Annual General Meeting

Company Participants

- Elon R. Musk, Chief Executive Officer
- Kevin Mukai, Director-Production Engineering, Gigafactory
- Martin Viecha, Senior Director for Investor Relations
- Robyn Denholm, Chairman, Board of Directors
- Unidentified Speaker

Other Participants

- Analyst

Presentation

Martin Viecha {BIO 17153377 <GO>}

Good afternoon, everyone. Good afternoon, everyone, and welcome to Tesla's 2023 Annual Shareholder Meeting in Austin, Texas. My name is Martin Viecha, I'm Vice President of Investor Relations, and I will be the Chair of today's meeting.

First of all, I really wanted to thank everyone who continues to do this trip on annual basis and shows up every time. It's really quite something that we have a following as dedicated as this. So thank you very much for that.

I also wanted to thank our first-time visitors. I know that many of you won a lottery to come for the first time to a Tesla shareholder meeting. You'll probably notice that, unlike many other shareholder meetings of other companies, this one tends to be a bit more fun. So, hope you enjoy that.

But the last thing I really wanted to say is that just thank you so much for all your support over the years. We really feel like you're part of our mission, part of our story, and it's something we truly, truly value. So thank you so much for that.

There will be two parts of today's meeting. First, the formal part of the meeting where we will cover items that stockholders have been asked to vote on, as well as any other matters that are properly presented. And after the voting, I will introduce Tesla's Co-Founder and CEO and techno king, Elon Musk, who will give a presentation about Tesla's year in review.

But at this time, I'd like to thank the members of the Tesla team and the Board who are here with us here today. A representative from PricewaterhouseCoopers, Tesla's

independent auditor, present with us as well.

But before we begin, I'd like to introduce you to Tesla's chair, Robyn Denholm, who would like to say a few words.

Robyn Denholm {BIO 5964382 <GO>}

I'm a little bit shorter. So, hello, everyone. On behalf of the Board, I am really honored to welcome you all here today to the 2023 Annual Shareholder Meeting. It's wonderful for me to see everyone in the room today and also the many investors that have joined us today via the virtual live stream. It's our third straight year of having the annual meeting here in Austin.

At the first meeting, the factory was still in the early stages of development with equipment being installed and commissioned. During the 2022 meeting, production had started to ramp as we produced about 1,600 vehicles that week. And now, less than a year later, we have more than tripled the amount, having achieved production of 5,000 cars in a single week. A huge congratulations to the Texas team. And on top of that, we are getting ready to roll out our first Cybertruck.

This exponential trajectory of the Gigafactory here in Texas is a reflection of Tesla as a whole. In 2022, with another record-breaking year for us with deliveries growing by 40% year-over-year and that trend has continued in the first quarter of 2023. We would not be able to achieve this growth without the dedication of our amazing employees. I've been fortunate enough over the years to actually travel to many of our locations, all of the Gigafactories around the world. And I can tell you that I've witnessed firsthand how our exceptional employees in our global talent across the world has together achieved our mission or furthered our mission of accelerating the world's transition to sustainable energy. A huge round of applause, please.

This year here in Texas, we also had our very first Investor Day where we introduced our company leaders from design to engineering to supply chain, manufacturing, energy and charging. And they each spoke about the role of their teams in making our mission come to life. And I was thrilled that investors were able to hear directly from this outstanding leadership team that Elon has been able to put together over many, many years. It is on the strength of their leadership and the hard work of our dedicated employees around the world that I believe we'll not only weather the macroeconomic environment that we've seen this year, but also continue to be in the strongest position ever to advance Tesla's mission.

As a startup, Tesla proved that electric vehicles could be fun with the Roadster. They could even be better than gas-powered vehicles in every single way with the S and X and could be all of these things as well as affordable with the Model 3 and Model Y, which last quarter became the best-selling vehicle of any kind in Europe and the best selling non-pickup vehicle in the United States.

And today, as one of the world's largest global companies, we plan to change the paradigm again by forging the path to achieving a global sustainable energy

economy as set out at our investor day in our Master Plan 3.

As Tesla grows, so do our customers' positive impact on carbon emissions. When I stood here last year I proudly announced that in 2021, our customers avoided emitting 8.4 million metric tons of greenhouse gas emissions, the equivalent of over 20 billion miles driven by internal combustion engine vehicles. Today, I can tell you that in 2022, our customers avoided releasing over 13.4 million metric tons of greenhouse gases into the atmosphere, the equivalent of over 33 billion miles of driving of internal combustion vehicles. That's an almost 60% increase in total emission savings year-over-year.

Putting more of our products in customers' hands helps grow that number, and our goals of making our products greener over time and further decarbonizing the electric grid will help multiply that effect.

As part of that goal, I am delighted to say that as described in our recent impact report our global supercharging network was again 100% renewable in 2022. We've been able to achieve all of this while maintaining, sorry, maintaining industry margins, industry-leading margins, and generating strong cash flows over the last several years.

Going forward, we will continue our focus on capital investment plans to support our future growth with investments in batteries, in vehicle production including the next generation platform, in the building of our lithium refinery that we recently broke ground on, in the energy storage factories, in our sales and service footprint and in our charging network among other things.

Before I hand it back to Martin, I would also like to thank Hiro Mizuno for his dedicated service to the Tesla shareholders and the Board these past three years. I would also like to express our enthusiasm on behalf of my fellow directors at the prospect of JB Straubel joining our Board. I don't have to tell you that his passion for Tesla and green tech will make him an important asset in our mission to accelerate the world's transition to sustainable energy.

So again, on behalf of our full Board, thank you for your tremendous support, and welcome to your 2023 shareholder meeting. And with that, I'll hand it back to Martin.

Martin Viecha {BIO 17153377 <GO>}

Thank you, Robyn. I will now call the meeting to order. Please refer to the meeting agenda that has been provided to you and posted on the virtual meeting site.

The time is now 3.10 p.m. Central Time, and I declare the polls are now open. We have already received over the last few weeks voting proxies from stockholders, meaning that almost all the votes that will be counted were already submitted before today. However, if you wish to vote your shares or change your prior vote, you may

do so through the virtual meeting site. For those who are in person here today, ballots and ballot boxes were available to you at the check-in.

Tesla's Board of Directors has appointed Computershare Trust Company to serve as Inspector of Elections. ComputerShare has taken and signed an oath as the inspector and has certified that starting on April 6, 2023, the proxy materials or a notice of internet availability of proxy materials were mailed or provided to all Tesla stockholders of record on March 20, 2023.

We have majority of outstanding shares represented at the meeting, so I declare that there is a quorum present at the meeting and we may proceed with the meeting. The items on the agenda are as follows: Number one, the election of Class I directors Elon Musk, Robyn Denholm and JB Straubel to serve for a term of three years or until the respective successors are duly elected and qualified.

Number two, to approve executive compensation on a non-binding advisory basis.

Number three, to approve the frequency of future votes on executive compensation on a non-binding advisory basis.

Number four, to ratify the appointment of PricewaterhouseCoopers LLP as Tesla's independent public registered accounting firm for the 2023 fiscal year.

Number five, to vote on a stockholder proposal included in our proxy statement, which relates to the reporting of key person risk.

Number six, to vote on a stockholder proposal, which the stockholders did not seek to have included in our proxy statement.

Tesla's Board has recommended that our stockholders vote for each of the director nominees, for the approval by non-binding advisory vote of executive compensation, and the ratification of appointment of PwC as an independent registered public accounting firm for fiscal year 2023. And every three years, for non-binding advisory vote for the frequency of future votes on executive compensation.

With respect to stockholder proposal included in our proxy statement, which relates to the reporting on the key men risk, Karen Robertsdottir on behalf of Sumtris is here to present this proposal. Ms.Robertsdottir, can you please identify yourself? I would like to invite you to speak. You will have three minutes.

