Tesla Inc Annual Shareholders Meeting

Company Participants

- Drew Baglino, VP of Technology
- Elon R. Musk, Founder, CEO & Director
- Jeffrey B. Straubel, CTO
- Jonathan A. Chang, VP of Legal & General Counsel
- Robyn M. Denholm, Chairwoman

Other Participants

- Jennifer Behr, Analyst, Unknown
- Jing Zhao, Analyst, Unknown
- Unidentified Participant, Analyst, Unknown

Presentation

Jonathan A. Chang {BIO 20961201 <GO>}

Okay, first, I got to take a picture real quick. What a group. Hang on. All right. All right. Everyone's looking sharp and then one of the Board, right? All right. Cheese. 1, 2, 3. There we go. I could do a selfie, too. But let's not.

I appreciate that. All right. As a reminder, if you haven't voted by proxy or would like to change your vote, you may do so by picking up a ballot at the table. The table's back there, the corner over there. Once you've completed the ballot, please hand it to Lisa Brenten. Lisa, can you please raise your hand? There's Lisa. She's over by the table over there -- of Computershare, she's our inspector of elections.

What I'd like to do is, first, welcome Robyn Denholm, our Chair. She's going to give us some opening remarks.

Robyn M. Denholm {BIO 5964382 <GO>}

Thanks, Jonathan. Welcome. Good afternoon to everybody joining us here live in the auditorium here but also online. So thank you. Following the formal part of the presentation or some might say, the more normal or boring part of the presentation, Elon will join us to actually go through a presentation as well, which I'm sure all of you are looking forward to.

In addition, I'd like to thank and note several people that are in the audience. Our Board is in the audience. So many members of the Board are here. And I'd also like

to mention the number of executives from Tesla, are also here in the room as well. I'm sorry. I promised myself I would not do that today. And finally, Kevin Healy from PricewaterhouseCoopers is here, Tesla's independent auditor, is in the room today. So after the voting, as I said, Elon will give a presentation about Tesla and answer questions. So the Q&A is always a highlight of the stockholders' meeting.

But I would like to start today's meeting by thanking you, our investors, our shareholders, for the tremendous support that you've given Tesla not just over the last 12 months. But also over the last many years. Without you, the progress that we're making as a company towards the mission of moving the world towards sustainable energy would not have been -- would not have happened. When you're changing the world and many industries in the process, you need to have a certain amount of intestinal fortitude as an investor. And when I speak to many of you, our shareholders, you have that in spades. So thank you.

I am incredibly honored to be your Chair. And when I sit back and look at what the company's achieved, in particular over the last year, with GAAP profitability for the second half of 2018 and over 245,000 vehicles delivered, 245,000, five years ago, that would have just been a dream. And also, over 1 gigawatt hour of energy storage deployed in 2018, breaking ground in Shanghai and many, many other achievements. I also take stock at this time of year to think about what we've achieved together over the last five years and over the last 15 years that many of you have been part of that journey as well. It's truly astonishing what the company has achieved. It's also easy to lose sight of that on a day-to-day basis. There are many highlights to come. And the opportunity ahead of us as a company over the next 5, 10 and 15 years is immense. And I want to thank you all for being resilient shareholders and look forward to speaking to many more of you in the months and years to come.

I also want to take this opportunity to thank 2 of our fabulous Board members who are actually not standing for reelection today. They're Brad Buss and Linda Johnson Rice. Linda has served on our Board for only two years. But it's been a phenomenal two years through her contribution to us -- not just as a member of the Board but also an active member of the Compensation Committee. And I'd also like to thank her for amazingly positive attitude and her insights on many topics. And also Brad Buss, who preceded me as the Audit Committee Chair and has been on the Board for almost 10 years. And he's done amazing work across that entire time. His contributions to the Board have been many. And I can't list them all today. But it's been awesome to work with him. And we will miss them both.

And so now I'd like to reintroduce Jonathan Chang to go through the formal part of today's meeting. Thank you.

Jonathan A. Chang {BIO 20961201 <GO>}

Thanks, Robyn. Robyn, our new Chair, has been doing some great, amazing work with our Board and our company. So really appreciate all the work, Robyn.

I am the General Counsel at Tesla. And this starts now the -- I think Robyn referred to it as the boring part of the meeting. Often in my meetings, she refers to me as the boring part of the meeting. But -- so this is it. So I'm well suited for it. Okay. Let's get started by calling the Tesla's Annual Meeting of Stockholders to order. Please refer to the agenda and the rules of the meeting that were provided for you today.

The time is now 2:39 p.m.. And I declare that the polls are now open. We have already received, over the past few weeks, voting proxies from our stockholders. And that means that almost all of the votes that will be counted were already submitted prior to today -- prior to this meeting.

However, as I mentioned previously, if you wish to submit a ballot to vote your shares or change your prior vote, please pick one up at the table back in the corner by the last door over there. And hand it to Lisa Brenten, who's standing there over by the table, from Computershare, or any of the Tesla personnel collecting ballots. There's going to be some folks walking around. If you just raise your hand, you can wave them down with the ballots. I'll give you a few minutes -- few seconds while people go around and collect ballots here.

Tesla's Board of Directors has appointed Lisa Brenten of Computershare to serve as inspector of election for this meeting. Lisa has taken and signed an oath as the inspector of election. Thanks, Lisa.

