

— THE ULTIMATE —

TESLA

BOOK



WITH THE
+ ULTIMATE TESLA MODEL! +

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Introduction

A \$28 trillion valuation by the year 2040. That's what Tesla could achieve if everything goes extremely well for Elon Musk's most valuable company. As you might already know, Tesla does a lot more than just build electric cars (a product that was first invented in 1888, by the way). In fact, Tesla's other businesses are what could make it a \$28 trillion company in our view; most importantly, its full self-driving (FSD) platform, its Dojo AI, and the Optimus Robot. These products have the potential to Revolutionize human civilization as we know it, and the total addressable market (TAM) for such products is quite possibly larger than most people can even fathom.

One of the biggest mistakes we've made over the years is that we underestimate just how successful, huge, and profitable our investments in the most Revolutionary companies on the planet could be. Despite investing and holding onto our shares in Apple since the stock was at a split-adjusted 20 cents per share in 2003, Google on the day of its IPO in 2004, Nvidia at a split-adjusted \$8 per share in 2017, bitcoin at \$100 in 2013 and a few other assets that have indeed changed the world and created trillion dollar market places as we expected they might -- we still didn't dream big enough in our long-term predictions and models.

In tandem with the Ultimate Tesla Book and Model, we've also created [The Ultimate TSLA GPT](#)¹ which can answer any questions you have about the book or model.

To be clear at the outset, we are not saying that Tesla will achieve a \$28 trillion valuation by the year 2040 or that everything in this book will work out the way we have predicted here. Rather, we wanted to get an idea of the ultimate version of itself that Tesla could be in the long run. The point of this book is not to show what Tesla *will do*, it's to show what Tesla *could do*. Obviously, not every single aspect of Tesla's business will be wildly successful simultaneously.

¹ <https://chat.openai.com/g/g-qTF41erZG-the-ultimate-tsla-gpt>

What we intend to demonstrate with this model, rather, is that Tesla has multiple Trillion Dollar Kickers (as we like to call them) that have the potential to dramatically increase shareholder value if any of them work out. As mentioned, we think Tesla could have a \$28 trillion market cap potentially, but even if only 20% of what we predict comes true, then Tesla would still have a \$5.6 trillion market cap which would represent about a 9 bagger from today's valuation, meaning Tesla is still a heck of a good investment.

As we read all these Tesla analyst notes from Wall Street investment banks and even from traders on social media, we often see them talk about how they "give no value to" many of the potential revenue lines that Tesla and its CEO, Elon Musk, are developing. It made us wonder just how big this company could end up being if we actually assign value and model out some optimistic -- but grounded in reality -- numbers for everything the company is trying to (and probably will successfully) build. So we have put together what we call "The Ultimate Tesla Book" and "The Ultimate Tesla Model" here that we hope will provide readers with a unique look at the recent history of Tesla's businesses, a deep understanding of all the various Revolutionary businesses that Tesla is developing, including how big each of them can be, and some idea about the potential upside for this company and its shareholders.

For example, the Optimus Robot may one day be able to do nearly anything that a human can do in the physical world. The total value of human labor is presently estimated at about \$42 trillion annually and Optimus has the potential to disrupt that market and more. Not to mention, Optimus Robots will probably be some of the first devices sent to other planets like Mars (and beyond into deep space) to build worlds that will be hospitable for humans. They may also be critical to mining resources from asteroids for human use, among other things. Optimus Robots (in combination with everything going on at Elon's space exploration company, SpaceX) could be one of the keys to making humans a multi-planetary species (which is one of Elon's primary missions). In such a case, the ultimate TAM for the robot and the AI that powers it is almost infinite.



ChatGPT's idea of what Optimus Robots building a home for humans on Mars might look like.

If this all sounds a little bit too much like Star Trek to you, you might be surprised to learn that this future is probably closer to reality than you may realize. SpaceX's Starship will soon be able to carry payloads to the Moon and beyond, and recent advances in artificial intelligence (AI) have improved the capabilities of machines by orders of magnitude. Using neural networks and modern machine-learning techniques, Tesla is building AI systems that can teach machines how to respond to real-world situations without the need for human programming. What once took hundreds of thousands of lines of code and thousands of programming hours can now be accomplished in a fraction of the time with a fraction of the effort. Essentially, advanced neural networks can now teach computers to process data in a way

very similar to how the human brain processes data, thereby dramatically improving the productivity of machines.



Cody has always loved sci-fi

Tesla built its advanced neural network using its own custom-built supercomputer -- known as Dojo -- which is one of the most powerful supercomputers in the world. Dojo is built on Tesla's custom-designed AI chip known as D1 and -- unlike most off-the-rack AI chips -- it is optimized to handle AI workloads using visual data. Tesla is also spending billions of dollars buying as many of NVIDIA's (NVDA) most advanced chips as Tesla can get its hands on to use in the Dojo supercomputer too. Only a few other companies -- perhaps only Meta, Google, Amazon, and Microsoft -- have a comparable amount of compute at their disposal. And Tesla and Meta are the only companies dedicating that compute power to building their own AI applications.

Tesla's efforts to build the world's most powerful supercomputer, combined with its cutting-edge neural networks (which it has been working on for nearly a decade) make it one of, if not the best, AI companies on the planet. Tesla's AI development has been accelerated

by the rapid expansion of generative AI and the availability of better chips from companies like Nvidia. In short, we think what most people expected to take a decade Tesla might accomplish within the next year or two given the significant advances we have seen with the company's recent AI developments. Tesla aims to create at least a mini-version of artificial general intelligence (AGI) to drive its cars, and once that is achieved, we think the lid is off for its other projects including Robotaxi, Optimus, and Dojo.

We compared our valuation estimates to those of other notable Tesla bulls like Ron Baron -- billionaire fund manager -- and Cathie Wood, CEO/CIO of ARK Invest. Ron Baron thinks that Tesla will get to a \$4 trillion market cap within a decade, and ARK estimates that Tesla could hit a \$6.3 trillion market cap by 2027. As you will see below, we think that Tesla could reach a \$4 trillion market cap by 2029. So, in order of most bullish to least bullish models amongst the ones we know of, it goes like this: ARK, The Ultimate Tesla Model, and Ron Baron. This gives us some confidence that our model provides an optimistic but also reasonable view of Tesla's future.

So welcome to The Ultimate Tesla Book (and The Ultimate Tesla Model!). Buckle up and ensure your seatbelts are securely fastened, folks—because this isn't your standard road trip. We're about to embark on a journey through Elon's empire where we'll explore the towering potential of Tesla's ventures, assuming all stars align, batteries fully charge, and not a single tweet goes awry. If you come up with any questions about The Ultimate Tesla ideas in this book that aren't clearly answered or if you'd just like to interact to learn more about The Ultimate Tesla ideas in this book, be sure to check out [The Ultimate TSLA GPT](#)² that we created based on our analysis, models, and ideas in this book. We'd love to hear any feedback from readers about this book/model so please email us at the addresses below³ with your feedback and questions.

² <https://chat.openai.com/g/g-qTF41erZG-the-ultimate-tsla-gpt>

³ support@tradingwithcody.com or bryce@10000daysfund.com

Chapter 1–The Elon Premium/Discount

Since we first started buying Tesla (TSLA) in April of 2019 ([Trade Alert here](#)⁴) at a split-adjusted price of \$17/share, the company, its CEO, and its stock have been on quite the wild ride; something like the stock-market equivalent of riding a Starship to Mars. For most of his career -- beginning with his founding of X.com (the predecessor to PayPal) in 1999 -- most of Elon's companies have had a built-in "Elon Premium" because Elon Musk was widely revered by most of the public for his business acumen, industrial genius, and incredible knack at building and growing great companies. More recently, however, the Elon Premium has morphed into the Elon Discount. Since Elon bought Twitter (now X) at the end of 2022, he has grown increasingly active in the political world which has resulted in a lot of backlash from people/lawmakers/businesses that disagree with him politically. There are now millions of potential Tesla customers who will probably never buy a Tesla because they disagree with Elon's political views.

Cody's first boss on Wall Street, Andrew Lanyi (who wrote *Confessions of a Stockbroker*), used to ask, "Vwot business are vwee in?" (He had a thick accent, having learned English when he was in his 40s and had immigrated to the US from Hungary in the 1950s). The only answer he would take, of course, was, "We're in the RESULTS business, Andrew!" In time we think the Elon Discount will fade as people will be unable to ignore the results of his businesses. In the grand scheme of things, it's the growth and the profitability of his companies that really counts.

⁴ <https://tradingwithcody.com/2019/04/19/read-this-youll-buy-tesla-and-a-tesla/>



Should there also a Cody Discount? This man is much crazier than Elon!

Whether Tesla trades at an Elon Premium or Elon Discount in the future will not matter as we have shown in the Ultimate Tesla Model. Our model values Tesla as much more than a car company (a thing that few others have ever attempted; with the exceptions of Cathie Wood's ARK and Adam Jonas at Morgan Stanley (Jonas estimated that the Dojo Supercomputer could add up to \$500 billion to Tesla's enterprise value for example)). Our financial model shows an optimistic case for Tesla if all of its various projects end up commercially successful. We have aimed to construct a financial model showcasing the sky-high potential of Tesla's diversified ventures, all while keeping our feet firmly on the ground with some basic assumptions.

Chapter 2–The Elon Effect

To understand Tesla, you have to understand Elon Musk. And with Elon, you have to take the good with the bad. It has been more than a little frustrating to be a Tesla shareholder lately as we watch all of the chaos with Elon play out in real-time on X.com. At the time of writing this book, Tesla stock is down 25% year to date and 54% from its all-time high of \$409.97 set back in November 2021. Many have attributed Tesla's recent decline to Elon's poor management and his outlandish and oftentimes insensitive and disrespectful comments on X. To say that Elon is "not a normal person" would be like saying a Tesla is "just a car" -- a massive understatement.



Elon Musk in his opening monologue on SNL, May 9, 2021

"To anyone I've offended, I just want to say, I reinvented electric cars and I'm sending people to Mars in a rocket ship. Did you think I was also going to be a chill, normal dude?" - Elon Musk

The issues that Elon deals with are not what most ordinary people deal with. His personal struggles manifest themselves in oftentimes strange and erratic behaviors. And if we had our way we would probably tell Elon to stop with the ceaseless tweeting (xing?) which is probably doing more harm than good right now for Tesla shareholders.

But Elon is his own man and obviously, he is not going to change himself or his behavior for anyone. How about changing Elon? You'd

have better luck trying to put a leash on a Falcon Heavy rocket. Whether you agree with him or not, you have to respect his willingness to make his opinions known despite immense pressure not to do so.



Even New Mexico cowboys can't stop Elon.

The same stubbornness that makes him so annoying at times is also part of what makes him such a phenomenal businessman. His tenacity, grit, high-risk tolerance, and refusal to back down are what allowed him to build not one, not two, but six incredible businesses, two of which (Tesla and SpaceX) are the most valuable businesses in their respective industries. He also co-founded PayPal (PYPL) which is currently worth about \$62 billion and OpenAI which is reportedly valued at about \$100 billion in the private markets (although OpenAI

was supposed to be an open-sourced, non-profit business when Elon founded it).

