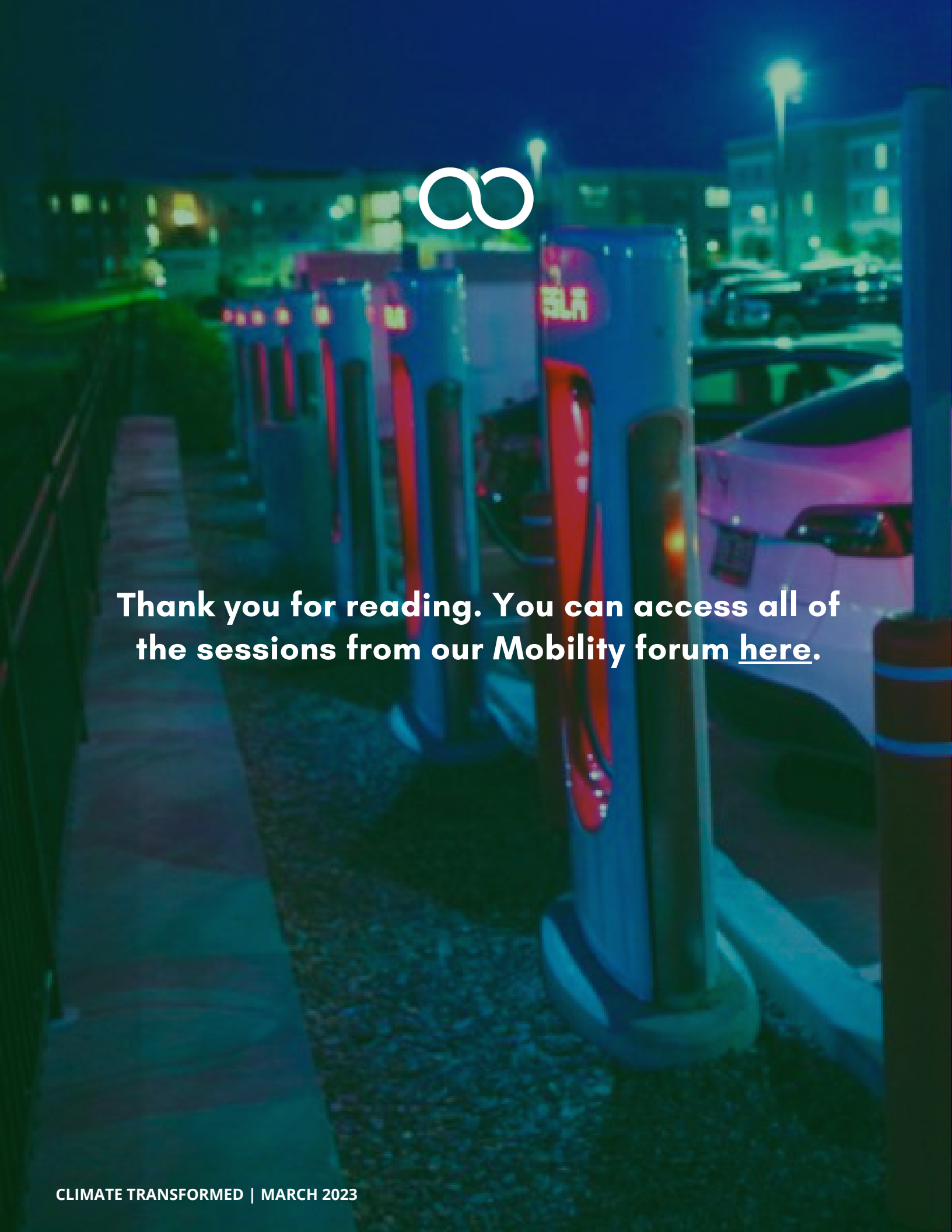
Tu Le:

Legacy automakers in the US and Europe will only build a profitable vehicle this decade with LFP batteries. There is a lot of ambition to achieve specific sales levels, but only some companies will inevitably reach those targets. There will be a lot of volatility in the market, driven by factors such as the price of lithium.
Chinese EVs are essential to building out the EV sector in Europe and the US because they are more affordable. Of course, LFP batteries will have a lower range, but the cars will reach the $45,000 price range, at which point sales can take off.
European manufacturers are looking at how Tesla produces vehicles, for example, their one-piece underbody. Tesla's strength is that they break the norm and enjoy cost savings compared to EVs produced by legacy manufacturers. Tesla has a concentrated production capacity, whereas legacy manufacturers have the complexity of managing 50 assembly plants worldwide with hundreds of thousands of employees. As the Berlin gigafactory gets to 4,000 units per week, it will increase pressure on Volkswagen and Renault to produce cheaper EVs. Legacy manufacturers cannot have enough cars or build them affordably without Chinese batteries. So GM invested $600 million in a lithium mine near Nevada, which will not come online for two years, followed by the refinery, with commercial lithium production around 2026/27.

Tesla is a car company

Taylor Ogan:

Tesla's sales were healthy in the last quarter. However, it needs to spend more on R&D and broader capex. It cannot build the quantity of vehicles that it claimed it would. It would need to build a new factory every quarter to achieve that. Tesla battery packs are not reducing in size, and the overall average selling price (ASP) is not coming down, so it is still a niche product with a big market, but 20 million per year seems unlikely. Tesla needs a wider range of vehicles to compete, and as competition grows rapidly in the world's biggest EV market, the future looks quite challenging for Tesla.



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