Computershare has certified that starting on April 30, 2019, the proxy materials or a notice of Internet availability of the proxy materials were mailed or provided to all Tesla stockholders of record as of April 15, 2019. We have a majority of the outstanding shares represented at the meeting. So I declare that there is a quorum present and that we may proceed with the meeting.

The items on the agenda are as follows: the first proposal, the election of 2 Class 3 directors, Ira Ehrenpreis and Kathleen Wilson-Thompson, to serve for a term of three years or if proposal 5 of our agenda is approved, two years; proposal 2, to approve Tesla's 2019 Equity Incentive Plan; proposal 3, to approve Tesla's 2019 employee stock purchase plan; proposal 4, to approve and adopt amendments to Tesla's certificate of incorporation and bylaws to eliminate applicable supermajority voting requirements; proposal 5, to approve and adopt an amendment to Tesla's certificate of incorporation to reduce the term length for directors; proposal 6, to ratify the appointment of PricewaterhouseCoopers LLP as Tesla's independent registered public accounting firm for the 2019 fiscal year. Tesla's Board has recommended that our stockholders vote for each of those director nominees and for each of those proposals that I just listed above.

We have also received 2 stockholder proposals as described in our proxy statement. The first stockholder proposal is an advisory vote to recommend that Tesla establish a Public Policy Committee. Our Board has recommended that our stockholders vote against this stockholder proposal. This stockholder proposal is proposed by Mr. Jing

Zhao, who is present today. He's here present with his proposal. Mr. Zhao, can you please identify yourself?

Jing Zhao {BIO 20430029 <GO>}

Yes, yes.

Jonathan A. Chang {BIO 20961201 <GO>}

Oh, he's up with the mic. Please, Mr. Zhao, you have 3 minutes to present your proposal.

Jing Zhao {BIO 20430029 <GO>}

Thank you very much. Good afternoon, fellow shareholders. I will make it very simple because today's too hot. So I want everybody to enjoy the meeting. Just 1 minute. Shareholder proposal #7: resolved, shareholders will recommend Tesla establish a Public Policy Committee to oversee the company's policies, including human rights, environment, domestic governmental regulation, foreign affairs and the international relations affecting the company's business. And I especially thank you, fellow shareholders, voting for my shareholder proposal last year for Independent Chairman at 16%. I expect you to vote for my proposal today. Again, thank you very much.

Jonathan A. Chang {BIO 20961201 <GO>}

Thank you, Mr. Zhao. I would like to remind our stockholders that Tesla's Board has prepared a statement in opposition of this proposal, which appears in our proxy statement.

Finally, we have also received a stockholder proposal for an advisory vote regarding simple majority voting provisions as described in our proxy statement. Our Board has recommended that our stockholders vote against this proposal. This stockholder proposal is proposed by Mr. James McRitchie who is represented here again by Mr. Jing Zhao to present this proposal. Mr. Jing Zhao, you have 3 minutes.

Jing Zhao {BIO 20430029 <GO>}

Thank you very much. Just 1 minute. Same thing before. Proposal #8, simple majority vote. Resolved: Tesla shareholders request that our Board take each step necessary so that each voting requirement in our charter and bylaws that calls for a greater than simple majority vote be eliminated and replaced by a requirement for majority of the votes cast for and against applicable proposals or a simple majority in compliance with applicable laws. Thank you very much. I make it very simple. Thanks. Enjoy.

Jonathan A. Chang {BIO 20961201 <GO>}

Great. Thank you, Mr. Zhao. I would like to remind our stockholders that Tesla's Board has prepared a statement in opposition of this proposal, which appears in our proxy statement.

Are there any proxies remaining in the audience that have not been submitted? Keep your hands up. And folks will come around and collect those ballots. Please submit them now if you want them to be counted. No.

Okay. Looks like we have an all clear here. I declare that the polls are now closed.

Based on the proxies that we have previously received, I'd like to announce that our stockholders have approved the recommendations of the Tesla Board on all agenda items, except item 4 regarding the elimination of applicable supermajority voting, requirements in our charter and bylaws and item 5 regarding the reduction of our director terms. While over 99% of the shares present and entitled to vote on these 2 items did so, as recommended by the Board, unfortunately, less than 2/3 or 66 2/3%, less than that, of our total outstanding shares, which were required to approve these items, submitted votes. We will formally announce the results of the voting by filing a Form 8-K within 4 business days of today's meeting.

All right. That concludes the boring part of this meeting. The official business of today's shareholders' meeting is done, which is now adjourned.

Now I welcome you to stay for the company presentation. We'll have Elon, our CEO, coming out soon and then for a stockholder Q&A session with Elon as well. During the course of the session, we may discuss our business outlook and make other forward-looking statements. Such statements are predictions based on our current expectations. Actual events or results could differ materially due to a number of risks and uncertainties, including those disclosed in our most recent Form 10-Q filed with the SEC. Such forward-looking statements represent our views as of today, should not be relied upon thereafter. And we disclaim any obligation to update them after today.

With that, please welcome our CEO, your CEO, Elon Musk.