Despite all of the recent negative news about Elon, it's worth remembering that he and his companies continue to achieve incredible feats. Here's a list of just a few of Elon's recent successes:

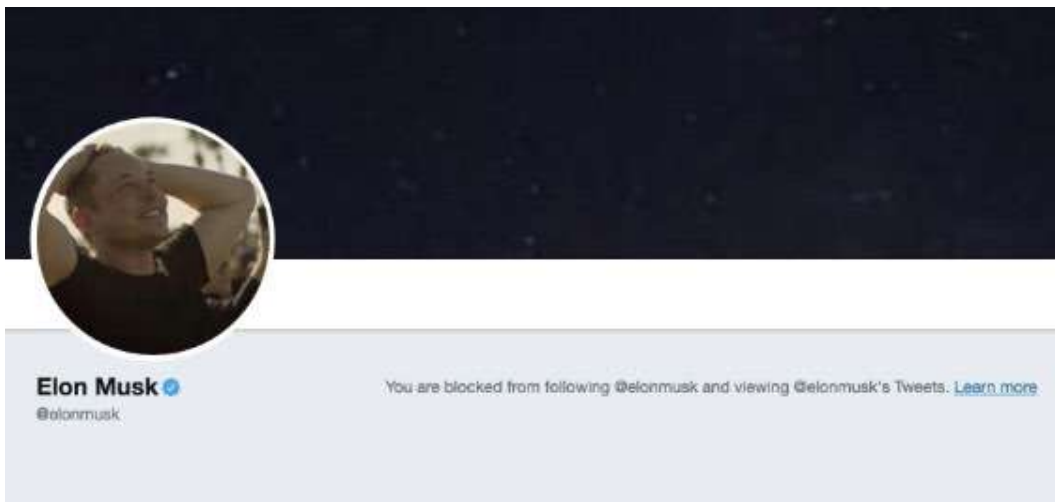
1. Tesla's Model Y became the best-selling automobile in the world in 2023.
2. Tesla brought Cybertruck -- the world's most Revolutionary vehicle -- to market in 2023.
3. SpaceX launched 80% of all mass into orbit last year (making outer space the second most cluttered place after the back seat of Cody's Model S).
4. Neuralink implanted the first human with a microchip this year (with the potential to restore motor function, give sight to the blind, etc.).

To be clear, we are not Elon fanboys. Cody has a long history with Elon and we are not blind to Elon's many faults. In fact, back in early 2009 when Cody was anchoring his show on Fox Business, he actually got to drive one of the first Tesla cars ever produced. Fox Business Network shut down Central Park and Cody got to drive the 2008 Tesla Roadster full speed and took it from 0-60 in about 2.8 seconds, which was amazing at the time (Cody's current Model S Plaid goes 0-60 in less than two seconds, as Tesla continues to improve its motor technologies).



Cody and a Fox Business intern cruising in the original Tesla Roadster in 2008.

That said, Cody has long been very skeptical of all the tax credits and corporate welfare and government assistance that Tesla has gotten over the years and he tweeted that sentiment and included Elon's handle in the tweet. Elon soon canceled his appearance and blocked Cody on Twitter for years before finally unblocking him a couple of years ago after Elon bought Twitter and changed its name to X.



Why the hate, Elon?

Moreover, Cody was a long-time Tesla bear up until he changed his mind when he [started researching and then bought the Model 3 back in 2019](#)⁵ as part of his Tesla research.



Cody's first Model 3 pictured in Alto, NM.

But the man (Elon, not Cody) is arguably the most incredible executive of our time. In our view, Elon easily fits in the ranks of Steve Jobs, Larry Page, Sergey Brin, Mark Zuckerberg, Bill Gates, and a handful of other tech titans who have truly changed the world forever and made their shareholders lots of money in the process. One of Cody's keys to investing has [always been to bet on brilliance](#)⁶, and we think Elon has more than proven his brilliance through the astonishing success of his multiple businesses over the past 25 years. Musk also thinks big. One SpaceX engineer who attended a company board meeting stated "They're sitting around seriously discussing plans to build a city on Mars and what people will wear there, and everyone's just acting like this is a totally normal conversation."

In addition to the general Elon chaos, part of the problem with Tesla right now is that Elon also has *a lot* of irons in the fire. As a reminder, these are all of his active roles: (1) CEO/Technoking of Tesla; (2) chairman, CEO, and CTO of SpaceX; (3) owner and executive chairman at X (fka Twitter); (4) founder of The Boring Company; (5)

⁵ <https://tradingwithcody.com/2019/04/19/read-this-youll-buy-tesla-and-a-tesla/>

⁶ <https://tradingwithcody.com/2019/03/29/trade-alert-betting-on-brilliance-and-ev/>

co-founder of Neuralink; and (6) founder of xAI. And as we all know, he is now a nearly full-time political commentator on X. He also has eleven (11!) children. The guy juggles more responsibilities than anyone else we have ever heard of and we honestly do not know how he finds the time.

Given everything Elon has going on, it makes sense that he might seem a little crazy at times. But despite all of the craziness, there is no doubt in our minds that the "Elon Effect" is a big net positive for investors in Elon's companies like ourselves.

Chapter 3–The Tesla Model



Apparently, this is what the world will look like according to ChatGPT if our model comes to fruition.

Tesla is the most valuable of Elon's holdings and Tesla itself has multiple business lines. In addition to its core car business, Tesla has a solar division, a semi business, a robot division, an AI division, a charging business, and an insurance business. Moreover, Tesla is largely vertically integrated, so each one of those divisions includes an extremely complex global supply chain required to keep the business going.

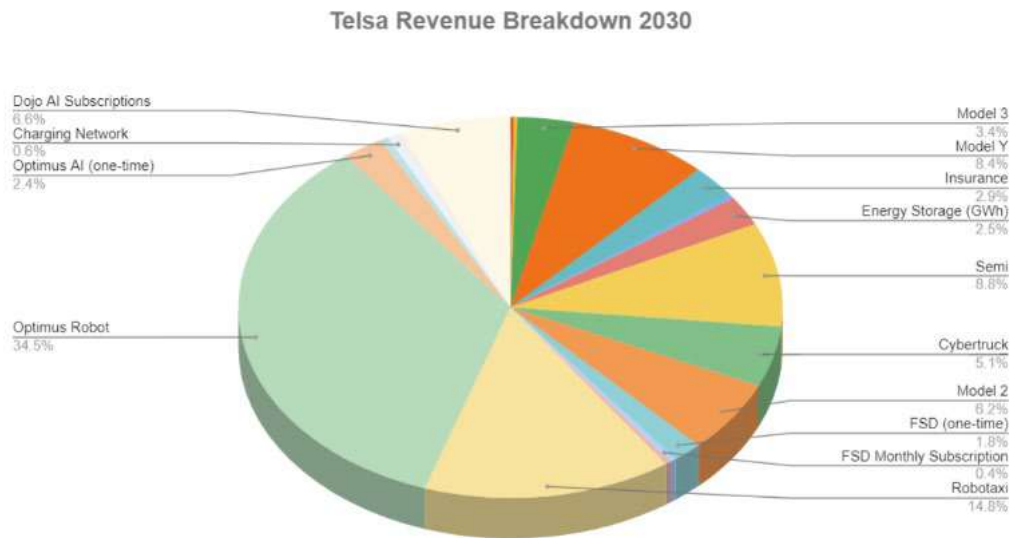
As you will see below, the Ultimate Tesla Model makes *lots* of assumptions and is *very* optimistic. Further, the ultimate size of some of these business lines is hard to predict given the truly Revolutionary nature of the products themselves. For example, if the Optimus Robot works and is capable of performing let's say even 20% of the tasks that humans currently perform, then the potential demand for the Optimus is nearly limitless (it will be constrained only by supply).

So here's the 10,000-foot view of the model, which, unlike most of Elon's tweets, is carefully thought out. The model includes our estimates for Tesla over the next seven years, but as we are very long-term investors, we actually carried the model out to 2040.