Unidentified Speaker

Hello, thank you for having me here today. Under discussion is a shareholder proposal concerning key person risk at Tesla requiring Tesla's board to draft a report covering the steps taken to ameliorate the potential impacts of loss of key persons in the company.

However, before I begin, I would first like to say thank you to Mr.Musk. For so many of us, you stepped into fields where we had so desperately wanted to see change. And through bringing in a talented team, willing to put in the long hours, you dragged reluctant industries kicking and screaming into a better future. And for that, thank you. Building up this juggernaut around us, which, as you largely put it, runs itself these days. Thank you for that.

And yet, now here we are today, at a time when Tesla's technological leadership should be on display. The investment community largely sees us as adrift, with management focused on all the matters, not Tesla, watching as Tesla's brand favorability dropped by 15 points last year, something that costs us margins. We have such a spectacular product pipeline and a team that knows how to execute at scale with low cost of goods sold, something that we are not being properly recognized for.

It should go without saying but apparently bears repeating that, if you cannot produce with low COGS, you have no future. When I look around the auto industry these days, I see a lot of companies that have no future. And that's a success on behalf of an incredible team here at Tesla that deserves recognition.

When people look at this company, that's not what they see. They see the company as a synonym for its CEO. And then the discussion turns to everything except for where it should be focused. It's my sincere hope that by introducing this proposal, we can not only accelerate the development of management at Tesla, but also increase its visibility. The fact that this company is so much more than its key persons is something that the public and the investment community should see.

A founder often finds their greatest success in ensuring the future of the company and the development of the management talent who can come after them. Think Tim Cook at Apple, Steve Ballmer at Microsoft, and so forth. People who are ready from day one to execute without controversy, without distraction and build a future for the company.

I encourage the Board should embrace this opportunity in the most public manner possible to showcase the future being built right here so that the discussion among the public and the investment community revolves around that and not around every public statement on every other topic made by the leadership.

I strongly encourage the board, the shareholders to support this proposal and for the Board to embrace it. Thank you very much.

Martin Viecha {BIO 17153377 <GO>}

Thank you Ms.Robertsdottir. The Board has recommended that our stockholders vote against this proposal for the reasons as set forth in our statement of opposition in our proxy statement.

Finally, as you saw and investor advocates for social justice would like to raise a proposal from the floor. The proponents did not seek to have their proposal included in the proxy statement. The Board recommends that our stockholders who are entitled to vote on this proposal vote against it.

As a reminder, as is disclosed in the proxy statement, I have been advised by the proxy holders that they intend to vote all shares of stock over which they have discretionary authority against this proposal. Only shareholders who are shareholders of record or have obtained a legal proxy may vote for this proposal after it is presented.

Courtney Wicks, representing Investor Advocates for Social Justice, is here to present the proposal. Ms.Wicks, I would like you to speak. You will have three minutes.

Unidentified Speaker

Thank you. Good afternoon, Tesla Board members, management, employees, and shareholders. My name is Courtney Wicks, and I am the Executive Director for Investor Advocates for Social Justice, and I am here on behalf of As You Sow and the Sisters of the Good Shepherd, who have filed shareholder proposals in the past on child labor and human rights abuses in Tesla's supply chain.

I stand here today to call on shareholders to vote yes on requesting Tesla to conduct a third-party report detailing the company's efforts to eradicate child-enforced labor in its supply chain. The human rights risks that permeate throughout Tesla's value chain when not adequately addressed harm shareholder value and undermine Tesla's ability to lead the just transition.

Growing attention and concern have been placed on child labor in cobalt mining in the Democratic Republic of the Congo, as well as on forced labor in China's Xinjiang region. 70% of the world's cobalt needed for EV batteries are sourced in the DRC, over 40,000 children work in artisanal and small-scale mining, often without protective equipment and in dangerous spaces that frequently collapse. Many children are seriously injured or killed in the mining process.

In Tesla's latest sustainability report, it claims to have audited 80% of the miners and refiners in their cobalt supply chain against responsible production standards. However, there are many industry-backed standards, some of which are weak, and it isn't clear what percentage of audits were conducted by which initiatives.

It is also unclear how the company's due diligence ensures cobalt source from child labor is not intermingled in the industrial cobalt supply chain. Subsequently, an estimated 1.8 million people have been subject to state-imposed genocide, detention and internment camps, and forced labor in the Xinjiang Uyghur region. A recent study concluded that automakers cannot conduct meaningful audits in this region. The recent Uyghur Forced Labor Prevention Act in the United States Senate inquiry into Tesla's supply chain highlights the regulatory risk Tesla faces.

We believe a third-party audit would provide greater transparency into how Tesla plans to eradicate child-enforced labor from its supply chain. One of Tesla's competitive advantages is its sustainable leadership. Tesla, its Board of Directors, and management team have a moral obligation to pursue ethical sourcing practices that do not rely on the lives of children or enslaved people. Tesla can continue to make a true leadership difference that forges a sustainable economic future that is anchored by innovation, empathy, human development, and shareholder value. Thank you.

Martin Viecha {BIO 17153377 <GO>}

Thank you, Ms.Wicks. We will now accept votes for, against, or to abstain for this proposal, but again, only for record holders or legal proxyholders. Please note, this is the final opportunity to submit proxies in order for them to be counted.

I declare the polls are now closed. Based on proxies we have previously received, I'd like to announce on preliminary basis that our stockholders have approved the recommendations of the Tesla Board on all agenda items except that shareholders have recommended one year for non-binding advisory vote on the frequency of future votes on executive compensation. This means that I would like to officially announce our new addition to the Tesla Board, JB Straubel.

After the final tabulation is completed, we will announce specific vote tallies in the filing Form 8-K within four business days of this meeting. That concludes the official business of today's shareholder meeting, which is now adjourned.

During the course of the following session, we may discuss our business outlook and make forward-looking statements. Such statements are predictions based on current expectations. Actual events could differ materially due to a number of risks and uncertainties, including those disclosed in our most recent Form 10-K and 10-Q filings with the SEC. Such forward-looking statements represent our views as of today, should not be relied on thereafter, and we disclaim from any obligation to update them after today. And with that, please welcome Elon Musk.

Elon R. Musk {BIO 1954518 <GO>}

I just want to say I love you guys. Well, we've got a lot of great news to talk about today. The Tesla team has done an incredible job of executing over the past year, and we have many exciting years ahead of us. So, yes.

So with the Tesla Master Plan Part 3, which admittedly was quite technical, we wanted to go into a lot of technical depth so it was clear that what we were saying was not just -- were not merely assertions, but that they were backed up with physics and with real data, that it's realistic. And with the Master Plan Part 3, we want to basically, the goal is to give people hope, realistic hope. And maybe hope is even the wrong word, but simply to say that there is a path to a fully sustainable global economy, that we are on that path, that we are accelerating that path. And that so long as we don't get complacent about it, it will happen.

So I'll just kind of rush through a recap of the Master Plan Part 3. But some of the salient points are that it will actually take less energy to go sustainable, not more energy. It's actually -- some of these things may sound very obvious, but it's more energy efficient to go sustainable, not less.

And there's less mining that is required for a sustainable energy economy, not more. Also, very important. And I heard a question raised about cobalt mining. And you know what? We will do a third-party audit. In fact, we'll put a webcam on the mine. If anybody sees any children, please let us know.

I don't want to go off on a tangent too much on that front, but it's very important to appreciate that most of our battery packs are iron-based, a majority of our battery packs are iron-based, not cobalt. And our other battery packs are nickel-based, not cobalt. The nickel batteries use a little bit of cobalt as a binder, but only a tiny amount. In contrast, your phones all use 100% cobalt. I recommend complaining to the phone manufacturers. But even for the small amount of cobalt that we do use, we will make sure six weeks to Sunday that no child labor is being exploited. Obviously, we are a company that cares a lot about doing the right thing, and we don't want to delude ourselves or delude anyone else. So, yes.