Elon R. Musk {BIO 1954518 <GO>}

Hi, everyone. Hello. Hi. thanks for coming. So yes, I think we've got a lot of interesting news. I think it's going to be, I think, very well received. This -- it's been a hell of a year. But a lot of good things are happening. And I think it's worth going over those things.

So Model 3, last 4 quarters, is actually selling -- outselling all competitors combined in the U.S.. So all of them. It's the highest revenue car in the U.S. and best-in-class performance. And it's actually the best-selling car by revenue of -- including high-volume cars like the Toyota Camry and Honda Accord. So the dollar sales -- yes, I think most people aren't aware of this. But we're about the fourth best-selling by

numbers. But the highest selling by revenue over the past year of any, any car in the U.S. So that's remarkable that an electric vehicle is the best-selling, the highest revenue car in the country. I think 10 years ago, nobody would have believed it. Thanks to the hard work of the Tesla team, this is what -- this is the result. It's great.

And as I said, in class, the Model 3 is outselling the Mercedes C-Class, the BMW 3 Series, Audi A4, S4 and the Lexus combined. That's in units. The difference is higher in dollars.

So we also have the most energy efficient cars in the world. So this is the EPA miles per kilowatt hour. And you can see the Model 3 is around 4. And it ranges off to the right. I don't want to pick on e-tron. But it's -- there's room for improvement. (foreign language) If you speak French, that's quite funny.

So the new Model S is a 370-mile range. And you can go -- we actually did this with the Motor Trend. They drove nonstop from the Bay Area to L.A. Admittedly, that was downhill sort of -- not really. It feels downhill. But it's not. But on a single charge to go from the Bay Area to L.A. is pretty wild for any car and especially a full-sized sedan. Then the new Model X range is 325 miles despite it being a large SUV.

It's worth noting that no car has exceeded -- no electric car has exceeded the range of the first Model S that we came out with in 2012. So -- and yes, resisting the temptation to pick on competitors. I will not do that. But the -- it's still -- it's a testament to the Tesla engineering team to be able to have made a car seven years ago that has still not been exceeded in range. And now to have a car that's 370 miles and with steady improvements that are likely occur over the next few years. It won't be long before we have a 400-mile range car. Yes.

So we get this question a lot. And it's -- I want it clear, there is not a demand problem, okay? Absolutely none. The sales are -- have far exceeded production. And production's been pretty good. So we're actually doing well. And we have a decent shot at a record quarter on every level. If not, it's going to be very close. But we've got a shot at a record quarter. And 90% of orders are coming from nonreservation holders. So these are new customers.

Model 3 market potential when we see trade-ins, 63% of the trade-ins are nonpremium cars, which means people are trading up to buy the Model 3. And yes, 12% are midsized sedans, 25% other premium vehicles. But it's just interesting that the supermajority essentially of the cars that are being traded in are nonpremium. So it's just -- this is a lot of potential.

And when people look at the -- when people look at total cost of ownership, the actual total cost of ownership, because electricity is so much cheaper than gasoline and the maintenance costs are much less, you don't need an oil change or a filter change. You basically never need to change the brake pads because of regenerative braking. The actual operating costs of an electric car are much less than a gasoline car. And so it takes a while for -- to educate people on this because the easiest thing

to look at is just the lease price or the purchase price. But the -- when factoring in fuel and maintenance, the -- it's actually -- buying Model 3 is like buying a Camry or an Accord but better, yes, better from a cost standpoint, yes. It's a great car. It's a car that is designed for you to have the most fun. And we keep putting gems on it like the fart app. Of course, that's one of my favorites. It's like perhaps my finest work.

The Autonomy Investor Day, that I think was well received. The Tesla full self-driving computer is literally 20x faster -- 21x faster than the NVIDIA system that it replaces. And we expect to be feature complete with autonomy by the end of this year. So you'll still need to supervise the autonomy. But it should be able to go from your garage to your parking space at work without intervention. So then we'll obviously put on billions of miles of testing. Then I think probably sometime next year, you'll be able to have the car be autonomous without supervision. And then sometime thereafter, we'll be able to convince the regulators that the autonomy is safe enough that the car could actually go around with no one in it.

And it's really the critical elements for that are having billions of miles of testing, ultimately tens of billions of miles. So having a huge fleet, having a very powerful AI inference engine. That's the Tesla full self-driving computer and then having the sensors in the car that are necessary for the car to drive, like it would be cameras in all directions, radar, ultrasonics, a good IMU, GPS, that kind of thing.

So I think we've laid the groundwork here for a fleet that essentially every car made since October '16 is capable of full autonomy, in our view, with replacement of the computer alone. So you just need to switch out the computer. I think a lot of people were puzzled as to how could I say that we will have 1 million robotaxis by the end of next year. And it's -- if you sum up the vehicles made since October '16 and essentially switch out the computers for the ones that were made after the full self-driving computer a few months ago, the -- we will have 1 million cars that are capable of self-driving. We'll still need regulatory approval. But the capability will be there.

And this massively increases the value of the car. So in fact, I think it's basically financially insane to buy anything except an electric car that is upgradable to autonomy. It's just nuts. You can see one country after another is putting dates on banning gasoline and diesel cars. And the environmental pressure to move away from fossil fuels is getting stronger and stronger. So it's just basically mad to buy a fossil fuel car at this point because its long-term resale value will be less and less. Then it's also important to buy a car that is upgradable at least to full self-driving because a car that cannot do self-driving will also be not worth not very much. I've made this comment before. But like, essentially, if you buy a gasoline car that's not full self-driving, it's like riding a horse and using a flip phone. I'm like, hello, not wise. So it's really -- it takes us a bit of time to educate consumers about this. But I think people are starting to get it.