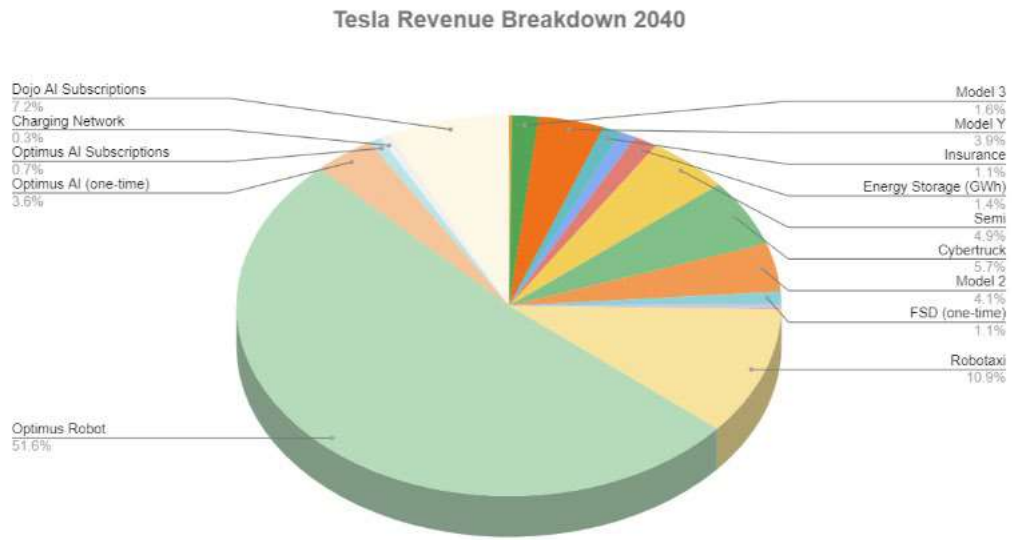
	2024	2025	2026	2027	2028	2029	2030	2040
Total Revenue								
Model S	\$1,875,000,000	\$1,968,750,000	\$2,129,203,125	\$2,302,733,180	\$2,490,405,934	\$2,693,374,017	\$2,912,884,000	\$6,376,589,031
Model X	\$2,400,000,000	\$2,520,000,000	\$2,725,380,000	\$2,947,498,470	\$3,187,719,595	\$3,447,518,742	\$3,728,491,520	\$8,162,033,960
Model 3	\$22,638,000,000	\$26,033,700,000	\$30,836,917,650	\$36,526,328,956	\$43,265,436,649	\$49,019,739,723	\$55,539,365,106	\$127,370,699,731
Model Y	\$56,160,000,000	\$64,584,000,000	\$76,499,748,000	\$90,613,951,506	\$107,332,225,559	\$121,607,411,568	\$137,781,197,295	\$315,979,280,397
Insurance	\$273,975,000	\$1,128,777,000	\$3,467,920,930	\$7,185,117,116	\$14,801,341,259	\$30,490,762,993	\$47,908,228,824	\$91,418,688,760
Residential Solar (MW)	\$245,300,000	\$296,199,750	\$342,110,711	\$718,432,494	\$1,508,708,237	\$3,168,287,297	\$4,990,052,493	\$74,541,950,180
Energy Storage (GWh)	\$6,615,000,000	\$10,418,625,000	\$16,409,334,375	\$21,537,251,367	\$28,267,642,419	\$34,133,178,221	\$41,215,812,702	\$112,473,532,866
Semi	\$170,000,000	\$8,930,100,000	\$55,188,018,000	\$71,054,573,175	\$91,482,762,963	\$117,784,057,315	\$145,581,094,841	\$398,906,127,245
Cybertruck	\$3,750,000,000	\$18,750,000,000	\$25,312,500,000	\$35,197,031,250	\$48,941,471,953	\$65,532,630,945	\$84,373,262,342	\$460,280,961,982
Model 2	\$0	\$0	\$4,400,000,000	\$27,192,000,000	\$49,013,580,000	\$75,725,981,100	\$101,397,088,693	\$333,337,961,892
FSD (one-time)	\$6,000,000,000	\$7,800,000,000	\$10,140,000,000	\$13,182,000,000	\$17,136,600,000	\$22,277,580,000	\$28,980,854,000	\$86,742,022,482
FSD Monthly Subscription	\$1,320,000,000	\$1,716,000,000	\$2,230,800,000	\$2,900,040,000	\$3,770,052,000	\$4,901,067,600	\$6,371,387,880	\$19,083,244,946
FSD OEM (F, GM, etc)	\$0	\$0	\$800,000,000	\$1,600,000,000	\$3,200,000,000	\$4,000,000,000	\$5,000,000,000	\$15,311,743,536
Robotaxi	\$0	\$500,000,000	\$1,800,000,000	\$20,394,000,000	\$126,034,920,000	\$181,742,354,640	\$243,353,012,863	\$979,524,735,036
Optimus Robot	\$0	\$0	\$30,000,000	\$930,000,000	\$47,430,000,000	\$284,580,000,000	\$569,160,000,000	\$4,182,274,868,909
Optimus AI (one-time)	\$0	\$0	\$6,000,000	\$186,000,000	\$1,116,000,000	\$6,696,000,000	\$40,176,000,000	\$295,219,402,511
Optimus AI Subscriptions	\$0	\$0	\$1,200,000	\$37,200,000	\$223,200,000	\$1,339,200,000	\$8,035,200,000	\$59,043,880,502
Charging Network	\$250,000,000	\$525,000,000	\$3,307,500,000	\$5,209,312,500	\$6,837,222,656	\$8,255,946,357	\$9,535,618,043	\$27,767,898,162
Batteries OEM	\$0	\$0	\$0	\$412,000,000	\$2,546,160,000	\$3,933,817,200	\$5,064,789,645	\$20,844,347,348
Dojo AI Subscriptions	\$0	\$0	\$1,200,000,000	\$3,780,000,000	\$43,659,000,000	\$68,762,925,000	\$108,301,606,875	\$86,441,642,826
Total Revenue	\$101,697,275,000	\$145,171,151,750	\$236,846,632,791	\$343,905,470,014	\$642,244,449,224	\$1,090,091,832,709	\$1,648,586,947,122	\$8,101,101,472,303
YoY Revenue Growth	5.09%	42.75%	63.15%	45.20%	66.75%	69.73%	51.23%	9.28%
Company Gross Margin	21.47%	20.80%	22.66%	25.24%	31.75%	31.47%	32.84%	33.46%
Operating Expenses (10% of revs)	\$10,169,727,500	\$14,517,115,175	\$23,684,663,279	\$34,390,547,001	\$64,224,444,922	\$109,009,183,271	\$164,858,594,712	\$810,110,147,230
Operating Income	\$11,667,547,500	\$15,673,474,675	\$30,457,208,005	\$52,423,973,758	\$139,707,923,983	\$234,042,188,933	\$376,502,350,587	\$1,900,708,756,175

Again, we are modeling a "best-case scenario." This is the Ultimate Tesla Model, right? So our numbers are optimistic and there is a good chance that we could be wrong about a big chunk of the assumptions included herein. But as you can see, Tesla has several Trillion Dollar Kickers that make lots of money for the company if they work out.

Here's a breakdown of the revenue drivers in the year 2030:



And the same for 2040:



Chapter 4–Tesla’s Core Strengths

Before we get into the nitty-gritty of the model, we want to outline what we view as Tesla's "core strengths" that have and will continue to drive the company's overall success. We see five key differentiating factors that set Tesla apart: (1) first-principles engineering approach & the algorithm; (2) sleep-at-the-factory mentality; (3) thinking big; (4) manufacturing ability; (5) vertical integration. Factors one through three are what made factors four and five core strengths of the company.

- **First-Principles Engineering & The Algorithm**

Elon's success, whether it be at Tesla, SpaceX, or otherwise, stems largely from his approach to tackling engineering/development/manufacturing problems using what he calls a "first-principles" approach. Because of this thought process, Elon refuses to accept the status quo as the way things ought to be. Elon always questions every decision and asks whether the decision is made because it is the correct decision or because that is the way the decision has always been made. When it came to making cars, Elon completely rethought the manufacturing process and boiled it down to its most rudimentary aspects. Most notably, Elon decided to make Tesla vertically integrated. In its very early years, Tesla used a British car company to make its vehicles, but Elon quickly realized that outsourcing production would never enable Tesla to sell EVs at scale. Since then, Elon and Tesla have had a myopic focus on manufacturing methods to ensure that the cars are as efficient as possible and that not a single unnecessary part is used.

Elon's first-principles approach to life led him to create "The Algorithm" which [Walter Isaacson detailed in Musk's biography](#)⁷. The Algorithm is a methodical approach for eliminating bureaucracy within production environments, delineated into five distinct steps.

1. Question every requirement

⁷ <https://a.co/d/0yXfPUN>

The initial phase involves scrutinizing every so-called "requirement" for a clear understanding of whether the "requirement" is actually needed. Elon states that every requirement must be attributed to a specific person, rather than a vague department like "legal" or "safety." The emphasis here is the importance of personal accountability. Knowing the actual person responsible allows for direct questioning of the requirement's validity, irrespective of the individual's perceived intelligence or authority.

He further advises skepticism towards requirements, even those from highly regarded sources. Musk questions everything, especially directives from reputedly smart individuals, as their proposals are often accepted without challenge.

2. Delete any part of the process you can

The next step focuses on reduction, advocating for the elimination of any unnecessary process elements, often going beyond what feels comfortable. Here, Musk implements his "10% rule." Elon makes his engineers and designers delete any potentially unnecessary parts to prevent any waste. Elon states that if you do not end up adding back at least 10% of the parts you deleted, then you probably did not delete enough to begin with. Elon applies this rule not only to the design of the products themselves but to the entire manufacturing process. Elon's first-principles approach has resulted in Tesla developing the most advanced EVs on the market, at a price that ordinary consumers can afford because there is no waste or frill.



Automated assembly at Giga-Texas. Source: Tesla

3. Simplify and optimize

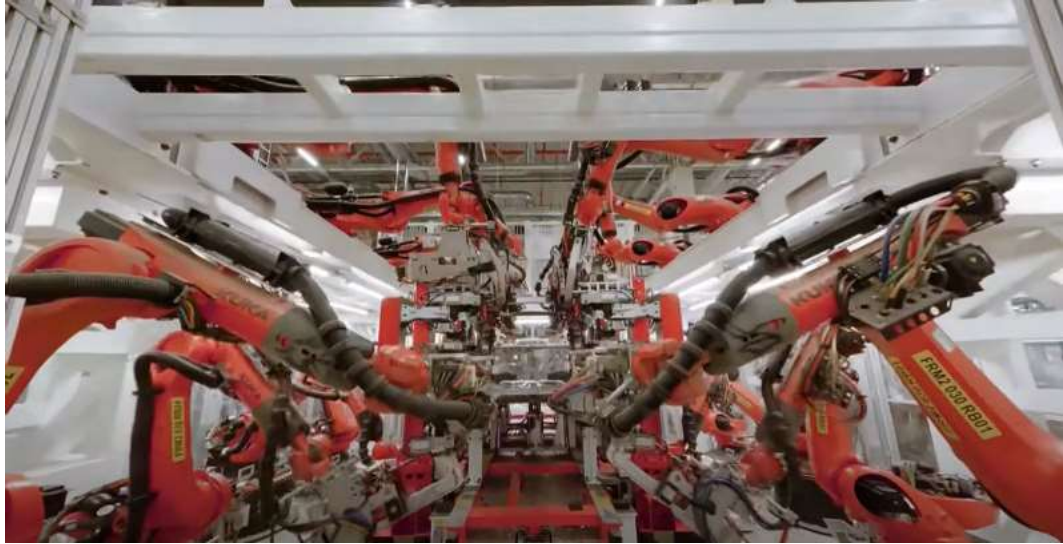
This stage calls for the simplification and enhancement of remaining processes, but only after unnecessary elements have been identified and removed. This sequence prevents wasting effort on optimizing processes that ultimately may not be needed.

4. Accelerate cycle time

Improving efficiency by accelerating the pace of bureaucratic processes is the fourth step. This involves identifying and implementing strategies to quicken existing workflows. It's critical however to only focus on ramping up processes once you have deleted unnecessary processes.

5. Automate

The final step involves automating the refined processes. After ensuring processes are essential, streamlined, and efficient, the focus shifts to automation possibilities. Elon stated that one of his biggest mistakes when he was ramping his factories in Fremont and Nevada was that he tried to automate every step from the get-go, before all of the bugs in the process were fully worked out.



Inside Giga-Berlin. Source: Tesla

- **Sleep-at-the-factory mentality**

At every key moment in the history of his companies, Elon has been there on the ground figuring out the issues with his team. When he started the first X.com (which eventually merged with PayPal), Elon and his brother lived in the X office and showered at the YMCA down the street. When Elon was building the first Model S's at his factory in Fremont, California in 2012, Elon slept at the factory and worked with his team on the production line every day to figure out how to get production up to the desired level. Elon is now the richest man on Earth, but he still manages his companies like he did back then when he had no cash and was doing everything he could just to keep his companies alive. It's clear that you cannot separate Elon and his companies. To Elon, they are like part of his soul, and if they die, then part of him dies as well.



Elon's also a cowboy. Source: Tesla

By the way, it's nothing short of a miracle that Tesla and SpaceX are here today. Both companies were on the brink of bankruptcy in 2008 and came within days of collapsing. Elon and his brother Kimbal put every last dime they had into these companies and even that was not enough. If it had not been for some last-minute fundraising rounds from key investors including Daimler and others, Tesla would not exist. If Elon did not operate with this sleep-on-the-floor mentality, it's almost a guarantee that those investors would not have trusted him with their money during such dire economic times.

Today, Tesla is an extremely profitable company and is no longer facing bankruptcy. But even Elon says that he still has PTSD from everything that happened in 2008. For Elon, the stakes are still just as high as ever, and that is the reason that he is still intimately involved with nearly every key aspect of Tesla's business.