So, again, just recapping Master Plan Part 3. It's really the point is to say that it is very doable. It is happening. We need a three-fold increase in solar and wind. We need to really something like a 29-fold increase in vehicle station and thermal battery production. Actually, in a nutshell, the way to think about sustainability is the faster we can make battery packs, the faster we can move to a sustainable energy economy. That's the fundamental limiting factor. So let's grab some water here.

So, yes, I can't emphasize that point enough. The rate of lithium-ion battery production fundamentally decides the rate at which the world transitions to sustainability because the batteries are needed for all forms of transport and for stationary storage given the intimate nature of solar and wind power.

So -- and we do invite people to critique our analysis because any given analysis is going to be, to some degree, wrong. So we -- that's why we put it out there, looking for critical feedback to say, well, perhaps we've got some things wrong, perhaps some things need to be adjusted. But generally, the feedback we've gotten is that actually our analysis is quite accurate and we've not seen any rebuttals thus far that would cause us to change our assumptions.

So it means roughly 240 terawatt hours of battery pack or 240,000-gigawatt hours of battery need to be produced, but it'll only take 0.2% of land area for solar and wind. So it's a very -- it's not like we need to carpet the earth with solar and wind, it's just literally a fraction of a percent. Roughly a $10 trillion manufacturing investment, which relative to the global economy, is actually a small number. Roughly 10% of the world economy. I think -- obviously, I think 10% of the world economy is a small price to pay for a sustainable energy future.

It's also true that even when factoring in the cost or the emissions required to produce an electric vehicle, which, for now, are a little higher than gasoline vehicles, when you look at the emissions over time, electric vehicles absolutely win by a long shot. And as we're seeing the cost and the emissions required to produce an electric vehicle are dropping rapidly over time. And we're going to get to the point where we're going to get to the point where we're going to be going to get to the point where an electric vehicle is cheaper than a gasoline vehicle.

So, in 2022, we avoided releasing about 13 million tons of CO2, reduced manufacturing GHG per vehicle by 30%, and reduced water usage by 15% despite massive increases in output. We also made our factories safer, which is really important. So we track the injuries per person, and we believe at this point we are best in industry and have the lowest injuries per person.

We're now actually quite a big company from a headcount standpoint. This is our direct employment number. So this does not count contractors. And for every manufacturing job, depending on how you count it, there are at least 5, sometimes up to 10 jobs created, because you've got to look at the total supply chain as well as all of the support functions.

So when you create a factory like this, you actually create jobs for teachers, lawyers, carpenters, electricians, and restaurants, and everything that's required to support a person at a factory. And this is why countries and states are so interested in having manufacturing facilities in their location. So anyway, it's a lot of people gainfully employed doing very useful things.

We received 3.6 million job applications last year. So -- and once again, the top two most desired companies for engineers on Earth were SpaceX and Tesla. At the end of the day, the competitiveness of any given company is a function of what -- where are the most talented people interested in working? That is the team that's going to win. In fact, I'd say this is generally the case. If you look at any given company and say, where are the smartest, most driven people going to work? That company is going to win. So, whether it's Tesla or any other company.

We're also excited to announce our next-gen drive unit, which is a big reduction in silicon carbide. It's half the factory space. Notably, there are zero rare earth elements required. So, yes. And we're also changing to a 48-volt low-voltage architecture in the car. So, this is a big deal, actually.

So, cars have been operating with 12-volt batteries for basically about a century. So, for the first time in, I think, over 100 years, we're actually going to change from a 12 voltage outside of the (inaudible) to a 48 volt architecture. And to first approximation, that means we need only about a quarter as much copper in the car as would be needed for a 12-volt battery. So that's a big deal, because people are often worried about, is there enough copper. Yes, there is.

And FSD Beta is growing hyper exponentially. So that chart is going to look like a wall, basically. And just a question for those in the room. How many people have tried out FSD Beta? So what do you think of the latest build? Right? So, it's really getting to the point where it's, at least for me, when I drive around, it's several days between interventions. And I think we're getting to the point where there's really just one last piece of the system that needs to be a neural net, which is the planning and control function. And so, we expect to have that last piece become neural net. So it'll be end-to-end from video in to control out as a neural net.

And so the thing to appreciate is it's not that full self-driving will be as good as a person. It will be much, much better, like a lot, like over time, 10x safer than a person. So it's not even going to be a contest, frankly. So this is a really big deal. And I think some people realize it. I think you guys probably realize it. But being able to do a software update and have several million cars suddenly go from manual driving to autonomous, I think will be the single biggest asset value increase in history.

The normal usage of a passenger car is roughly 10 to 12 hours per week, maybe an hour and a half per day. And when you drive around, you see lots of cars just parked in parking lots because out of the 168 hours in a week, they're using less than 10%, maybe 7% of the hours per week, a car is in use. But once it is autonomous, it can be used probably, I don't know, 50 hours a week, maybe more.

So it is effectively a five-fold increase in the value of a car overnight. I'm actually surprised that so few people realize this, or maybe they just don't believe it's real. But it is. So this is really an insanely big deal.

We're also the largest EV maker in the world. So, yes. And I think that will continue. And while at the same time being the highest margin of any car maker in the world. Now making electric vehicles profitably is hard, as illustrated by the difficulty of our competitors. A number of our competitors are making EVs at a significant loss. But we are not. We are actually making EVs profitably and almost no one else is. This is hard.

And I'd say for this, it's a massive credit to the Tesla team for, I can't tell you how hard manufacturing is. You've probably heard me say that prototypes are easy, manufacturing is hard. And then manufacturing at scale with positive cash flow is excruciating. This is mega pain. But the Tesla team has done it. And as you can see, our free cash flow per year has been increasing steadily. So we're making good progress.

It should be said that, and I've made some of these comments, that interest rates may have -- have a very big effect on the affordability of cars. So the vast majority of people buy cars based on the monthly payment. So it's like how much is monthly payment? And it's not a question of value for money. It's just do they actually have enough money, can they afford it?

So, for the vast majority of people, people just can they afford to pay the payment. As the interest rates increase and credit tightens, I can safely say that these various banks that have died are probably somewhat distracted from handing out auto loans. It's like if they're on their way to the cemetery, increasing their auto loan portfolio is not the first thing on their mind.

So this is going to be a challenging 12 months. I want to be sort of realistic about it. Tesla is not immune to the global economic environment. I expect things to be just at a macroeconomic level difficult for at least the next 12 months. Tesla will get through it and will do well, and I think we'll see a lot of companies actually go bankrupt.

So I want to make sure that this is not just the good news parade. It's important to understand that no company is immune to the macroeconomic environment. But that said, it won't be darkness forever. I expect probably a year of difficulty globally for everyone. And then my best guess is that the global economy turns around in roughly 12 months. And then Tesla will be in an extremely good position. So anyone who is a long-term investor, I think, will do extremely well.

And I give a big shoutout to the Tesla internal software team. This is -- it's actually a really big deal that Tesla has such a powerful internal software team. I mean, that software team is responsible for handling the entire customer experience from buying the car, delivering the car, operating the factories, service, and support. We internally wrote all of the insurance and financial software, the supply chain and logistics stuff, the data centers and infrastructure, and the analytics and insight. This is all internally written Tesla software. I think there's almost no companies in the world that can do this because they do not have a very talented internal software team. So they're generally reliant on third-party enterprise resource planning software, but Tesla is not. This is a hidden strength of the company that often doesn't get a lot of attention but is incredibly powerful. So once again, I'd like to thank them for their work.

And as predicted, we are highly confident that Model Y will be the number one best-selling car on earth this year. And in fact, in Europe, the best-selling car of any kind, yeah, whatsoever. It already was that in Q1, I should say. It's not like will be. It was that in Q1. And China, the best-selling SUV. And the United States, the best-selling non-pickup vehicle in the United States in Q1.