And like a car is a major investment for most people. It's often their most valuable asset. If you're going to make the choice about your most valuable asset, you want to look towards the future and say, where are we headed? Clearly, we're headed

towards electrification. Clearly, we're headed towards autonomy. And so that's the kind of car you want to get. So I think this is -- people are starting to realize this.

Then with the Model Y, the -- this is the biggest segment of vehicles in the world. There's the midsized SUV. It's 2.5x bigger than the Model 3 market. And so we think probably demand for Model Y will be greater than the S, 3 and X combined. And we put a lot of effort into the efficiency of the car, getting incredibly lower drag coefficient. And I think we might be able to get the drag coefficient actually lower than the 3, which will be -- is quite unusual. And the car has a lot of room inside. It's I think like a good sense of design or a good design principle is if the car looks bigger -- it feels bigger on the inside than it looks on the outside, that is a good design. So this car is actually quite big on the inside.

Then we expect to hit volume production towards the end of next year. Internally, we're aiming for sooner than that. But we want to have some margin on that timing. So yes.

I still find it crazy that we have this Gigafactory. That used to be just rocks, rocks and bushes. And I remember -- so where's J.B. and Drew? Hi, guys. Actually, do you guys want to come up and join for a second? Yes? Yes. Yes, I think it'd be good to maybe talk about the Gigafactory. And I remember when we were like doing calculations for battery capacity and we're like, we need more batteries than all of Earth is currently producing. So it's -- unless we build this thing, that's not going to happen. So yes, I mean, maybe you tell the story...

Jeffrey B. Straubel {BIO 16619298 <GO>}

Sure. Well good to see everyone. Hello. It -- yes, it was a pretty crazy story. And Elon and I were just talking about it recently. And it's sort of amazing how some really simple kind of napkin math could lead to such kind of outrageous result. I mean as he just said, we basically did the quick math and looked at, okay, we're going to build 100,000 cars per year and this many kilowatt hours per car therefore, therefore, 35 gigawatt hours of cells per year. Well that's a huge number. And it was actually more than the entire world was producing for all applications, cell phones, computers, cars, everything, just a few years before that. So that was what kind of shocked us and said, wow, we -- this isn't going to work unless we build an entire new facility to solve this ourselves.

Elon R. Musk {BIO 1954518 <GO>}

Yes. We probably have to get all the battery factories in the world. So therefore, we better build this. And yes, I mean the crazy thing is this was basically, I think, 5 slides. And we showed a picture of a factory in the hills and said to investors, we need money to build this thing. And they gave us money, which was cool.

Jeffrey B. Straubel {BIO 16619298 <GO>}

And we built it.

Elon R. Musk {BIO 1954518 <GO>}

Yes, yes. We built it. There it is, right there. It's really giant. And it's getting bigger. So we're -- we have about 35 gigawatt hours of capacity potential at Giga right now. And then we're about sort of 70% or 80% of that capacity has been realized. So I think there was a bit of confusion earlier this year because Panasonic said there was 35. And there's technically yes. But it was not 35 at max capacity yet. But it will be, probably, I don't know, end of this year or next -- or early next. So...

Then it's also lowest cost per kilowatt hour. It's half of all global EV battery production. So you add up all the EV -- all electric vehicles in the world, all the batteries that they use, that's approximately equal to what we make at the Gigafactory.

Jeffrey B. Straubel {BIO 16619298 <GO>}

And maybe just a quick shout out to the whole team out there and the team that's made that happen. I mean it's been such an epic project. I mean as you said, starting with dirt, literally dirt in the desert, to now the biggest battery factory in the world. And it took thousands and thousands of people to do it. Kevin had a huge part in that, sitting there. So yes, it's pretty amazing watching that happen. And I feel super proud to be part of that team.

Elon R. Musk {BIO 1954518 <GO>}

Yes. It was -- so and then we're making good progress on the Gigafactory in Shanghai. If you've watched the progress online, it gets followed with an excruciating detail. I think the number of drones flying over the factory is pretty nutty. We need air traffic control. So -- but the shell of the building is basically done at this point. It's -- I think this might be the -- it's the fastest large factory construction that I've ever seen. And maybe there's something faster. But I'm not aware of it because this is amazing. And we're already installing a lot of the factory equipment, the stamping machines. We'll begin installing a paint shop and the factory module lines, that kind of thing. So this will be obviously extremely important to our future because China is the largest electric car market in the world. And to date, we have had to pay import duties. Some of those quite significant ones, ranging from 15% to 40%, which -- and we did not have access to local incentives because those were only if you make the car in China.

Now the local incentives are going away I think approximately when our factory starts. But I think this is a coincidence. But at least we will not have the cost of the import duties. And we will -- it will cost less to make the car in China. So we'll be able to have a more affordable car for the China market. So this is extremely important to Tesla's future.

Then Gigafactory Europe, as you can see, we've made great progress here. We just put this picture in like literally 5 minutes ago. So this is deep planning here. This is not the actual place that it will be. This is a generic picture of Europe.