- **Thinking big**

Most of us try to set goals for our lives. Maybe we are trying to buy a house, put a few kids through college, start a business, or become debt-free. We hate to say it but even your loftiest personal goals probably pale in comparison to what Elon believes he can accomplish. Among other things, Elon wants the entire world to transition to renewable energy, he wants to create artificial general intelligence, and he intends to make humans a multi-planetary species by making

colonies on the Moon and Mars. Oh yeah, he also wants to turn X.com (fka Twitter) into the "Everything App," meaning it will be a platform for everything from financial services to social media to news to sports betting to dating (and more!). Oh, and we almost forgot he wants to give sight to the blind, hearing to the deaf, a voice to the mute, and mobility to the impaired with Neuralink brain chips. That's it we think. Oh no, we knew there was something else. He also wants to eliminate traffic in cities by building a huge network of underground tunnels, oh and he wants to make sure that your cell phone always has service (no dead zones), even if you are on top of Mount Everest or in the middle of the Pacific Ocean (see Starlink's partnership with T-Mobile (TMUS)). I'm sure there are others but just writing down this list of Elon's goals already has me ready for a coffee break.



Elon and T-Mobile CEO Mike Sievert at the Starlink/T-Mobile Partnership Announcement. Source: T-Mobile

Elon is truly one of the great visionaries of the human race and there is a pretty darn good chance that he accomplishes most of these goals in his lifetime. He's already accomplished more than anyone thought

was possible and the guy is only 52 years old. Elon continues to think big and has set some ambitious goals specifically for Tesla. He once predicted that Tesla's revenue would grow at a 50% compounded annual growth rate (CAGR) and initially promised that full autonomy would be achieved by 2017.

Although his goals are big, his timing has not always been great. Full autonomy still isn't here and it was four years before Tesla delivered the first Cybertruck after it was first revealed. But in other respects, Elon has accomplished things far sooner than anyone anticipated. For example, just a few weeks ago Neuralink installed the first chip in a human and that wasn't something that anyone was expecting for a few more years. SpaceX also now has over 5,000 satellites in orbit and last year carried 80% of all of the mass that was sent into space. Elon never made promises about the number of SpaceX satellites yet somehow SpaceX has more satellites in orbit than all other operators combined. The point of the story is that Elon's timing (especially as it relates to his most ambitious goals) usually needs to be taken with a massive grain of salt.

- **Manufacturing Ability**



Aerial View of Giga-Texas. Source: Tesla

Tesla and Elon's core strengths listed above have culminated in Tesla being the unrivaled leader in EV manufacturing in the US and Europe. Elon has always believed that designing the factory -- "the machine that builds the machine" -- is as important as designing the car itself. "The brain strain of designing the car," Elon says, "is tiny compared to the brain strain of designing the factory."

Tesla has developed entirely new techniques that dramatically improved the car manufacturing process, and its Gigafactories are some of the largest and most advanced factories in the entire world. Tesla's factory in Shanghai is the company's largest and at full

capacity, a new Model 3 or Y rolls off of the assembly line every 40 seconds. That's some serious volume in one factory! Likewise, the total time required to build a Tesla Model Y in the Berlin Gigafactory is reportedly about 10 hours total -- which is roughly three times faster than the time it takes Tesla's competitors to build a comparable EV.



Gigapress installed in Giga-Shanghai. Source: Tesla

One of Tesla's most innovative manufacturing developments has been the development of the Gigapress. Musk had the idea for the Gigapress when he was playing with a toy version of a Model S and he noticed that the entire underbody of the toy was one piece of metal. Musk wondered if the same method could be used to make real cars and thus Tesla worked with a European casting company to create the Gigapress.

The Gigapress can create the entire rear and front underbodies of the Model Y in one piece of metal. This dramatically increases the production speed of the cars by reducing the number of parts and the amount of welding required to assemble them. The Gigapress [reportedly](#)⁸ replaced 60 welded components in the car and reduced the cost of manufacturing by up to 40 percent. Moreover, for the Model 3, the Gigapress allowed Tesla to [remove about 600 robots](#)⁹

⁸ <https://europe.autonews.com/suppliers/giga-presses-help-toyota-volvo-hyundai-cut-production-costs>

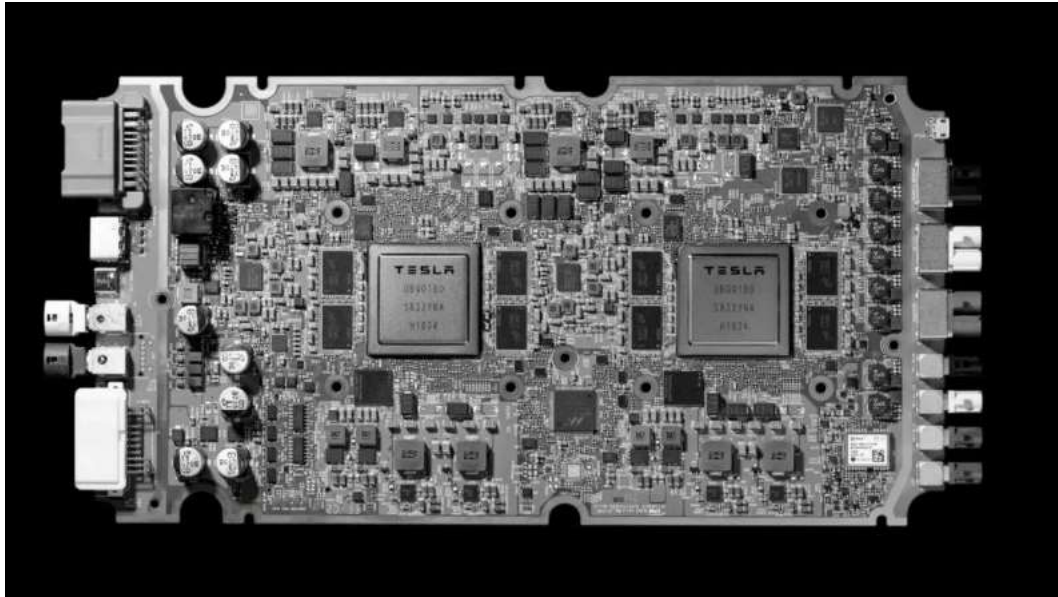
⁹ <https://insideevs.com/news/673158/tesla-giga-casting-manufacturing-becomes-mainstream/>

from the assembly line. Other companies -- like Ford, GM, and Toyota -- are now planning to purchase Gigapresses for their next lineup of EVs. The rest of the auto industry will forever be playing catch up with Tesla.

- **Vertical Integration**

Unlike every other automobile company, Tesla is deeply vertically integrated. Tesla handles nearly every part of its supply chain and even downstream activities like sales, maintenance, and insurance. Elon upended the traditional automobile industry model which had been moving away from vertical integration since the 1960s. In doing so, the legacy automakers abandoned the model pioneered by the likes of Henry Ford that had made them successful. Instead, the big three Detroit firms had decided that they could increase profits by outsourcing nearly all of their supply chain and simply assembling the cars using tens of thousands of different components from hundreds of different companies. Elon took the opposite approach when he started Tesla, namely because there was no existing supply chain for the components needed to build electric cars at that time. But Elon also saw how vertical integration would help Tesla control its destiny.

Today, Tesla controls nearly every part of the supply up to the mining of lithium for lithium-ion batteries. Tesla has long manufactured most of its batteries, but in 2022 it announced that it was building its own lithium refinery, and that refinery should be commissioned sometime in early 2024. Tesla also designed many of the chips for its cars -- including the critically important FSD chip -- which are manufactured by Taiwan Semiconductor (TSMC), Samsung, and STMicroelectronics.



Tesla's FSD chip. Source: Tesla

Importantly, Tesla's in-house production of most of the components in its vehicles allows the company to easily integrate all of those components with one unified software system. If you have ever been in a Tesla, you have surely noticed the massive "infotainment" center which houses all of the controls for the entire car. If there is ever any kind of error or change that needs to be made, Tesla can simply send an OTA update hassle-free. Additionally, Tesla makes its own electric motors, seats, steering wheels, wheels, charging equipment, and many other interior and exterior parts of the vehicles.

Tesla's vertical integration is a key differentiator and provides significant advantages over traditional automakers. Companies like Ford have lamented their inability to make software changes because they rely nearly exclusively on third-party components. In a [podcast last June¹⁰](#), Ford CEO Jim Farley explained the problems traditional automakers have in this area:

"We farmed out all the modules that control the vehicles to our suppliers because we could bid them against each other. So Bosch would do the body control module, someone else would do the seat control module, someone else would do the engine control module, and we have about 150 of these modules with semiconductors all

¹⁰ <https://chargedevs.com/newswire/ceo-jim-farley-explains-how-ford-is-learning-from-tesla-marketing-evs-as-digital-products/>

through the car. The problem is the software are all written by, you know, 150 different companies. And they don't talk to each other. So even though it says "Ford" on the front, I actually have to go to Bosch to get permission to change their seat control software. . . it's actually their IP. And I have 150, we call it the loose configuration of software providers, 150 completely different software, programming languages, you know all of the structure of the software is different, its millions of code, and we cannot even understand it all. And you know that's why at Ford, we've decided in the second-generation product to completely insource the electrical architecture. And to do that you need to write all of the software yourself. But just remember, car companies haven't written software like this, ever. They've never written software. So we're literally writing how the vehicle operates - the software to operate the vehicle -- for the first time ever."



Cody's Model S chillin' at Misfit Farm

Given these challenges and the many decades that legacy automakers have spent outsourcing their supply chain, it is unlikely that they will ever be able to make the switch to vertical integration. Building EVs is expensive, and without a massive third-party supply chain to build cheap cars, it's unlikely that even if the legacy automakers start volume production of EVs they will be able to sell them at a profit.

Tesla's vertical integration allows it to control its supply chain which in turn lets it control the cost of the components that go into the car which ultimately leads to greater profitability. Elon frequently says that the most ironic outcome is often the most likely, and we think it would be ironic if the traditional automakers end up losing to a company that adopted the original business model (vertical integration) of the legacy automakers.

Chapter 5–The S3XY Lineup



Source: Tesla.

Tesla's existing S3XY models are still the best EVs available in the US and Europe and they continue to *seduce* (ha!) millions of car buyers each year. Here's a breakdown of key details relating to the S3XY lineup:

Model	Price Range (USD)	Driving Range (miles)	Top Speed (mph)	0-60 mph (seconds)	Federal Tax Credit (USD)
Model S	\$74,990 - \$99,990	320 - 382	200	1.99 - 3.1	\$0
Model 3	\$38,990 - \$51,990	272 - 341	125	4.2 - 5.8	\$7,500*
Model X	\$79,990 - \$105,990	326 - 335	149	2.5 - 3.8	\$7,500**
Model Y	\$42,990 - \$56,490	260 - 310	155	3.5 - 6.6	\$7,500
				*Full credit only for Model 3 Performance	
				**Only for Model X Long Range w/ MSRP < \$80k	

Source: Tesla; FuelEconomy.gov; 10,000 Days Capital Management

Despite the introduction of over 80 EV models in the US from other carmakers over the last three or four years, Tesla has maintained a commanding 51% market share in the domestic EV space. [Globally¹¹](#), Tesla has about 20% market share in 100% battery electric vehicles (BEVs), with Tesla's biggest international competitor being the China-based BYD Company (BYDDY). In 2023, BYD shipped 1.57 million BEVs compared to Tesla's 1.8 million BEVs. The only real threat to Tesla's EV business is from Chinese automakers who by all accounts are producing quality EVs at a reasonable price.