So, it's going well. I don't know if this is like the optimal picture, but the Tesla cars are actually the safest cars in the world. We put immense effort into vehicle safety, and we keep updating the safety. So we keep improving the automatic emergency braking system just with a software update. And we keep improving the airbag deployment with software updates.

So we close the feedback loop on, like, when we see an accident, we analyze the accident and we say, what can we do from a software standpoint, because there's actually quite a lot you can do, to first of all avoid the accident because the best

accident is no accident. And then if the accident occurs, how do we deploy the airbags and the seatbelt pre-tensioners to minimize the probability of injury.

And so -- even for cars that people have owned for many years, we are behind the scenes, continuously improving the safety of your car. And there are even some things that I think a lot of people aren't aware of that we actually have automatic cabin overheat protection. So, never in the history of the company has a child or a pet died in a Tesla. So, it's one of those little-known features, but because we have a large battery and we're monitoring things all the time, we can make sure that the cabin temperature never gets to lethal levels. And I think that's a big deal. So.

And then while lots of cars will say they've got like five stars or whatever, there's nuance to that. When we did the European NCAP sort of active safety tests, we got the highest scores that they've ever seen. So yeah. So we got a 98% score on the active safety system, which obviously isn't good enough. And we will, we have got a game plan for getting rid of the last 2%. And then it's worth noting things like the total cost of ownership of a Model 3 is now comparable to that of a Toyota Corolla.

Superchargers, we're making good progress. So our Supercharger uptime is now 99.95%. So, yeah. And we have Superchargers practically everywhere at this point.

Going to Megapack, because this is stationary storage is an important part of solving the sustainable energy problem. And the Tesla Megapack is now more competitive than a natural gas peaker plant. So we have very strong demand for the Tesla Megapack. And we're going to make a lot of them.

So, yeah. And a while back I predicted that the Tesla stationary battery pack business would actually grow faster than the automotive side of things, and that's exactly what has happened. You can see it's an exponential curve growing at a rate that is even faster than our vehicle sales. We're expanding Gigafactory Nevada for the Tesla Semi Production Line and for the 4680 in-house cell production. And yeah, some Megafactory stuff. We're aiming for 40-gigawatt hours a year, both in California and in China, but I think long-term this will be much, much greater than this. I mean, I wouldn't be surprised if long-term -- the stationary battery pack activity went well in excess of 500-gigawatt hours per year. So the demand is like quasi-infinite here.

As we look ahead to tackle what we see as the choke points in the supply chain, one of them is lithium refining. And I think there have been a few times on Tesla earnings calls where I've said, can someone please just do lithium refining because there's just a shortage of it. And -- but we really see very little activity outside of China for lithium refining. So, it's not that we wish to take on extra problems, but since nobody else was doing it, we felt we had to do this. And so, we've just broken ground on a lithium refinery in Corpus Christi, which will be -- do more lithium refining than I think probably everything outside of China.

So -- and we've signed a deal for our next Gigafactory in Mexico, GigaMexico. I think that's going to be a fantastic factory. So we're laying the groundwork for ultimately

getting to 20 million vehicles a year. So Cybertruck is a hard car to make. Because it's such a radically new design. It actually, you can't just use conventional methods of manufacturing. We had to invent a whole new set of manufacturing techniques in order to build an exoskeleton-based car instead of an endoskeleton-based car.

So it's extremely non-trivial to build a Cybertruck. But we're making good progress on that. We have the, so yes, that's the thing I, when I, in the factory, I tour the Cybertruck line to see how we're doing there and sorry for the delay, but we're finally going to start delivering production Cybertrucks later this year. And I think the product if anything, is better than expectations. Cybertruck is the car I will be driving on a day-to-day basis.

People always want to know what our next product is. But this is not the time to -- we obviously need to have a proper, dedicated product launch. I just want to emphasize that we are actually building a new product. We are actually designing a new product. We're not sitting on our hands here. So there are two new products that I think you will be very excited about. And both the design of the products and the manufacturing techniques are head and shoulders above anything else that is present in industry. So, yeah, anyways.

If I were to guess, I would say of these two new products, just these two new products alone, I would say there's, we will probably make, this is just Elon's guess. So, don't sue me. But Elon's guess is that we'll probably make in excess of 5 million units a year of these two models combined.

I think, the thing most notable is if you look at the difference between the last time we showed Optimus and this is a video that was taken basically yesterday and the Optimus team was up all night making this video. The Optimus team has done an incredible job. And it's the motors, the controllers, the electronics, and everything you see in the Optimus robot is a Tesla designed system. So this is -- we actually tried to find actuators and what not that were off the shelf. We found that there weren't any.

In order to make an effective humanoid robot, you actually have to design the motors and gear boxes and the electronics from scratch because it's a very different application from anything else that exists. So we took our world class motor and power electronics team and said, okay, we need to design several actuators that don't exist in the world. And they did.

So Optimus is working quite well. And then for full self-driving -- as full self-driving gets closer and closer to generalized real world AI, that same software is transferable to a humanoid robot.

Just like, humans can obviously walk around with their arms and legs, but we can drive a car, fly a plane, steer a boat, ride a horse. If you have a generalized understanding, if you have generalized real world AI, which is what we are

developing for full self-driving, it can be transferred to basically anything. And so Optimus will use the same FSD computer as the car.

And the Optimus stuff is, I think, somewhat extremely underrated, because people just cannot comprehend the consequences. Now obviously we need to make sure that we don't have a Terminator scenario. That's very important. It's all fun and games until Terminator shows up. But if you say like -- if you had a generalized humanoid robot, what would be the effective ratio of humanoid robots to humans?

Because I think basically everyone would want one. And maybe people would want more than one. Which means the actual demand for something like Optimus, if it really works, which it will, is, I don't know, 10 billion units? It's some crazy number. It might be 20 billion units if the ratio is say 2 to 1 on people -- humanoid robots versus people, it might actually be, it's some very big number is what I'm saying. And a number vastly in excess of the number of cars. So my prediction is that Tesla's long-term value will be -- a majority of long-term value will be Optimus. And that prediction I'm very confident of. So, alright.

Let's see, so I think with that we can do questions perhaps? We also want to make sure, retail investors, please vote. Normally retail investors for most companies, don't vote. But we really care about your vote of small investors, not just large investors. So please do register to vote. Your vote is very important. And yeah, I think that's -- yeah.

So with that, we can go to ad-hoc questions from the audience.

Questions And Answers

A - Martin Viecha {BIO 17153377 <GO>}

(Question And Answer)

A - Elon R. Musk {BIO 1954518 <GO>}

Okay, definitely the person in the Optimus outfit with the red cowboy hat. Great outfit.

Q - Analyst

(inaudible)

A - Elon R. Musk {BIO 1954518 <GO>}

Sure. And I'll -- we'll try to get through as many question as possible, you hit me with your toughest questions, fine.

Q - Analyst

Okay, it is. Hey dad, it's your son Optimus.

A - Elon R. Musk {BIO 1954518 <GO>}

Hey kid.

Q - Analyst

Do you see it more likely that you guys will have an RV first or a cyber camper?

A - Elon R. Musk {BIO 1954518 <GO>}

Well, we don't have any plans to build an RV quite yet, although I can certainly see how a Cybertruck, could be converted into an RV. And we are adding a lot of sort of attach points to Cybertrucks, so others can build things. Somebody can have a startup or other companies can build things that are attachments that enhance a Cybertruck and turn it into a camper essentially. So I think it would be really cool to have all these third-party things available for Cybertruck.

Q - Analyst

Okay. Thank you.

A - Elon R. Musk {BIO 1954518 <GO>}

Alright. I mean, you can also probably just -- you're that close, you can just say it or something. I don't know.

Actually, we'd like you guys to queue up behind us.