Jeffrey B. Straubel {BIO 16619298 <GO>}

People are going to try and reverse engineer exactly where that picture is.

Elon R. Musk {BIO 1954518 <GO>}

I'm sure they'll figured out.

Drew Baglino {BIO 21161872 <GO>}

Beautiful scene.

Elon R. Musk {BIO 1954518 <GO>}

Yes, lovely.

Drew Baglino {BIO 21161872 <GO>}

Put the factory there.

Elon R. Musk {BIO 1954518 <GO>}

I think it may be near Hamburg or something. But we're still looking at what the right place is to put the Gigafactory Europe. Hopefully, we'll make that decision towards the end of this year. And it also makes sense to have a car factory at least on each continent. This is a wise move. We'll continue to expand, I think, our activity in the U.S.. But having to not pay tariffs and have the really long delivery chain and high transport costs will make the cars a lot more affordable to people in Europe and in China. So yes, we're looking forward to making decision on this, hopefully, towards the end of this year.

And Tesla Energy, we're looking at probably at least doubling energy storage growth for Powerwall and Powerpack compared to 2018. Internally, we have a bigger goal than that. But I think we can at least double it. And so it will be at least sort of on order of 2, maybe approaching 3 gigawatt hours. And we're installing the Solar Roof in 8 states. We're about to complete Version 3 of the Solar Roof. So this is actually quite a hard technology problem to have an integrated solar panel -- or solar cell with the roof tile and have it look good and last for 30 years. Like roofs have to last a long time. So the -- it's -- the amount of testing that one has to do and do accelerated life testing to say how can we predict what -- how this will perform if we just spend six months of testing and project that out to 30 years. So it's quite a hard problem and then making it easy to install, getting the cost low. But I'm really excited about Version 3 of Solar Roof. And it's -- and I'm not really over confident on this. But I think that we can -- we have a shot at being equal to a (comp) shingle roof plus someone's utility costs or being maybe lower than that. So that's like one of the cheapest roofs available. So you can have potentially a great roof out with better economics than a normal, fairly cheap roof and your utility bill.

So if you can have like basically a better product at a lower price, that is -- obviously will take off like crazy. So -- but it is a hard problem to solve. Like many other companies have tried to solve this problem and they've not executed. But I think I feel pretty good about this. You guys want to say anything about that?

Drew Baglino {BIO 21161872 <GO>}

I would just say that the team is super motivated by that goal. And we think we can achieve it. And we are -- I mean we are laser focused on achieving it.

Elon R. Musk {BIO 1954518 <GO>}

Yes. Actually, Drew, I've had a number of meetings with Drew. Bang the table. Damn it, we've got to achieve this.

Drew Baglino {BIO 21161872 <GO>}

It can be done.

Elon R. Musk {BIO 1954518 <GO>}

It can be done.

Drew Baglino {BIO 21161872 <GO>}

Intention, intelligence and invention. Make it happen.

Jeffrey B. Straubel {BIO 16619298 <GO>}

Maybe we should actually introduce Drew properly. Sorry, we kind of forgot to do that. Drew has been -- this is your 14th year at Tesla. So Drew is not exactly a stranger. So Drew joined my team when it was a tiny, tiny team. There were like 5 or 10 of us or something a couple of years after the company got started. And he's been trying to, I don't know, my right-hand person, involved in almost every key initiative that I've done at the company through that whole tenure. And I think you're super amazing.

Elon R. Musk {BIO 1954518 <GO>}

I agree.

Jeffrey B. Straubel {BIO 16619298 <GO>}

I do think you guys should see more of Drew. And you've been involved in a lot of stuff and are still leading a lot of key initiatives for us. So anyway, introduction to Drew.

Drew Baglino {BIO 21161872 <GO>}

Thank you, J.B. Yes, super glad to be here, talk about a lot of our core technology areas that we've been focused on over the years. And yes, just thanks for introducing me, J.B.

Jeffrey B. Straubel {BIO 16619298 <GO>}

You're welcome.

Elon R. Musk {BIO 1954518 <GO>}

Yes. So yes, I mean Drew and his team have been really key to a lot of the powertrain innovations, factory innovations and Solar Roof and a number of other things. So it's quite a pleasure having those engineering discussions.

Drew Baglino {BIO 21161872 <GO>}

Mutually -- the feeling is mutual.

Elon R. Musk {BIO 1954518 <GO>}

All right. Cool. Love you, too, bro.

So we got the Version 3 Supercharger. There's actually like the scope of technology that is advancing at Tesla is really massive on many fronts. So as mentioned, we've got Version 3 of the Solar Roof coming out soon. We've got Version 3 of the Supercharger that's being deployed around the world. And this is 75 miles in 5 minutes capability, 250-kilowatt system. If -- I'm sure a lot of you have used the Superchargers before. And they've typically been anywhere from 75 kilowatts to -- if you've used one recently, you might have gotten up to 140 kilowatts. But that's the Version 2. Then Version 3 is 250 kilowatts.

And when 250 kilowatts are charging a really efficient car, the miles per minute is super good. In fact, I think there was recently a test with -- I'm not sure who it was. But tested like what car could charge the most number of miles in half an hour. It was the Model 3. That's -- yes. So...