¹¹ <https://cleantechnica.com/2024/02/06/tesla-still-1-in-world-bev-sales-2023-world-ev-sales-report/#:~:text=Regardless%20of%20what%20happens%20in,at%20the%20end%20of%202020.>



The Zebu Cows Surrounding Cody's Model S

Tesla has been able to hold its spot as the #1 BEV maker globally for one primary reason: it makes the best product on the market. When we first started buying Tesla stock back in 2019, Cody was just about to buy a Tesla Model 3 as part of his Tesla homework because he recognized that if it was a good product at the right price, it could make Tesla go mainstream. He asked all of his subscribers to give him their opinions on the vehicles as well. Here are just a few of the things they said:

"My husband and I both love advanced technology. The Tesla is the ultimate. I'm sure you're aware of this – but the entire car is run by an onboard computer. The screen is superior to any car we've seen. It's a huge screen, super clear, and the response time is lightning fast."

"The car FEELS GOOD. Very well-made, solid car. Some people think it must be light weight because there's no engine. But the batteries that span the undercarriage of the car are very heavy. They also create a low center of gravity, making the car very stable and heavy. And it looks great too. Sharp exterior design (very cool door handles), and sharp, upscale interior styling as well. Oh and I didn't

even mention that it's a race car too. Super smooth handling and amazing speed."

"Owning a Tesla is amazing. It is the car of the future in every way, and I will never go back to an internal combustion energy. Everyone I know with a Tesla feels the same way. In contrast to the usual hours at the dealer, it is a cinch to purchase a Tesla (takes just a few minutes, and everyone pays the same price; you order each car with what you want, or don't want on it). Note that there's essentially no service required (no oil changes, no tune-ups, no brake wear — a result of usually using regenerative braking to slow the car), and the company is not reliant on repairs to make money, and has no incentive to do so."

You can read all of the reviews Cody received in the full 2019 article "[Read this, you'll buy TSLA and a Tesla.](https://tradingwithcody.com/2019/04/19/read-this-youll-buy-tsla-and-a-tesla/)¹²"



Cody & Lori's Great Pyrenees dogs in the backseat of the Model 3

¹² <https://tradingwithcody.com/2019/04/19/read-this-youll-buy-tsla-and-a-tesla/>

The quality and affordability of Tesla vehicles has only improved since our original analysis. More than anything else, what sets Tesla apart is (1) the price, reliability, and quality of its vehicles; (2) the advanced software and over-the-air (OTAs) updates; and (3) its advanced autopilot and FSD features (more on this later). The vehicles are so good that they sell themselves and to date, Tesla has spent almost \$0 advertising its vehicles (although this year Tesla did start running a few ads on YouTube).

Tesla's direct-to-consumer sales approach is also extremely Revolutionary. Not having to haggle with a salesperson at a dealership, and not having to shop multiple dealerships to find the best price is such a refreshing change from the traditional experience of buying an automobile. Not to mention, this really cuts down on Tesla's overhead.

One of the key drawbacks to EV ownership was historically slow charging, and Tesla has essentially solved that problem with the widespread availability of its Supercharger network. We discuss the economics of the supercharger network more thoroughly below, but it is one of the key features that makes owning a Tesla such a no-brainer. A map of the Supercharger network is in every Tesla and it is very easy to plan out even a long-distance trip because Tesla will automatically route you to a supercharger when it comes time to recharge, helping eliminate that dreaded "range anxiety."

In addition to all of the other amazing aspects of the S3XY lineup, these cars also consistently rank among some of the safest on the road, with the Model Y being an IIHS Top Safety Pick+ for three years in a row. As Tesla hate built over the last 12 months or so, we saw a lot of headlines about safety "recalls" and wrecks supposedly caused by Tesla's autopilot/FSD software. However, Tesla has been able to fix all of the "recalls" with simple OTA software updates. One of the recent recalls that affected basically every car Tesla had ever sold was because of small font sizes on some of the warning lights. This increased the risk of a crash in the eyes of the National Highway Transportation Safety Administration (NHTSA) even though not a single crash or injury had been reported because of the issue.

While the bad headlines are way more prevalent right now than the good ones, it is worth remembering that there are lots of incredible stories about how Tesla's uber-safe design saved lives. Back in January of 2023, [it was reported](#)¹³ that the safe design of the Tesla Model Y saved the lives of a family of four after the driver *intentionally* drove off of a 250' cliff at 80 miles per hour (the driver is in prison by the way)! Here's the image of the crash:



This Model Y saved lives. Source: California Highway Patrol

One of the reasons that Tesla vehicles are so safe is that they have a very low center of gravity and are resistant to rollovers thanks to the skateboard of batteries that form the foundation of the car. [In 2018](#)¹⁴, Tesla posted that the Model 3, S, and Y achieved the lowest probability of injury as tested by the NHTSA (although it turns out that perhaps Tesla was not supposed to publish those numbers from the NHTSA; Elon breaking the rules once again! ha). Despite the [NHTSA, FTC, and others supposedly cracking down on Tesla](#)¹⁵ for

¹³ <https://jalopnik.com/family-survived-annihilation-thanks-to-the-super-safe-t-1849960151>

¹⁴ <https://www.tesla.com/blog/model-3-lowest-probability-injury-any-vehicle-ever-tested-nhtsa#:~:text=Now%2C%20not%20only%20has%20Model,safety%20agency%20has%20ever%20tested.>

¹⁵ <https://www.cnbc.com/2019/08/07/tesla-scrutinized-by-the-nhsta-over-model-3-safety-claims.html>

publishing this data, and many Tesla haters claiming the data is fake, the 2018 post with supporting data is still published on Tesla.com.

While we think Tesla has a phenomenal track record of producing high-quality, safe vehicles, it is still an auto company and it is now shipping millions of units annually which means from time to time it may have some manufacturing/design issues that it needs to fix. But Tesla's vertical integration and advanced manufacturing techniques give us confidence that Tesla's recall/safety track record will continue to stand head and shoulders above those of every other carmaker on the planet.



Zebu cows clearly are not afraid of the Model S

We think that the S3XY models will continue to take market share from traditional internal combustion engine (ICE) vehicles and other EV offerings from other car companies. Despite Tesla's rapid growth in recent years, Tesla still only has about 4.2% market share in the US. For comparison, GM currently has the largest market share in the US with about 16.5% and Toyota is next with 14.4% market share. We think Tesla can get up to around 10% market share in the US in the next four or five years. Accordingly, we model Model 3/Y growth

at 15% per year for the next four years and 10% per year thereafter, which results in Tesla's unit shipments doubling from current levels by 2028. We also model gross margins improving to the 20-22% level as Tesla achieves higher utilization at its Gigafactories and ASPs (average selling prices) stabilize near current levels with 3% annual price increases starting in 2026.

Chapter 6–Cybertruck



That Cybertruck is faaaaaassst! Source: Tesla

The Cybertruck is the most Revolutionary thing to happen to automobile manufacturing since the first Model T rolled off of the assembly line in 1908. With the Cybertruck, Tesla completely revamped the traditional design of the automobile. The most significant change was the switch to building the vehicle around a stainless-steel exoskeleton rather than on top of a welded steel frame. The bullet-resistant steel sheets are what give the Cybertruck its futuristic look and they also increase its strength and dexterity. Moreover, the Cybertruck features a Revolutionary 48-volt electrical system, steer-by-wire steering system, the largest windshield ever placed on a car, and no door handles. The Cybertruck has all of the utility of a regular pickup but is much more powerful. The Cybertruck can out-pull even the best-in-class diesel Ford F-Series truck and out-run a Porsche 911 in a drag race *while towing a Porsche 911 on a trailer!*

The Cybertruck currently comes in three options with the details below:

Cybertruck	Price Range (USD)	Driving Range (miles)	Top Speed (mph)	0-60 mph (seconds)	Federal Tax Credit (USD)
Rear-Wheel Drive	\$60,990	250	112	6.5	Potentially
All-Wheel Drive	\$79,990	340	112	4.1	Potentially
Cyberbeast	\$99,990	320	130	2.6	No

Source: Tesla; 10,000 Days Capital Management

Tesla is currently only shipping the "Foundation Series" of its Cybertruck which costs an extra \$20,000. This extra dough gets you

FSD, a lifetime subscription to Tesla's premium connectivity service, a \$4,000 installation credit for PowerShare hardware (which lets the truck export power to the house), an LED light bar, and a bunch of other features. Most importantly, ordering a Foundation Series Cybertruck gets you to the front of the line for taking delivery of a Cybertruck. The Foundation Series is supposedly limited to 1,000 units and we think that this could be an awesome collector's item (possible investment?) for those willing to shell out the extra money.

We think Tesla will ship around 50,000 Cybertrucks in 2024 and achieve a full ramp of 250,000 units in 2025 once the mainstream versions of the pickup are available for purchase. Right now, Tesla states that its Cybertruck capacity will be limited to 250,000 units annually, but with nearly 2 million reservations outstanding, we think Tesla will likely add capacity at its Gigafactories within the next few years to meet this demand. Accordingly, we model Cybertruck growth continuing at 20-25% per year for the next seven years.

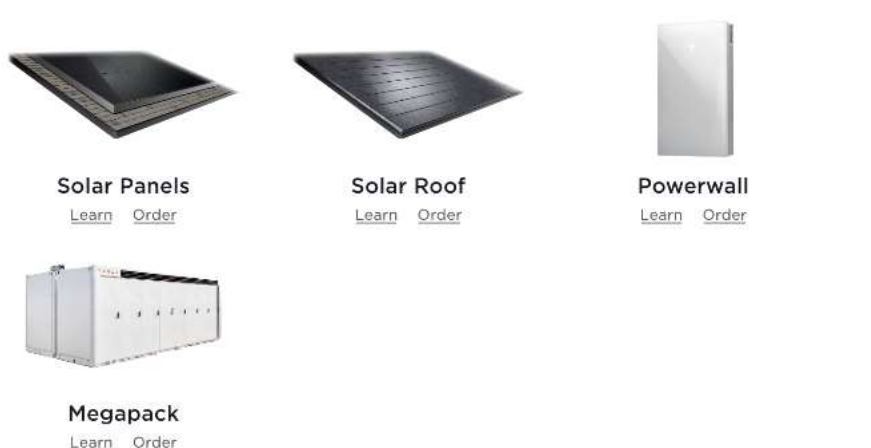
However, we think Cybertruck will likely be a drag on profitability for 2024 (estimating -40% -- negative 40%, that is -- gross margins) with margins improving to a positive 15% in two years once full ramp is achieved. This is slightly less than the margins for the S3XY lineup but given the manufacturing complexities involved with this vehicle, we think it is a more reasonable assumption. We assume an initial ASP of \$75,000 with a 3% escalation starting in 2027.