Okay. Yes, so queue up. Try to make the question short, so we can get through a lot of questions. So -- maybe. Oh, you mean just like a Tesla team doing a podcast about Optimus. Yes, sure. Yes, I wonder if maybe we could have sort of like an addendum after the earnings call which is like a 30 minutes podcast on Optimus or something, like for those who are interested. Okay, I think we'll do that.

Q - Analyst

Great.

A - Elon R. Musk {BIO 1954518 <GO>}

Thanks.

Q - Analyst

Hey, Elon, thanks for doing this today. It's an awesome event. Thank you.

A - Elon R. Musk {BIO 1954518 <GO>}

Welcome, thanks for coming. Hope you guys are having a good time.

Q - Analyst

Yeah. Having a great time.

A - Elon R. Musk {BIO 1954518 <GO>}

I'm pretty confident we have the funnest shareholders meeting by a long shot.

Q - Analyst

Undoubtedly. Yeah. It's amazing. So I'm really excited about a lot of things with Tesla. It's hard to pick a good question that's going to cover everything. But with the energy side of the business, I think it's hugely underrated. I mean, we've got tons of problems, I mean, California with rolling blackout. How do you think you can incentivize people more for solar, battery backup, and we've got the referral program that's been beefed up as well. So what are your thoughts there that we can get people on board?

A - Elon R. Musk {BIO 1954518 <GO>}

Yeah. Actually, one of the challenges in California and a few other few other places is that in order to have the Powerwall be like an uninterruptible power supply for the house, we have to actually have a switch that disconnects you from the utility. Otherwise, you just send energy into the grid and it doesn't do anything. And that's actually been quite difficult with utilities, but I'd like to thank PG&E for recently helping us get approval for installing the backup switch for Powerwall in California so that people can have uninterrupted power in California. And we're working on that in every jurisdiction. So I'm confident that that's going to be a great long-term situation.

And then as I mentioned, Megapack is growing very rapidly. And -- yeah, so things are -- I mean things are really growing ridiculously fast on the energy storage front. So yeah, I feel good about that situation. All right, next question.

Q - Analyst

Great. Elon, a lot of people have just kind of been wondering, how are you doing? So I was wondering, what's up? How you doing? How you feeling? We saw you were partying in Cabo recently.

A - Elon R. Musk {BIO 1954518 <GO>}

What, me? It must have been someone else.

Q - Analyst

So how are you doing? Just human to human, how you doing?

A - Elon R. Musk {BIO 1954518 <GO>}

Well, I have to say, it's a bit of a roller coaster situation. And like, it's actually pretty rare for me to be at a party. So that's like the first party I've been at in a while. And actually wasn't even going to go to it. Then my brother talked me into it. So thanks, Kimbal. So, yeah, I have to say, like, sometimes the work pain level, because is quite

excruciating. And then I mean on top of that, I get dumped on in the press. So it's like, it's not exactly super fun.

But there was a short-term distraction because I had to do, like, some major open heart surgery on Twitter to ensure the company's survival. But that, I think Twitter is now in a stable place. And I'm obviously very excited to have Linda Yaccarino join. And so I think Linda is going to do a great job running Twitter.

And I'll provide, obviously, guidance on technology development. But as you can see, I think Twitter at this point has released more new features in the last six months than it has in the last six years. So, obviously, this is not a Twitter meeting, but the larger point is that I feel at this point, I don't need to devote incremental time. The amount of time that Twitter will take going forward is relatively small compared to the last six months, so yes.

Apart from like, there's like some macroeconomic things that we can't do anything about. Overall, I feel very good about the health of the companies and I'm increasingly optimistic about the future. Thanks for asking. It's kind of you to ask.

Q - Analyst

Have you guys considered stretching out the financing terms on your auto business? You talked about earlier, consumers don't necessarily look at the sticker price they're paying. All they're concerned about is monthly payment.

A - Elon R. Musk {BIO 1954518 <GO>}

Right.

Q - Analyst

And one of the fundamental advantages of an eBay is that it's substantially more durable. And so, would you guys ever consider stretching terms out to 10 years, especially in this rate environment, given the shape of the yield curve, extending the terms out that far, you'd actually be capturing lower cost of funds.

A - Elon R. Musk {BIO 1954518 <GO>}

Yeah. I mean, the important thing to appreciate is that, like, that the vast majority of the financing is from banks. So it's kind of whatever the banks are prepared to do. I mean, this year, I guess we'll do on the order of $100 billion of sales. And we don't have $100 billion in cash to finance that. So the vast majority has got to come from banks.

So it's really the bank's choice of what they're willing to do. And it's -- it has been tricky with banks recently because, as I mentioned earlier, if you're a bank and you're not sure whether you're going to be alive or not, it's a pretty big distraction and increasing your auto loan portfolio is very much a secondary priority. So it's just important to appreciate, it's not up to Tesla, it's up to the banks. And there's not some easy solution where you can say have a so-called a captive financing arm, et

cetera, because you have to securitize those loans. And the market for securitizing them is weak.

There is no, I wish there was an easy path, but there isn't. So I think, it's important to remember that the economy moves in cycles. And we've had a very long period of upcycle. The next 12 months will be, I think, difficult for everyone. And I think, when Berkshire Hathaway had their annual meeting, Warren and Charlie actually said like, hey, this year the Berkshire companies are going to make less money. And so, they're very well run organizations. And I think that's just generally true for the economy. So -- but it's also important to remember that, there are good times and there are dark times, but then the good times follow the dark times.

So my advice would be don't look at the markets for the next 12 months. If there's a dip, buy the dip. And I think you will not be sorry because, there's just generally a sort of a -- there's an economic cycle to things, but things come back up. So my guess is tough times for a year, like I said, just my guess. But then Tesla will emerge stronger than ever the long-term, if you say like net present value of future cash flows will be incredible in my opinion. All right.

Q - Analyst

Hey, Elon, Meet Kevin here.

A - Elon R. Musk {BIO 1954518 <GO>}

Hey, how's it going?

Q - Analyst

Good, thanks. So Tesla is the largest position in my ETF, ticker PP, and that's for pricing power.

A - Elon R. Musk {BIO 1954518 <GO>}

Right.

Q - Analyst

And I'm curious, I really think that some of the features that you highlighted here, like the -- over the air airbag deployments of improving the features, the safety features, are great things that we could be advertising. I know you've heard this many times before. I know you have.

A - Elon R. Musk {BIO 1954518 <GO>}

No, no, sorry, go ahead, go ahead, yes.

A - Kevin Mukai {BIO 20627584 <GO>}

525 bucks off every car this year is half of Netflix's advertising budget. $1,000 is the entire Netflix advertising budget, and I see their ads everywhere. Why not advertise

these things that you told us here. I feel like nobody else knows about this. I just talked to Gordon, the Tesla bear, and he's still talking about 2016 New York Times pieces. These people are in the past man.

A - Elon R. Musk {BIO 1954518 <GO>}

That's like seven years ago at this point.

Q - Analyst

Yeah. That's what I'm saying.

A - Elon R. Musk {BIO 1954518 <GO>}

Yeah. It's actually -- I talk to a lot of people and they still think that Tesla's are like super expensive. I'm like, no actually, the starting price for Tesla is below the average auto price in the U.S. that's like -- and that's a good thing. I mean, I think it's good that it's that way. Our goal was always to make cars that are affordable to the general public.

So, I hear you. I mean, I think -- and it's indeed ironic that Twitter is highly dependent on advertising. So here I am, it's like, never used advertising really before, and now I have a company that's highly dependent on advertising. So I guess I should say advertising is awesome and everyone should do it.

But I think I share your sort of larger point which is that, there are amazing features and functionality about Tesla's that people just don't know about. And although there's obviously a lot of people that follow the Tesla account and my account on Twitter, to some degree it is preaching to the acquirer. And the acquirer is already convinced.