Then we'll be publishing new maps for this Supercharger deployment. And we're finally going to get the Trans-Canada Highway and -- for example...

Unidentified Participant

Alaska?

Elon R. Musk {BIO 1954518 <GO>}

Then, we're going to go Alaska, too. So yes, actually, the -- this map doesn't even include all of the locations. But really like the 2 critical factors we found for sales in

any given region and the really obvious actually are: is there a service center within reasonable distance and are there Superchargers on all the routes that you'd like to take? You don't want to have like (80%) of the routes because then like, geez, what about that 1 trip that you can't do now? So you really want to have Superchargers and service centers, are the absolute key to sales. And really, we can map our sales to -- like basically people are just like sensible. They're like, "Okay, you need to service your car and you need to be able to travel conveniently on long-distance routes." And so where we've got that, we -- our sales are good. We also have to have good consumer financing and make sure our pricing is competitive. But it's -- as soon as people see that, they buy the cars. It's pretty straightforward.

Yes. And so we'll be expanding the Supercharger network quite substantially over time and also enabling Tesla to use other high-speed charging networks. So you have like adapters for that. And the key is, like when you buy a car, you're buying freedom, freedom to travel. Then -- and so you must have the Superchargers. You must have high-speed charging. Then if the car breaks, it must be fixed quickly.

I'm actually really excited about our Mobile Service. So we have Mobile Service vans that will come fix your car as soon as it breaks down. It actually will immediately send a note to Tesla Mobile Service and will be on its way to fix the car. And so we're actually -- we trialed it in the Bay Area and now have extended it to the L.A. area and a number of others for tire repair. So we'll just come -- the van will arrive, give you a new tire in half an hour. And you're on your way. It's like -- it makes a huge difference.

So that's -- and we're adding things like bumper repair and minor like collision repair. So if I look at the things that most trouble customers, it's things like collision repair taking an eternity. And then third-party body shop charging an arm and a leg after taking an eternity. So we're moving a lot of the body repair in-house at Tesla and then even providing it on Mobile Service. And we just did our first bumper replacement from Mobile Service van. So like typically, a collision repair can take weeks or months. In this case, it took less than an hour, yes. So...

That's right, cyberpunk truck, yes. So obviously got the -- I think that the product road map for Tesla is incredibly exciting and with obviously Model Y coming fairly soon, about a year or so and then the pickup truck, which we hope to unveil hopefully this summer. We spent a lot of time on designing the pickup truck. So it's -- I think it's going to be great. And I think it's the coolest car I've seen to be frank. I think it's -- not everyone may share that opinion. But worst case scenario, we'll build a normal looking truck. No problem. We know what those look like. So this is something that'll -- if you're driving it down a road, this will look like it came out of a sci-fi movie. So it will be really cool, we think. Then the Semi, which we really look forward to getting into production hopefully towards end of next year.

A lot of this also is dependent on our ability to manufacture a lot of cells and make a lot of battery packs. So there's not much point in adding product complexity if we don't have enough batteries. Then there's complexity. But without gain. So we're

matching the product rollout according to the scaling of battery production. That's really the main limiting factor.

Then as we scale battery production to very high levels, we actually have to look further down the supply chain. And we might get into the mining business, I don't know, maybe, a little bit at least. So we'll do whatever we have to, to ensure that we can scale at the fastest rate possible.

So to this point, we are going to have a Battery and Powertrain Investor Day. That's hopefully this summer, before the end of the year, for sure, because I think this is a big deal.

I mean I think if I were an outside investor, I would really focus on 2 things: what is the time line to full self-driving. And what is your plan to scale battery production and get the cost per kilowatt hour lower? Those are -- it's basically battery cells and full self-driving. Those are the 2 strategic things that are of most importance.

Questions And Answers

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

Haha. Exactly. So these are questions that were asked online and then uploaded. They're actually really smart questions. Been really impressed with I think it's say.com or sayanything. And yes. So this is a key question is: Are we going to scale battery production and match that to vehicle demand?

Do you guys want to say anything about that? Or we don't let the cat out of the bag too much. But still in the bag.

A - Jeffrey B. Straubel {BIO 16619298 <GO>}

I mean, I think it's right on. I mean those are exactly the right problems that we need to solve to scale. And they have been for some time. But it's more obvious now than I think it ever was that we need a large-scale solution to cell production.

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

Yes. And you get cost per kilowatt hour lower and intensity higher.

A - Drew Baglino {BIO 21161872 <GO>}

Yes. And we're not sitting -- yes, we're not sitting idly by. We're taking all the moves required to be masters of our own destiny here technologically and otherwise. And I think through all the experience we've developed with partners and otherwise, we have -- we will -- we have solutions in place.

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

Yes. Good question. What aspects of battery production will integration of Maxwell have? We think this is really quite strategic. But we'll leave the details of this to kind of the Battery and Powertrain Investor Day. This is -- there are some very important technologies there that I think will have a big effect on the cost and scaling of cell production, both reducing the cost and reducing the capital required to scale cell production.

Do you want to add to it?

A - Drew Baglino {BIO 21161872 <GO>}

No. Right on. Absolutely.

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

I'm sometimes a little optimistic about time frames. It's time you knew. It's time you knew. Yes, optimism. Would I be doing this if I wasn't optimistic? Geez.