Chapter 7–Tesla Solar



We're going to need a lot of solar panels on Mars.

There are two parts to Tesla's solar business: (1) solar installations (solar panels on houses and for utility companies); and (2) energy storage (which is by far the bigger part of the business). Tesla got into the solar business when it bought Elon and his cousin's company, SolarCity, in 2016 for \$2.6 billion. Elon was sued by shareholders for this controversial acquisition because Elon essentially used Tesla shareholder money to bail out a failing solar company that he and his cousins owned. Of all of the Elon controversies, the SolarCity acquisition goes up there as one of the worst.



Tesla's energy products. Source: Tesla

Despite the clear conflict of interest, Elon was able to work his magic and turn the new "Tesla Solar" division into a nice growth driver for the company. However, in 2023, the entire solar industry basically collapsed because of much higher interest rates. Tesla was not immune to the pain and the company's solar installations took a nosedive in 2023 -- declining 59% YoY in the fourth quarter. [We warned Trading With Cody readers last April¹⁶](#) when many solar stocks were close to all-time highs that higher interest rates and declining subsidies would significantly hurt most solar stocks, and that turned out to be true. Major solar companies like SolarEdge (SEDG), Enphase Power (ENPH), and First Solar (FSLR) are down anywhere from 40%-75% since we wrote that article.

We are not expecting a rapid rebound in the demand for solar installations unless/until interest rates come down a lot or there are new government subsidies for solar (or maybe when we start building cities on Mars).

However, Tesla's energy storage business continues to grow rapidly as both utility companies and homeowners look to add backup power

¹⁶ <https://tradingwithcody.com/2023/04/13/trade-alerts-solar-shorts-beat-up-space-stocks-match-group-and-much-more/>

to improve grid reliability. Despite much higher interest rates in 2023, Tesla's energy storage revenue doubled, and its profits quadrupled.

Tesla's Powerwall and Megapack are probably the best energy storage products on the market and we expect revenue growth to continue for these products despite higher interest rates. The electrical grid is clearly strained and blackouts and outages are becoming more common across the nation all of the time. Battery storage is one of the best ways to have reliable, on-demand power in the event of an outage. One Tesla Megapack can store 3.9 MWh of energy which is enough to power an average of 3,600 homes for one hour. A residential Powerwall costs about \$11,500 and can run a typical home for up to 12 hours.

Even if utility companies and homeowners are not installing new solar projects, Tesla's energy storage solutions offer long-term cost savings and operational efficiencies because they can help reliance on grid electricity during peak times, which helps producers supply reliable electricity and users lower their energy costs.



Megapacks installed at a utility site. Source: Tesla

Chapter 8–Full Self Driving (FSD)

The key to Tesla's future as a car company hinges largely on it achieving fully autonomous driving. Elon has famously been wrong about how quickly the company could achieve autonomy and many market participants now doubt that Tesla will ever achieve autonomy. But with the company's recent advances in AI and the wide rollout of FSD version 12 coming soon, we think that is all about to change.

FSD 12 is the first version that is based on an end-to-end neural network and it was recently released in beta to a select group of drivers. With previous versions of the FSD software, human programmers actually had to write code that essentially instructed the vehicles how to drive and respond to what they saw in the real world. Walter Isaacson explained the difference in the two approaches well in his [biography of Elon Musk](#)¹⁷:

"For years, Tesla's Autopilot system relied on a rules-based approach. It took visual data from a car's cameras and identified such things as lane markings, pedestrians, vehicles, traffic signals, and anything else in range of the eight cameras. Then the software applied a set of rules, such as *Stop when the light is red; Go when it's green; Stay in the middle of the lane makers; Don't cross double-yellow lines into incoming traffic; Proceed through an intersection only when there are no cars coming fast enough to hit you;* and so on. Tesla's engineers manually wrote and updated hundreds of thousands of lines of C++ code to apply these rules to complex situations."

Tesla's engineers described the difference between the new approach and the old approach as follows: "Instead of determining the proper path of the car based only on rules, we determine the car's proper path by also relying on a neural network that learns from millions of examples of what humans have done."

Here is how ChatGPT (which runs on a neural network), explains what an "end-to-end neural network" is:

¹⁷ <https://a.co/d/7MhghoZ>

*"An end-to-end neural network is a type of deep learning model that processes raw input data through multiple layers to produce a final output without the need for manual feature selection or data preprocessing. **The network learns to identify the necessary features for making predictions or decisions directly from the data it's given.** This model structure is advantageous because it can automatically discover the representations needed for a task, eliminating the biases and constraints of manual feature engineering. However, the trade-off includes a need for substantial amounts of data and computational power. End-to-end neural networks have been widely adopted in fields like image and speech recognition, and natural language processing, where they have achieved state-of-the-art results by directly learning from pixels, audio waveforms, or text."*

Tesla almost certainly has the data and compute needed to build a functioning neural network. Tesla receives 160 billion frames per day of video from real-life Tesla cars. As of early 2023, Tesla's Dojo supercomputer had analyzed 10 million of those frames of video from the best drivers in order to create FSD 12. According to Elon, the videos used to train the new neural network are videos of how a five-star Uber driver would handle a situation. If the new neural network works correctly, Tesla engineers have said the car will never get into a collision.

This new approach essentially incorporates a "learn-from-humans" component that did not exist previously. With FSD 12, the vehicle is able to make decisions on its own because it has been trained using video from the best human drivers. This change removed an estimated 300,000 lines of code from the FSD software, saving lots of time and money for Tesla. As our friend and AI expert John De Oliveira put it in a recent one of our weekly "[The AI Revolution Shows](#)¹⁸," FSD 12 goes straight from "pixels to action." [A video posted recently](#)¹⁹ showed a Tesla with FSD 12 was able to drive from a parked position to a parked position through 90 minutes of traffic in LA with zero interventions from the driver. FSD 12 is not perfect yet, but it is

¹⁸ <https://x.com/TradingWithCody/status/1757189398871830565?s=20>

¹⁹ <https://youtu.be/vJ9G6sXiiMQ?si=omP6H8O27ACgg7MM>

probably the biggest improvement in FSD since Tesla first launched the first beta version of the software in 2020.

We think FSD 12 will be a game-changer for Tesla. Tesla is the only car company investing heavily in AI and we expect that Tesla will be the first (and maybe only) auto company to achieve fully autonomous driving. Once Tesla achieves true autonomous driving, we expect other car companies will be lining up to license Tesla's software to empower their vehicles to be autonomous as well. It's important to note that Tesla is the closest company to achieving full autonomy and it is using only cameras (no LiDAR and radar). Going back to his first-principles approach, Elon believes that cars should be able to drive the way humans drive because that is how our road system was designed to work. However, that decision could turn out to be a mistake and there are a lot of other companies building semi-autonomous cars using LiDAR technology.

The biggest risk to Tesla's FSD ambitious in probably government red tape. There have been plenty of headlines about FSD or autopilot causing crashes although none of those allegations have come even close to being proven. That said, it may take some time for the public's perception of the safety of autonomous vehicles to get to the point that the Republican-Democrat Regime actually signs off on fully autonomous cars driving around our streets. However, we think the technology is so powerful and has the potential to unlock so much value in society that in the long run, the government will be unable to stop it from coming to market. However, in a realistic scenario, even if Tesla creates true FSD in the next year or two, it could be another five years (or ten in the worst case) before the folks who are supposedly looking out for us (although they rarely, if ever actually do) in Washington decide to allow Tesla's with FSD on the road.

The current version of FSD costs about \$12,000 upfront or you can pay \$199 per month for the service. We estimate that FSD will generate upwards of \$7 billion in revenue for Tesla in 2024 which represents a penetration rate of about 15% on the expected installed base. That adoption rate would be about double the current FSD penetration which is running at about 8%. We think that once FSD 12 is released to the public it could result in massive adoption very

quickly if it turns out that the software is as good as we think it is based on the early reviews we've watched online. This is a 90% gross margin business and a big jump in FSD adoption would result in a lot of incremental revenue going nearly straight to Tesla's bottom line. And the adoption rate will go even higher if truly autonomous driving becomes an affordable adoption for most of the public.

Chapter 9–Model 2

The next major growth vehicle for Tesla will probably be its next-gen, sub-\$30,000 car. While a name for Tesla's new car hasn't been decided, what most people refer to as the "Model 2" will be Tesla's next-gen vehicle targeted at the masses.

Even though the prices of Tesla's flagship Model 3 and Model Y have dropped dramatically over the last year, they are still more expensive than the most popular ICE cars on the road today. Here are some prices and unit shipments of the world's best-selling vehicles for reference (remember, the Model 3 starts at \$38,990, not including the potential \$7,500 federal subsidies):

- Toyota Corolla: \$36,500 (2022 unit sales = 1.12 million)
- Toyota RAV4: \$28,475 (2022 unit sales = 0.87 million)
- Ford F-150: \$36,570 (2022 unit sales = 0.79 million)
- Toyota Camry: \$26,420 (2022 unit sales = 0.68 million)
- Honda CR-V: \$29,500 (2022 unit sales = 0.6 million)

Elon said on the fourth quarter 2023 earnings call that the manufacturing system for the next-gen vehicle will be "revolutionary" and "far more advanced than any other automotive manufacturing system in the world, by a significant margin." Given Tesla's core strengths in manufacturing and vertical integration, we are confident that the team at Tesla is working on a truly game-changing manufacturing process that will allow them to build one of the world's highest-quality and most affordable vehicles ever and still make a nice profit on the car. The manufacturing process for the Model 2 will probably take Elon's idea of "building the machine that makes the machine" to the next level.

We model the first shipments for the next-gen vehicle occurring in 2026 with a full ramp achieved in 2028. We expect the Model 2 to cost around \$22,000 -- without government subsidies (obviously it would be even cheaper with the current subsidies if they are still around) -- and are projecting 19% gross margins for this vehicle. We think that the Model 2 could ship to 2.1 million units by 2028

(300,000 greater than Tesla's total unit shipments across all models in 2023), and as many as 10 million units in 2040.

Chapter 10–Robotaxi

With autonomy and the Model 2 comes Robotaxi. There are two parts to the Robotaxi model. First, Tesla plans to build a dedicated autonomous vehicle that will be used to haul people around Uber-style. This vehicle will likely be very similar to the Model 2 except it will not have a steering wheel nor gas/brake pedals. There was much debate at Tesla about whether to build the Robotaxi with or without a steering wheel and pedals but ultimately Elon decided to omit those key items because Tesla is "all in on autonomy."

The other idea with Robotaxi is to allow Tesla owners to turn their existing vehicles into Robotaxis when they are not in use (something like Airbnb's model). Imagine you take your Tesla to work and instead of the car sitting idle in the parking garage for eight hours, it can be giving people rides during that time earning revenue for both you and Tesla.

Tesla has big plans for the Robotaxi program. At one point, the company estimated that there could be up to 700 million Robotaxis on the road by the year 2030.