So I think what you're saying does have some merits and you know what, I believe in taking suggestions. So we'll try a little advertising and see how it goes. Okay, okay. I wasn't expecting that level of enthusiasm. But okay, it sounds like a shareholders -- if I read between the lines subtle as it is I'll say which probably is an advertizing. Okay, very well. All right.

Q - Analyst

Hi Elon. Hi Tesla, thank you for everything. So my question is regarding you recently add Steam to the car and that's the way we can play video games. Is Tesla like currently developing the ability for other parties to develop apps for the car, for example, if we come by actually customizable teams for the operator receives in -- of the car. I think you can make some revenue there, that space teams for the car or Lord of the Rings or stuff like that. Do you have any have any interest in that right now?

A - Elon R. Musk {BIO 1954518 <GO>}

Well. So I think the notion of having entertainment apps and whatnot becomes increasingly important as the cars achieve self-driving, because otherwise, you can

only really watch play games or watch movies or whatever when the car is stationary. If it's charging or whatever, then you can use it. But at the point at which it's Full Self-Driving, I think it's very much about entertainment and productivity.

So I think that is something that might make sense in the future. But overwhelmingly, the focus right now for Tesla software apart from improving safety is achieving Full Self-Driving. And then getting Full Self-Driving to be much safer than human driving. And then once we achieve Full Self-Driving, I think that there could be a lot of opportunity for apps and whatnot.

So even in the car as it is today, for a model S and X, we've made a sort of a full Steam integration. So you can actually just literally logon with a model S or X with your Steam accounts and play any game that is on Steam, which is a lot of games, which is pretty wild. I think a lot of people don't know that.

You can play with a keyboard or mouse. You can play with a joystick or controller. You can also play Netflix, YouTube, or anything else. I mean, for my little son X, he loves watching, actually loves watching Rocket videos in the rear screen of the model S and X. So yes, it is something that we will do long-term. But one of the things, we already have a lot of stuff there and we'll do more as self-driving becomes a reality.

Q - Analyst

Hey, Elon. I'm John or Dr.Know-it-all on YouTube and I don't know it all. But anyway, my question is, as you guys move completely or finish the transition in Full Self-Driving from version 1.0 of the software to 2.0, what do you perceive of as the like potential stumbling blocks after that? Because it seems like that's the major kind of step change that needed to happen. And so you're almost done with that. And what happens after that? And also, please let me interview you about Full Self-Driving, like I'll spend two hours talking about just that. Thank you.

A - Elon R. Musk {BIO 1954518 <GO>}

Well, there's -- we can really think about Full Self-Driving as sort of a march of nines of reliability. So we need to get to the point where the probability of injury is lower than that of the average human driver, and then ultimately, probability of injury is much lower. So even at the point at which the car is capable of driving itself, there's still a lot of work to do.

Every year, there's 1 million people that die in auto accidents, and I think probably everyone in this audience has friends and family that have died or been seriously injured in auto accidents. And for every -- there's like million people that died, there's 10 million people roughly that are seriously, like permanently injured. And so it matters that we -- if we can get that down by an order of magnitude, there's like 900,000 lives saved per year, maybe 9 million severe injuries prevented per year.

And so that really, I think, morally has to be our primary goal. And I guess, I'm open to an interview on FSD. Two hours is a long time, but -- okay, okay. Alright, I'll do an interview. It's got to be on Twitter, but sure. All right.

Q - Analyst

Hi, Elon. I'm Josh Phillips, long-time Retail Investor. My question is about battery-grade lithium supply in the next 10 years. Lithium experts all agree that mines are just not coming online fast enough to meet battery supply. And actually, Drew Baglino pointed this out recently. Some mines take 10 years plus to be permitted. And even GM has actually announced, like, huge lithium deals that will, like, secure away supply from the rest of the industry. So what's Tesla's plans to get more supply of lithium at the mine level, outside of refining, but also at a deeper level than a traditional offtake, because as we know, he who controls this device, controls the universe.

A - Elon R. Musk {BIO 1954518 <GO>}

Sure. So I actually think that the industry analysis is incorrect, and the constraint is fundamentally that of processing. So our refinery in Corpus Christi that we're building is primarily oriented towards refining spodumene, of which there is a truly vast amount in the world. I think, about three quarters of our lithium comes from Australia.

And frankly, you could increase the rate at which the mines are operating, and the limiting factor is not how fast can you mine, but how fast can you process. So the mines are only going to produce ore at the rate at which refineries can handle the ore or it's pointless. So I think my opinion, and obviously I could be wrong about this, but it's really not about the lithium ore. Lithium is extremely common. Lithium is everywhere. In every country, it's got lithium. It's not like oil.

So lithium is one of the most common elements on earth. But we're taking the lithium ore and refining it to battery grade is extremely difficult, because the purity levels required for a battery are extremely high. If you have even a small impurity, then you will degrade the life of the cell dramatically. So you need ultra-pure battery-grade lithium, and that's why our focus is on refining as opposed to mining. Thank you.

Q - Analyst

Hi, Elon. Thanks. It's a great time here. You spoke about safety in your presentation of the vehicles. And I just want to say, I'm thankful to you for building such a safe vehicle because I'm here today with my son. We drove in his Tesla 3 over here that he replaced with the one that he got rear-ended significantly and it destroyed the car. But we're able to be here today. So thank you very much.

A - Elon R. Musk {BIO 1954518 <GO>}

Absolutely. So I'll show you where to look.

Q - Analyst

Hey. How's it going? My name is Austin Gregory. I'll ask about this because I don't think it gets near enough love. I was wondering if there are any updates on the next-

gen Roadster, actually. Yeah. I know it's sort of like the cherry on top and all that stuff. You guys have a lot of new play that you said before, but if there's any updates on the release timeline, all that stuff the SpaceX package maybe, that would be amazing. Thanks.

A - Elon R. Musk {BIO 1954518 <GO>}

Totally fair and reasonable question. Where is that thing? So we expect to complete the engineering and design of the next-gen Tesla Roadster this year, and hopefully start production. This is not a commitment, but hopefully start production next year. So it is like, as you alluded to, it's not even the icing on the cake, it's the cherry on the icing on the cake. So I wouldn't expect it to be like, it's definitely not going to be a huge contributor to revenue. It will be a modest contributor to profitability, but it will be sick. And there's some value to me running two companies because the next-gen Roadster will have the SpaceX option package. So that will make it truly next level.

Q - Analyst

Hey, Elon. Eva MacMillan here. First of all, I want to thank you for making the absolute best, safest, and most fun cars in the whole world. Cars in Florida, we are seeing many, many more cars in Florida than a year ago.

A - Elon R. Musk {BIO 1954518 <GO>}

Yes.

Q - Analyst

Matter of fact, cars are doubled. So the question is, we all want Tesla insurance. Is it coming?

A - Elon R. Musk {BIO 1954518 <GO>}

Yes. Actually, that's a great question. Okay, as Zach says, it's coming later this year. I have to tell you, like, one of the thorniest things in the United States is car insurance or insurance in general because it's a state by state and every state's got different rules and regulations. So that's why it's not like rolled out nationwide.

I think really there should be one national standard for insurance, especially car insurance. I think it would improve the cost effectiveness of car insurance. But our intent is to rollout nationwide and ultimately internationally. And there is a staggering amount of paperwork that is needed to get it done. But as Zach said, we expect to offer Tesla insurance in Florida later this year. Thank you.

Q - Analyst

Thank you, Elon. Alexandra Merz. I am Tesla Boomer Mama. Very happy to be here. So very grateful to the Tesla team and you, of course. Just want you to know we love the emotions, every day, joy and less joy, but we're there. Shareholders, it's not easy. We're here, not because it's easy, but because it's hard. So my question initially was

on in-house financing. You already answered that, and I want to congratulate you to the double investment grade rating.

But then I asked my Twitter subscribers, I'm sure you're going to appreciate, what they wanted to bring forward. And that question made the cut. Here we go. Automotive, including SaaS, peak margin, the same for energy. What number and by when do you have the best Elon guess that we get there?