So the -- we do actually have advanced Summon out in early access right now. And we're making steady improvements to it. It's close to being amazing. It's not quite there. But it's close. There's a lot of complexity in parking lots, it turns out. So it would be very easy if you're like on open ground and you summoned a car and it just drives to you. That's no problem. But if you've got to navigate through a parking lot and you're effectively going through a maze with a lot of obstacles and people moving and cars moving, that's quite tricky. So -- but it's close to being magical. So I feel good about this, this going to wide release relatively fairly soon. Yes.

A - Drew Baglino {BIO 21161872 <GO>}

I mean, you want it to be good. I mean that's the simplest answer. It's got to be awesome.

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

It's got to be awesome and super safe. So it can't be -- we don't want to like run anyone over or that would be bad. So it's tricky. Like if you make the car really sensitive, then it just grows paranoid and then it doesn't move. Then you don't want to make it too aggressive because that's bad, too. So the -- and really the threshold is, is it more convenient to summon your car or walk to your car. And if it's more convenient to walk to your car, Summon is not that useful. So it has to move reasonably fast, certainly faster than you could just walk there.

Then what? Status of Tesla insurance. We're pretty close to being able to release that. We have a small acquisition that we need to complete and a bit of software to write. But it won't be long before we release that.

Yes, pickup truck event, sometime -- probably sometime this -- towards the end of summer would be my guess. Like, we're trying to create something here that is really new and not just derivative of all the other vehicles on the road, that we're trying to create something new and it's not just basically a copy of the form factor of

everything else. But you still want it to be great. It's very hard. It was a very hard thing. And our goal here is to have something that's more functional than an F-150, which is a great truck and top-selling car -- a top-selling vehicle in the U.S. The -- but then also better sports car than a basic 911. So that's a hard one. But like it's physically possible. So I think we can do it. Yes.

So -- do you think Tesla could rely on SpaceX' Starlink? I think we would have to have a different antenna for Starlink because the Starlink antenna is -- I think it's actually probably the most advanced phased array antenna in the world, including military. But it's about the size of a medium pizza. So it would be fine for trucks and RVs and airplanes and any kind of like a house or a business or something like that. But it would look a little odd on the roof of a sedan. So I think -- but we could make a smaller antenna and maybe use it. But I think most likely, we would continue to rely on the cellular networks. The value of Starlink -- the main value of Starlink is providing low-latency, high-bandwidth access to sparse and moderately sparse, like, look, relatively low-density areas. So be like basically rural or semirural areas, places that don't have connectivity right now. So I think it's like quite a great system. But it's probably able to serve like 3% to 5% of people in the world. And that's a lot of people because of all the people in the world. But it's actually not ideal for high-density cities. It's really to serve the underserved or poorly served, is what Starlink's about.

We're going to have tiny wipers. I think actually probably just applying some hydrophobic coatings will most likely solve this problem. So we had this issue with the front radar where you can accumulate ice and snow on the front and then the radar can be obscured. But if we apply some -- just a thin hydrophobic coating, sort of water-repellent coating, then it -- that usually solves the problem. So probably something like that or words that -- please clean the snow off the camera.

So we feel good about demand. That's, I think, not a major issue. Profitability is always challenging if you're a fast growing company. And I think the scale at which Tesla's growing is like hard to appreciate. But last year, we doubled our fleet. Like -- so we made as many cars last year as we had in our entire history. And this year, it's going to be pretty similar at least sort of 60% to 80% growth of the total vehicle fleet, maybe more than that. So it's hard to be profitable with that level of growth. We can slow down. But then that would not be good for sustainability and the cost of electric vehicles and solar and storage and all that. So -- but I think we can be cash flow positive despite having a very high growth rate. So...

Then what about update for like rideshare? I guess like sort of we could kind of practice a rideshare fleet with people and then that will be good for figuring out things for the robotaxi fleet in the future. So I mean this might make sense. I mean we'll probably do something like this, probably makes sense, yes, sort of a supervised robotaxi.

Then yes, we'd be happy take questions from the audience.

Wow. Okay. Yes. So I don't know which side we're starting with. But I don't know, the right side. Sure.

Q - Unidentified Participant

My name is (Brian Campbell). I have been a shareholder of Tesla for a couple of years now. I try to buy more shares as often as I can afford to. I really believe in this company, its products, its mission, its leadership. I want to -- I feel privileged to be able to cast my lot in with you. And I want to thank you and the whole Tesla team for all of your hard work and dedication.

My question pertains to Tesla Energy. I have read several analyses concluding that significant hurdles along the path towards sustainable energy is transmission of electricity over long distances. Since renewable energy production and capacity is concentrated in certain regions, being able to efficiently transmit that electricity to the -- to other regions seems to be an important part of the equation. I was hoping that you might share some of your thoughts about this part of the equation and if it might make sense for Tesla to someday get involved in electricity transmission.

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

Yes, I think the -- a big part of the value of Solar Roof or retrofit solar on the roofs of your houses and businesses and whatnot is that so you can have localized power generation. Then if you have a battery storage, that's also very helpful for stabilizing the grid. So you can sort of overproduce energy during the day and then release it at night and actually use the Powerwalls and Powerpacks as a massive network for grid stabilization and for providing energy, essentially flowing it back into the grid. And that would make a big difference to reducing the need for long-distance power lines. I think very few people want more long-distance power lines. They're generally not great -- don't look great. It's sort of slightly unnerving to drive under them and that kind of thing. So you want localized power generation. And then you don't need to build more substations and long-distance power lines. I think that's the answer.