As soon as Tesla figures out FSD and receives government approval for the same, it will be able to turn on the Robotaxi model for existing Teslas with a simple over-the-air (OTA) update. Given the big improvement in FSD we expect to see with version 12, we think Tesla could potentially turn on this part of the Robotaxi model in the next year or two. We think the dedicated Robotaxi vehicle could come in 2026 once the next-gen vehicle is fully ramped. We also predict that companies like Uber will probably buy fleets of dedicated Robotaxis to operate themselves as part of their mobility businesses.

We model Robotaxi revenue starting small in 2025 based on 100 million rides that year (for reference, Uber did 9.5 billion trips in 2023), with the total rides increasing significantly in 2027 once the next-gen vehicle is deployed. We assume the average ride cost is \$30 and Tesla's cut will be about 20% (Uber's is about 18%). We also assume roughly 45% gross margins on this business which is comparable to those of Uber (roughly 40%).

Chapter 11–Dojo

Tesla built one of the most advanced (probably top five) supercomputers in the world with Dojo. Dojo is built on Tesla's custom D1 chip that is specifically designed to handle AI workloads for autonomous driving, as well as thousands of top-end NVIDIA H100 GPUs. Dojo has a unique architecture and there are several great articles ([like this one](#)²⁰) you can read which dig deep into the technical aspects of Dojo's design and capabilities. Tesla is investing heavily in Dojo and Elon predicts that it's possible that Tesla may in the future have more compute than all other companies combined.

Tesla is currently using Dojo to train its models for FSD, but once that is achieved, we think it is likely that Tesla will allow other companies to access Dojo to train and run their own AI applications. Elon has stated that Tesla needs to achieve at least some form of artificial general intelligence (AGI) for FSD to work. Dojo is how Tesla will accomplish that. Once this "mini-AGI" (as Elon described it) is in place, Tesla can license Dojo's AGI to other companies. Any device that interacts with the real world based on visual input could use Dojo AGI to power its decision-making process. We think other companies will build robots, drones, and other machines for industries such as logistics, manufacturing, healthcare, construction, etc. that will use Dojo AGI to function.

²⁰ <https://www.nextplatform.com/2022/08/23/inside-teslas-innovative-and-homegrown-dojo-ai-supercomputer/>



Optimus Robots will do lots of mundane and repetitive tasks, like sweeping streets, although ChatGPT forgot to give the pictured robot a broom . . .

We envision this as an Amazon Web Services (AWS)-type model that will be high-margin, recurring revenue for Tesla. As mentioned earlier, Morgan Stanley's Adam Jonas predicts that Dojo could unlock \$500 billion in enterprise value for Tesla in the next five years or so. It's admittedly difficult to model exactly what this business might look like but we are estimating a few hundred thousand devices running on Dojo AGI by 2028, with that number growing to several million licensed devices within three years after that.

We think there are thousands of potential use cases for Dojo AGI and that number might grow exponentially once Dojo AGI is here and entrepreneurs start figuring out new ways to apply the technology.

Chapter 12–Optimus



Cody is jealous of Optimus' belt buckle.

One of the uses of Dojo AGI will be to power Optimus, Tesla's humanoid robot. Optimus is designed to do essentially anything that a human can do in the physical world. Optimus development is already well underway and Tesla unveiled its Gen 2 robot last

December. From what we already know about Optimus, it can walk (at about 5mph), dance, pick up an egg, fold a shirt, and even do Yoga.



They grow up so fast. Source: Tesla

If Tesla can build an autonomous robot that can do almost anything a human can do in the physical world, the size of the potential market is enormous. The global labor market is estimated at about \$42 trillion annually (roughly 50% of global GDP). If Optimus can do even 1% of the work that humans are currently doing, that would equate to a total disrupt-able market of \$420 billion annually. The first use cases for Optimus will probably be in controlled settings like factories and warehouses where the environment does not change dramatically and humans currently do a lot of repetitive and mundane tasks.

Once we get to Optimus versions 10, 11, 12, etc. it will probably be able to do nearly anything a human can do in the physical world and it will expand the overall productivity of the human race by several orders of magnitude. The global economy has always been limited by the amount of labor available, and if labor is no longer a constraint, the potential size of the economy is nearly limitless. We also think humanoid robots will be critical to the Space Revolution as humans will be able to send Optimuses to planets like Mars which are currently inhospitable for humans to get started building livable environments for humans.

Elon predicted in 2022 that the Optimus robot would cost less than \$20,000, but we model it costing at least \$30,000 given recent

inflation and the anticipated difficulty in mass manufacturing something as Revolutionary as a humanoid robot. We also think Tesla will charge an additional fee to have access to the Dojo AI structured similarly to how it currently charges Tesla owners for FSD (\$12,000 upfront or \$199 per month for the software that runs the Optimus robot).

We expect the first Optimus sales to happen in 2026 (even though Elon said it could happen in 2025) and we project significant growth starting in 2028 once mass manufacturing is fully in place. We model Tesla shipping over 140 million robots annually by the year 2040. Optimus truly has the potential to change the world and it is hard for us to imagine what the world will look like once there are millions of humanoid robots walking and working amongst us.



Optimus Likes To Boogie. Source: Tesla

Chapter 13–Batteries

Energy storage is a fundamental limitation on the widespread adoption of EVs and renewable energy sources like solar. EVs are limited in range because of the limitations of the batteries powering the EVs. Tesla is at the forefront of developing new battery technology with products like its 4680 cell that have the potential to reduce the cost of batteries by 50% and increase the range of EVs dramatically. We think Tesla will continue to push the envelope of battery technology and it will eventually enable a significantly higher range than what EVs can currently achieve.

Remember that back in 2019, Tesla bought energy storage company Maxwell Technologies for \$218 million (pennies on the dollar looking back now). Maxwell gave Tesla an edge in battery technology with Maxwell's dry electrode technology (compared to traditional wet electrodes) which Tesla incorporated into the 4680 cell. Tesla sold Maxwell's ultracapacitor business back to Maxwell's former executives in 2021. In early 2023, Elon announced a \$3.6 billion expansion of Tesla's Nevada battery factory with the intent of tripling Tesla's battery production, making enough batteries to outfit 1.5 million vehicles per year at reduced costs.

We expect other OEMs will probably fall behind Tesla in terms of the range of their vehicles in the next few years and therefore they will start buying batteries from Tesla. We model Tesla shipping batteries for roughly 450,000 cars built by other OEMs at a cost of roughly \$8,500 per vehicle by 2029.

Chapter 14–Charging



Bryce is unimpressed with ChargePoint's ridiculously slow charging speed.

Tesla has built one of the world's largest networks of charging stations and nearly every major EV manufacturer has adopted Tesla's North American Charging Standard (NACS) as the de facto standard plug-in type for their vehicles. As of the end of last year, Tesla had installed nearly 6,000 Supercharger stations with nearly 55,000 Supercharger connectors in place (up 27% and 29% YoY, respectively). Tesla Level 3 Superchargers are up to 15x faster than Level 2 chargers from companies like ChargePoint (CHPT) and EVGo (EVGO). A Tesla Level 3 Supercharger can charge a car in optimal conditions at a rate of up to 1,200 miles per hour, while a Level 2 charger maxes out at about 80 miles per hour. Tesla's newest Level 4 Superchargers will charge at 350kW, enough power to add 115 miles in 5 minutes (or about 1,400 miles/hour, assuming the car is between 5 and 30% battery levels). Given the widespread adoption of NACS and Tesla's technological advantage in building faster chargers, we expect Tesla will maintain a commanding lead in the charging market. Further, Tesla's cost to build chargers is also dramatically less than

competitors. The [WSJ reported](#) that Tesla's estimated hardware cost was \$17,000/charger compared to an estimate of \$130,000/charger for that of a competitor.

We estimate that EVs drove about 25 billion miles in 2023, and the cost to charge at a Supercharger averages about 10 cents per mile. If 10% of all miles driven are coming from charging at Tesla Superchargers, that equates to about \$250 million in revenue for Tesla's charging network. We anticipate that miles driven will grow rapidly as EV adoption continues to take hold and more companies adopt NACS for their vehicles.

We see the charging network hitting a \$9.5 billion annual run rate by 2030 and expect gross margins to be around 50%. Gross margins in this range would be much higher than what standalone charging networks like ChargePoint (7%) and EVGo (4%) currently achieve, but this is a function of (1) Tesla's significantly lower cost of Supercharger construction; (2) Tesla's pricing power given the relative speed of its chargers and the near monopoly of NACS; and (3) the fact that the US government is footing the bill for a lot of the Capex (to the tune of about \$7.5 billion).

Chapter 15–Tesla Semi



The Pepsi-branded Tesla Semi goes hard.

Tesla has built about 100 Tesla Semis and has delivered most of them to PepsiCo (PEP) as part of its pilot program with the company. Pepsi is testing the trucks and Tesla is reportedly working closely with Pepsi to tweak the semi to make sure it performs as desired. [Pepsi has found it most advantageous²¹](https://finance.yahoo.com/news/pepsi-has-found-it-most-advantageous-21) to run the semis for around 12 hours per day on routes that are under 100 miles. But even the three trucks that Pepsi placed on long-haul routes performed well and achieved ranges of up to 450 miles on one charge. Tesla recently revealed that it expects the semi to go into volume production in 2024 (reaching a run rate of

²¹ <https://finance.yahoo.com/news/pepico-reveals-truth-tesla-semitruck-113000730.html>

about 50,000 units) but the company did not discuss the semi in the Q4 earnings call. Tesla claims that the semi provides as much as \$200,000 in fuel savings in the first three years of operation compared to a diesel truck.

Tesla semis are currently manufactured at the company's factory in Nevada and the main constraint for increasing unit shipments is battery production. Tesla is expanding its 4680 battery capacity as mentioned which should help Tesla increase semi production this year. Frankly, we think that Elon/Tesla just haven't dedicated the same amount of time/money/energy to the semi as they have to other projects like the Model 3/Y, Cybertruck, etc. As those other projects online and reach commercial production, we think Tesla might start to shift its attention to increasing semi production accordingly.

Since most investors (even us) are not attributing much value to the semi currently, it could be a near-term catalyst if it actually hits volume production this year. We see a lot of potential use for Tesla semis, especially on shorter delivery routes for companies like UPS, Frito-Lay, etc. that make the same route every day and park the truck at regular intervals for charging. We model 50,000 semi shipments in 2025 with that number growing to about 306,000 units in 2026 and continuing to grow at a rate of roughly 20-25% through 2031.

Chapter 16–Insurance

This is probably the least exciting part of Tesla's business but it is very important for Tesla customers. Auto insurance is typically higher for EVs than ICE vehicles due to the higher repair and replacement costs of EVs. Tesla initially reported that its drivers could save 20-30% by using Tesla insurance. Tesla is uniquely positioned to offer its customers competitive insurance rates because it has all of its customer's driving data and can price the insurance based on the customer's actual driving habits (this will not help Cody; he is famously a terrible driver and needs FSD to make him a better driver. His wife will never let him drive if she is in the car).