A - Elon R. Musk {BIO 1954518 <GO>}

So I'm not sure I fully understand the question.

Q - Analyst

So this is the peak margin for automobile, including SaaS and energy, and by when will we get there? Your guess. I know nobody will sue you.

A - Elon R. Musk {BIO 1954518 <GO>}

Sorry, what's SaaS?

Q - Analyst

Well, software-as-a-service.

A - Elon R. Musk {BIO 1954518 <GO>}

Okay. You mean Self-driving.

Q - Analyst

FSD, what's going to be the top automobile margin?

A - Elon R. Musk {BIO 1954518 <GO>}

Yeah. I mean, what I was saying earlier is that at the point at which you have a truly autonomous vehicle that can drive around with no one in it, the utility of the vehicle, I think, as a rough guess, is probably 5x what it is today, because people will drive an average of hour and a half a day, perhaps, so 10 hours a week. But if the car is autonomous, it can probably -- this is just speculation, but it probably can operate for 1/3 of the hours in the week, which would mean 50 or more hours, thus a fivefold increase. But the car costs the same.

Q - Analyst

Sure, I understand. But what is going to be the margin for Tesla then? Because you're obviously thinking you're going to sell much more FSD then, right? You may have a system in place of robotaxis you may have a cut with fleets. So did you do any projections what the automotive peak margin for Tesla could be in two years, five years, and the same for energy?

A - Elon R. Musk {BIO 1954518 <GO>}

Well, I mean, this is definitely -- we're in sort of highly speculative territory here. But obviously, if you've got a car that costs the same and has, say, I don't know, a 20% or 25% margin, and suddenly is able to be used 5x as much, then you might have 80% margins, and the revenue would increase several fold. That's why I say it's probably going to be the biggest asset value step change in history of Earth. And energy does not have -- energy just simply does not have such an increase in asset utilization. So I would expect energy to be to remain at sort of 20%, 25%-ish to 30% margin.

Q - Analyst

All right. So you said ask the tough questions. You're still good, right?

A - Elon R. Musk {BIO 1954518 <GO>}

Yeah.

Q - Analyst

All right. Cool. First of all, though, as a family man, I just want to say there's a couple of things like a loop or tether of a car seat going through the headrest, which would be super helpful. There's a couple other things that would be really nice, model wise, the only one you can do that in today, maybe we could fix that. But when we're thinking about 4680 battery cells, should we be thinking about the efficiency and the performance we're getting today? Or is there some updated timeline path that we could see closer to battery day presented efficiency performance that we can look to in the future?

A - Elon R. Musk {BIO 1954518 <GO>}

Well, I think first of all it's really important to express the difficulty of, like, for Tesla to go from nothing to making a battery cell that we aspire to be better than any other battery cell on Earth, even when compared to companies where the only thing they do is make a battery cell, is obviously not a trivial exercise. That said, we do see a path to very high energy density and higher energy density and lower costs than anything else out there.

But it's a hard path. It's a very hard path. And normally it would be absurd for companies to attempt such a thing. And no other car company is really attempting to do anything like this in a serious way. So I guess technically BYD, because they started out as a battery company, yes, so it's a very difficult thing to do. But I think we are tracking to success in that regard.

Q - Analyst

Hey, Elon, first of all, thank you for undoubtedly making the world a better place for my son to live in.

A - Elon R. Musk {BIO 1954518 <GO>}

Thank you. Kind of you to say.

Q - Analyst

Once Cybertruck is fully ramped in Austin, what is the target production? And also, there's some rumors that you're thinking about stepping down as CEO. Please say it ain't so.

A - Elon R. Musk {BIO 1954518 <GO>}

It ain't so. Yes, so I think Tesla's going to play an important role in AI and AGI. And I think I need to oversee that to make sure it's good. So -- because that's a thorny problem if there ever was one. I think generally people do not, or very few people, even in the AI community, do not appreciate just how much capability Tesla has in AI. It's by far the most advanced real-world AI. There's no one even close. And reality has the most degrees of freedom. So I got to make sure that's good. And you were saying something?

Q - Analyst

Cybertruck fully ramps.

A - Elon R. Musk {BIO 1954518 <GO>}

Yeah. So as I said, we'll start production later this year. We'll start handing over cars later this year. There will be an S-curve of production, so it will be slow at first and then ramping up. And I guess, we'll see what the demand is like. So I mean, I think, we're likely to do probably 0.25 million a year, I think, maybe more. Again, very much dependent on what the demand is like. And we don't just need to ramp up production, but we also need to improve the production cost efficiency, which is going to be also a very hard thing.

So -- but I'd say 0.25 million a year is a reasonable guess. And it might be 500,000. I don't know, but we'll make as many as people want and can afford. And then like as I said, it's going to be hard to make the cost affordable because it is a new car, new manufacturing method. So in the grand scheme of things, relative to the production rate of all the other cars we make, it will be small. But it's still very cool. Yeah. Thanks.

Q - Analyst

You can take maybe three more questions?

A - Elon R. Musk {BIO 1954518 <GO>}

Sure.

Q - Analyst

Thank you. Good day, Mr.Musk. Hello. My name is Delia Archer, and this question aims to address Tesla's efforts in developing skilled workforce, attracting diverse talent, and promoting career opportunities within the company. When I look around, I see a lot of young faces, and I think about internships and apprenticeships for

students in high school and beyond. My question is, are there any plans to expand existing partnerships and explore new avenues for collaborations with educational institutions and non-profit organizations to attract the next generation and vary career pathways?

A - Elon R. Musk {BIO 1954518 <GO>}

Yeah, actually, with all of our Gigafactories, we work with the local schools, actually from the high school level, community college, and university, because it's incredibly important to foster the talent for the factories.

As you saw from the employment numbers, we actually need a lot of people. Even though we've got a lot of automation. We still need a lot of people to operate the factories. And it really matters that they have the right training. So we're big believers in reaching out to educational institutions, and -- because frankly, it's in our interest to do so. So thank you for asking the question.

Q - Analyst

Elon, Josh Fuller. I had originally thought of asking about the fun police and pushing back on the boom box and allowing us to screech at people with goats again. But after seeing Optimus, I was inspired to ask, has anybody asked Optimus' opinion of Mars? Does he have a ticket yet?

A - Elon R. Musk {BIO 1954518 <GO>}

Well, Optimus is not a deep thinker at this point. So Optimus is still figuring out how to do basic stuff. Like it couldn't make -- cook some eggs or something quite yet. So we need to get Optimus to the point where it has reasonable agility and can do basic things. And we're aiming for it to start off doing simple tasks that are sort of boring and repetitive or dangerous, basically jobs people don't want to do. So that's our goal.

And I'm confident we'll achieve that goal. And then we've got to figure out how to make it at scale, make sure that the robot is safe. I think it's going to be very important to have a local means of turning it off. So safety is going to be extremely important. I can't emphasize that enough. But right now, it is not at an intelligence level where it's pondering questions like Mars. But perhaps it will be one day.

Q - Analyst

Hi. Good afternoon, Elon. My name is Luke Arsenault. I just want to start off by saying, a big thank you to you and the team at Tesla for all you guys do. It's been great to see and I'm so happy for you guys.

My question is, with the rise in cybersecurity threats to operational technology and Internet of Things, what steps is Tesla taking to protect the company itself and its products from these threats? Also as a suggestion, because I know you like suggestions. For the navigation, do you think we could do something on the UI that

adds in when you're about to take the off ramp to show a picture of that exit, kind of like other map systems do? And then also --

A - Elon R. Musk {BIO 1954518 <GO>}

This is a lot of questions.

Q - Analyst

One of my friends wanted to get a shocker [ph] from you, if that's possible.