Tesla insurance helps bring down the cost of ownership for a lot of EV owners and, in the long run, will help Tesla sell more EVs. We model Tesla insurance being used by approximately 15% of the installed base by 2028. However, we forecast relatively low gross margins (20%) as we think the insurance offering is more of a service to help grow vehicle sales rather than a standalone profit center for the company. With operating expenses fixed at 10% of revenue, that gives Tesla's insurance arm a 10% operating margin which is in line with other auto insurers like GEICO.

Chapter 17–Comparison to the ARK Model

Before we conclude, it's worth comparing the above analysis and model to one of the only other true Tesla bulls out there that is not afraid to put its money where its mouth is, ARK Invest, and its portfolio manager, Cathie Wood. Cathie and ARK have been some of the loudest bulls on the Street and they have been bold enough to create a long-term ultra-bullish Tesla model like The Ultimate Tesla Model. [The ARK model is available here²²](#), and it was last updated April 21, 2023.

ARK's model is even more bullish than ours and for different reasons. ARK modeled Tesla out to 2027 and came up with a \$2,000 (\$6.3 trillion market cap) price target for its base case, with a \$2,500 bull case (\$7.9 trillion market cap) and a \$1,400 bear case (\$4.4 trillion market cap) price target. The overwhelming majority of Tesla's value according to the ARK model stems from their forecasted value of the Robotaxi business plus growth in the traditional EV business. In its bull case, ARK forecasts that Tesla will commercialize the Robotaxi model most likely in 2024 and it will generate \$613 billion in revenue by 2027.

We think with the current acceleration of the development of AI and robotics, more of Tesla's value in the near-term will come from those areas rather Robotaxi. Additionally, given our concern over a delay in government approval of the Robotaxi model, we think that revenue will become a bigger part of the equation a few years later than ARK currently expects.

The success of Robotaxi, Optimus, FSD, and Dojo all depend on Tesla developing AI to a point that is very close to AGI. Once that happens, the floodgates will open quickly. We think the first point of monetization will be FSD and then potentially Optimus. But in any case, the development of AGI at Tesla could pull forward the revenue gains in our model and bring it somewhat closer to what is reflected in the ARK model.

²² <https://ark-invest.com/articles/valuation-models/arks-tesla-price-target-2027/>

Chapter 18–Summary

We think Tesla's operating profits have the potential to climb to over \$139 billion by 2028 (about 15x current profits) and could reach over \$376 billion in 2030. We keep operating expenses steady at 10% of revenues which is in line with Tesla's historical average. We even modeled it out to 2040 and we think Tesla has the potential to generate upwards of \$1.9 trillion in operating profits by then. At a 15 price/profits ratio, Tesla's valuation in 2040 would be about \$28.5 trillion, or about 46x the current market cap of the company. Exciting stuff.

Between the potential for Cybertruck, FSD, the Optimus Robot, the Dojo Supercomputer, the Model 2, etc., we think Tesla is probably the most Revolutionary company on the planet right now. The potential market size for these products is hard to put on paper because the potential demand for the products will be off the charts if they do what Tesla thinks they can do. Tesla is and has been our largest position in the hedge fund since early 2019 when the stock was at a split-adjusted price of \$17/share because we believe in the Revolutionary nature of the company and think there is a pretty darn good chance that at least a few of these potential trillion-dollar kickers materialize for the company in the next few years or so.

And we have to say again, this is not an outright prediction. This is an optimistic, best-case scenario that is frankly unlikely to happen exactly as we have modeled. Business is extremely challenging, especially in new and exciting Revolutionary industries like AI, robotics, EVs, etc. Tesla's performance will -- like every other business's -- be affected by factors outside of the company's control like interest rates, unemployment, wars, pandemics, and many other factors. So don't go out and blindly buy Tesla stock today without considering the important and significant risks of owning stock in a company like Tesla (said risks are written about and disclosed ad nauseam and we will not repeat them here).

But with that said, we are more excited about Tesla than ever. The AI Revolution is unfolding before our very eyes and Tesla is one of the best companies leading this new multi-trillion-dollar growth industry.



Source: Tesla.

Appendix I

An overview of Tesla's innovation journey, a timeline detailing key technological advancements and product launches:

- **2003:** Tesla Motors is founded, signaling the start of an ambitious journey to revolutionize transportation with electric vehicles.
- **2004:** Elon Musk invests in Tesla, marking a pivotal moment in the company's early history.
- **2006:** The unveiling of the Tesla Roadster, the company's first electric vehicle, showcases Tesla's commitment to combining performance with environmental sustainability. The same year, Tesla's "Master Plan" is revealed, outlining a strategy to start with high-end vehicles before moving to more affordable electric cars.
- **2008:** Amid financial challenges, Tesla narrowly avoids bankruptcy thanks to a critical investment and leadership by Elon Musk.
- **2010:** Tesla goes public, and partnerships with major automakers like Daimler and Toyota are established, legitimizing electric vehicles within the broader automotive industry.
- **2012:** The introduction of the Model S, a luxury sedan that would go on to win numerous awards for safety and performance. Tesla also begins the rollout of its Supercharger network, addressing range anxiety for EV owners.
- **2014:** The opening of Gigafactory Nevada to produce batteries at scale is a major step towards reducing EV costs. Tesla introduces Autopilot, pushing the boundaries of autonomous driving technology.
- **2016:** The unveiling of the mass-market Model 3 represents a significant milestone in Tesla's "Master Plan," making electric vehicles more accessible to a broader audience.
- **2017:** Tesla announces the Semi and the next-generation Roadster, diversifying its product lineup into commercial transportation and high-performance sports cars.

- **2019:** Tesla unveils the Cybertruck, with its unconventional design and robust features, and starts production at Giga Shanghai, its first factory outside the United States.
- **2020:** Tesla becomes the most valuable automaker by market capitalization, highlighting the successful shift in consumer and investor sentiment towards electric vehicles.
- **2021:** Tesla surpasses a \$1 trillion valuation and delivers the first Model S Plaid, featuring unprecedented performance metrics for an electric sedan.

Appendix II

When considering buying and owning a Tesla, there are several key points to keep in mind, from the purchasing process to maintenance, and leveraging the technology and community support available for Tesla owners.

Purchasing a Tesla

Buying a Tesla differs from the traditional car purchasing experience. It's streamlined and can be done online or at a Tesla dealership. You'll start by choosing your model, placing your order, and then waiting for delivery, which can vary based on model and location. Tesla provides updates throughout this process, culminating in a delivery appointment where you'll finalize paperwork and receive a brief tutorial on your new vehicle.

Charging Your Tesla

Charging is a critical aspect of owning an EV. At home, installing a Tesla Wall Connector offers the most convenience and efficiency. On the go, Tesla's network of Superchargers and Destination Charging sites ensure you can easily find charging options. The time it takes to charge your Tesla varies by the type of charger, with Superchargers offering rapid charging speeds.

Maintenance and Repairs

Tesla vehicles require less maintenance than traditional gas-powered cars, with no oil changes needed. However, routine maintenance like tire rotations, brake inspections, and software updates are recommended to keep your Tesla in top condition. Tesla offers service plans and has a network of certified repair centers for any needed repairs.

Tesla's Technology and Features

Tesla is renowned for its advanced technology, including Autopilot for assisted driving, over-the-air software updates that continuously

enhance the vehicle, and unique features like Sentry Mode for security. The Tesla app allows remote control of the vehicle, adding convenience and a novel aspect to the ownership experience.

Community and Support

Being a Tesla owner also means being part of a vibrant community. There are numerous groups and online forums where Tesla enthusiasts share tips, experiences, and organize meetups. Tesla's customer support can be accessed through their website or app, offering assistance for any queries or issues that may arise.

For more detailed guidance and tips on getting started with your Tesla vehicle, including how to use the Tesla app, access your vehicle, and understand charging options, Tesla's official support page provides comprehensive resources.

Embarking on the Tesla ownership journey brings together advanced technology, a supportive community, and a shift towards sustainable driving. Ensure to explore all the resources available to make the most of your Tesla experience.

Glossary

- **0-60 mph:** Time it takes for a vehicle to accelerate from 0 to 60 miles per hour.
- **Annual Rides:** Number of rides given in Tesla's envisioned Robotaxi fleet.
- **Autonomous Driving:** Technology enabling vehicles to drive without human input.
- **Batteries OEM:** Original Equipment Manufacturer batteries sold to other companies.
- **Charging Network:** Infrastructure of electric vehicle charging stations.
- **Cybertruck:** Tesla's electric utility vehicle with a futuristic design.
- **Dojo AI:** Tesla's proprietary artificial intelligence training supercomputer.

- **Driving Range:** The distance an EV can travel on a single charge.
- **Energy Solutions:** Tesla's segment for solar products and battery storage.
- **Energy Storage (GWh):** Gigawatt-hours of energy storage capacity provided.
- **EV (Electric Vehicle):** Vehicle powered by electric motors, using rechargeable batteries.
- **Federal Tax Credit:** Government incentive for purchasing electric vehicles.
- **FSD Monthly Subscription:** Recurring payment model for Tesla's FSD feature.
- **FSD OEM:** FSD technology provided to other manufacturers.
- **FSD (Full Self-Driving):** Tesla's advanced system for autonomous vehicle operation.
- **Gross Margin:** Percentage of revenue exceeding the cost of goods sold.
- **Gross Profit:** Revenue minus cost of goods sold, showing production efficiency.
- **Growth Projections:** Predicted future increases in company metrics like revenue and profit.
- **Innovation:** Introduction of new products or improvements on existing ones.
- **Insurance (policies):** Tesla's auto insurance product offerings.
- **Market Cap (Market Capitalization):** Total market value of a company's shares.
- **Model 2:** A speculated affordable Tesla electric vehicle model.
- **Model S/X/3/Y:** Tesla's lineup of electric vehicles, each with unique features.
- **OEM (Original Equipment Manufacturer):** Companies that produce parts and equipment that may be marketed by another manufacturer.
- **Operating Expenses:** Costs associated with running a business, excluding COGS.
- **Operating Income:** Profit from business operations before interest and taxes.

- **Optimus Robot:** Tesla's humanoid robot for performing repetitive or unsafe tasks.
- **Price per Unit:** Sales price for each unit of product.
- **Profit:** Financial gain after subtracting expenses from revenue.
- **Residential Solar:** Solar energy systems installed at homes.
- **Revenue:** Income from sales of goods/services before subtracting expenses.
- **Robotaxi:** Autonomous, driverless taxi service concept by Tesla.
- **Semi:** Tesla's electric freight truck.
- **Solar (MW):** Megawatts of solar energy capacity installed.
- **Subscription Model:** Business model where customers pay regularly for services.
- **Sustainability:** Focus on meeting current needs without compromising future generations.
- **Top Speed:** Maximum speed a vehicle can legally achieve.
- **Total Revenue:** Aggregate revenue from all sources before deductions.
- **Valuation:** The estimated market value of a company.
- **Y/Y Growth Rate:** Year-over-year percentage increase in a financial metric.

Disclosures

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