A - Elon R. Musk {BIO 1954518 <GO>}

Okay. Well, we are constantly improving the navigation system, and I think robust to hacking is incredibly important. In fact, we conduct a lot of sort of third-party hacking contests to try to get the best hackers in the world to break into our cars.

And actually, no one has yet actually broken into a Tesla in a way that would allow you to really control the car in a significant way. But they have gotten to where they can like honk the horn and mess with the infotainment system. And I'd like to thank them for their efforts. So we take information security extremely seriously.

For navigation, yeah, there's definitely things we can improve there. But really, down-the-road navigation visuals are not going to matter very much because the car is going to take you wherever you want to go. Yeah. As for pictures, I have to decline, unfortunately, because otherwise, if I say, I actually hate being rude to people. So if I say yes to one person, then it's like selfies for a zillion, it gets kind of crazy. So -- but thanks for asking. Maybe we'll take one or two more questions, actually. So, sure.

Q - Analyst

Hello. I had a question on the efficiency. I don't know if you've been paying attention to Aptera. And I was curious if you thought that was a space that you could see Tesla getting into as far as not just an efficient manufacturing process, but also the actual car itself and range. Or just by --

A - Elon R. Musk {BIO 1954518 <GO>}

I'm not super familiar with them, but we have a lot of products to get done. It's not like -- this is -- it's never a shortage of ideas. Frankly, I find ideas to be somewhat trivial, but the execution of the idea is extremely difficult. And like I said, prototypes are easy, production is hard. Production and cash flow positive is excruciating pain at a level you cannot believe. So it's not product ideas. They're irrelevant. That's what I think of them. It's sort of like the idea of going to the moon. That's irrelevant. Getting to the moon is the hard part. So maybe one last question.

Q - Analyst

Elon, John Lopez from Orlando here. I've got two things for you real quick. The first one is with Rideshare being a growing thing, especially with Tesla owners, are we

going to get a guest mode option available for that? The second thing is, as an X Plaid owner, I would really love to get track mode.

A - Elon R. Musk {BIO 1954518 <GO>}

As a what, sorry?

Q - Analyst

X Plaid.

A - Elon R. Musk {BIO 1954518 <GO>}

Well, Plaid has track mode.

Q - Analyst

The Model X Plaid does not, though.

A - Elon R. Musk {BIO 1954518 <GO>}

Model X. Yeah, we can probably add that, sure. Yeah, no problem. So Rideshare is -- a bunch of these things will really not be relevant in a self-driving world. You can summon the car and take you somewhere, and if you want to add someone to that ride, you can if you want to. But overwhelmingly, it is about achieving self-driving, Full Self-Driving.

And I think we're really getting to the final stages of Full Self-Driving where, I mean, I drove for several days around Austin, just dropping pins in random locations, and I had zero safety interventions.

So it's really -- and even in the city of San Francisco, which is very complex, I haven't had a safety intervention in a long time. So I think it's really getting to the point where, admittedly, I have been optimistic about this in the past. But I think this time -- all right, I won't say it. All right, fair enough. All right. Okay. I think it will happen. So, all right, you want to ask one last question?

Q - Analyst

So, first, congratulations on your decision to try advertising. We all want Tesla to (inaudible) in market cap.

A - Elon R. Musk {BIO 1954518 <GO>}

I don't realize people wanted it that much.

Q - Analyst

Okay. It's good that a lot of people agree. So earlier this year, you cut prices on everything 15%, 20%. More recently, you've been raising prices on Model Y, Model S, Model X. And can you just talk about the pricing strategy on Model Y going forward

and keep it separate from the decision to bring out the next-gen vehicles that we all agree is going to blow the doors off on volume, but just on Model Y, the best selling product in the world, can you just talk about strategy of pricing going forward on that?

A - Elon R. Musk {BIO 1954518 <GO>}

I mean, it's pretty straightforward. I mean, we see what the demand is and then we adjust pricing to meet the demand. Now, the thing is that what happens with other car makers is that they're actually constantly adjusting pricing on cars. It's just not obvious. In the case of Tesla, you can see immediately when there's a price change that occurs because we don't have any intermediaries, don't have any dealers. There's no manufacturers, just retail price.

But the reality is actually at car dealers, the prices are changing radically. I mean, last year there were significant premiums about MSRP at sort of the conventional car dealer, like, so you'd pay above MSRP last year. And then this year I think things are below MSRP or close to it. And then the manufacturers will then also offer incentives. So what's actually happening is are very big price shifts by other car makers, they're just not obvious, whereas with Tesla, it's obvious.

So -- and this is necessary, because demand fluctuates a lot. So something's got to be done to achieve a supply-demand clearing point for volume. So just people are reacting to something that's obvious as opposed to say, oh, yes every car company does this all the time, Tesla is no exception. That's the actual reality. Alright. Thank you.

A - Unidentified Speaker

Last question.

I'll be really quick. Okay. So I will say, I have been driving FSD. My wife drives FSD. There's a term called the wife test. My wife will only drive our kids on FSD. It's incredible [ph].

A - Elon R. Musk {BIO 1954518 <GO>}

Okay. That is great. I mean, the sort of significant other test is a very good test. Because for a while there was like, friends or significant others would be like, please don't put it on. It's too scary. But then it gets, it's getting to the point where, I mean, it's going to be just smooth as silk. So, in fact, you'll be able to visually tell, perhaps even now you can, visually tell if the car is being driven on FSD or manually, because if it's being driven on FSD, it's smooth and precise.

I mean, if you look at actual -- if you actually closely observe cars going down the highway. People are constantly moving in their lanes. So the cars are like doing this all the time when they're manually driven. If it's actually on FSD, it's dead center in the lane. And it will actually get to the point where it is not merely, and maybe is at that point, not merely safer than a person, but actually way smoother than manual driving.

I just -- really, I can't say enough about the profundity of Full Self-Driving. It is just one of the biggest changes in history that will occur. It's not some feature. It's like a profound, it's really as profound as electrification. And we already have millions of cars on the road that will literally achieve this with a software update, I mean, that's like head-exploding emoji. And I think probably a lot of people in this room realize it, but most of the rest of the world doesn't. Yeah, so.

Q - Analyst

Given how incredible FSD is and how much merit you're giving to potential future margins of the car, as well as how much an impact on society, and given that they didn't even want you to say if it's going to happen this year, just not to jinx it, would it be possible to have just for some type of public-facing, investor-facing kind of timeline? So that way, you mentioned V12 is coming, and that's AI front-end. Could we just see kind of a timeline on this is the version we're at, these are the things we're working on, and this is when we're bringing up, ETA. So we can kind of see that in real time instead of maybe Elon time.

A - Elon R. Musk {BIO 1954518 <GO>}

So the thing that's been really difficult with Full Self-Driving is that it very often seems like it's about to happen until you realize that you're actually at a local maximum. And that you need to re-architect elements of the software to get out of the local maximum to then a higher local maximum.

So it's been a sort of series of logarithmic curves. And that's why it's been like, it seemed like, if you just extrapolate this on a straight line it gets to self-driving except that it's not a straight line, it's a logarithmic curve and you start hitting these local maxims where you'll sort of asymptote to a certain capability and then have to re-architect things.

So now I think we're finally at a high enough local maximum, but we'll be this year to the point where it is I think probably safer than a person, meaning the probability of injury on average will be better than a person, even if someone pays no attention to the car. It is worth saying that right now, for human supervised Tesla Full Self-Driving, it is dramatically safer than manual driving. It's like, I think like 4x safer, maybe more. So it is already a massive safety improvement to have human supervised FSD right now.

And I think we will get to the point where we're always going to be in some amount of local maximum, but I think that we'll be in a local maximum that exceeds human level safety this year. Yeah, but I guess we'll see.

So anyway, I want to thank you all for coming. And so, I just want to say, your support is super appreciated. And as they say, a friend in need is a friend indeed. And supporting Tesla when the chips are down, those are the real friends, and you're them. So, thank you. Okay.