A - Drew Baglino {BIO 21161872 <GO>}

Also, storage is a really great way to improve the utilization of the existing transmission grid. The transmission grid is kind of like the highway system. It's very rarely busy. And so what storage can do is make it busy all the time. So you get a lot more utilization out of the existing infrastructure.

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

Yes. In fact, like one of the things I think could be pretty interesting is for utilities. We've done a lot of large-scale utility battery installations, most notably the one in South Australia, which has significantly outperformed their expectations. And we're going to be doing a number of other projects in Australia and around the world. And we've done some very big projects in California. So I think energy storage, as Drew is pointing out, is actually extremely important. And you could actually probably locally put Powerpacks in the substation. If you don't know what a substation is it's sort of like where the high power lines come in and then it gets dropped from like, say, 11,000 volts to 400 volts or 500 volts and then gets distributed to a community. So if

you see a bunch of weird looking electrical equipment with a bunch of -- with high power lines coming into it, that's called a substation. But you could, in that same footprint, fit a number of Powerpacks. Then to Drew's point, when power usage is low such as like at night it drops considerably, then you can charge up the Powerpacks and then discharge them during the day. Then you wouldn't need to build extra substations and power lines, which are very disruptive to communities.

A - Drew Baglino {BIO 21161872 <GO>}

That's exactly what the Southern California Edison project was. It was at a substation doing exactly that. So it's a good existence proof.

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

Yes.

Q - Unidentified Participant

(Tony Miller), shareholder. China is a place where there's a lot of car action right now. There's a lot of volume over there, a lot of growth markets. And they have 60% of the EVs. So I want to ask you about the Giga 3 project and its goal. The building that you're building is a Fremont-scale operation, maybe a little bit bigger. And last year, you said it was 500,000 units per year target. That seems a little bit low to me because...

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

Okay. Sure. I think you're probably...

Q - Unidentified Participant

For a company -- for a country like China. And that would give us like 29% if the other players, providers or product sellers stayed still, which they won't. Also, if we're at volume going to higher volume, we learn more, get the cost down. That's a good thing. Also, we connect up with the supply chain, which is very powerful over there, advanced car electronics, batteries, Panasonic, CATL, Samsung and LG, people like that. On the demand side, with no import fees, our cars compare very well to all the other products. And the Chinese like Tesla, style, luxury, quality, range. So -- plus, they need help getting rid of smog in their cities. So -- and maybe we could even export from that factory to other Asian factories. So why was the target set at 500,000? Do you think, in China, we are being aggressive enough?

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

Hold on. Have you seen how fast that China factory has been built?

Q - Unidentified Participant

Yes. Two months or less.

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

I've never seen anything built so fast in my life. It is pretty epic.

Q - Unidentified Participant

Nothing has ever been built so fast if you (actually really)...

Why not 2?

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

Yes, okay. So okay. We can't spend money too fast. We'll run out of it. So there's like -- we're -- yes, we're -- I mean I think like long term, that factory will probably do more than 500,000. So sort of like an interim goal, maybe it does 1 million or more long term. But then probably, we should look at maybe having -- like China is pretty big geographically. And so it may make sense to have factories in other parts of China in order to reduce logistics costs. The -- like a very big impact on the capital efficiency of any company is the time from when you receive raw materials to building the product and then getting the product to the end customer. And so if you can compress that time to where ideally -- in an ideal circumstance, you receive the payment for the car before you have to pay for all of the ingredients of the car, then the faster you grow, the more capital you have. So it is very important to localize the product production and have the supply chain be close by and for everything to move really fast because then you can actually scale. And the faster you scale, the more cash you have. Whereas the counterpoint is, if you have to pay for all of the ingredients long before you get paid for the car, which is currently true for cars that are outside the U.S. because we have to put them on a boat, go through customs, then transport them within Europe and China. So our non-U. S. production is challenging from a cash flow standpoint because you have to pay for everything long before we get paid for the car. And so a big advantage of the local production in China and Europe will be solving for that cash flow gap.

Q - Unidentified Participant

(Daniel Andy), I'm in the public real estate investment industry. Given the continued need for Supercharger expansion, I think there's an opportunity to partner with a public real estate -- publicly traded real estate company to buy the land Tesla wants for Superchargers or even to buy land Tesla currently owns for Superchargers, structure a lease to just initially cover the costs of holding the land. And through my experience in public real estate, I think there would be huge demand to invest in the necessary infrastructure for EV charging, which, effectively for Tesla, would finance and aggressively speed up Supercharger expansion while preserving Tesla's capital. Would that be of interest?

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

Well most of our Supercharger locations are actually either free or leased at a low rate. Actually, sometimes they pay us.

Q - Unidentified Participant

From what I think though, you provide the capital for the equipment, correct, even when you get it for free?

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

Yes.

Q - Unidentified Participant

I'm not sure if it's a lease or not. But even cell tower REITs, they have leases on the land. And then they lease the equipment. So even your equipment could be financed, I think, through a publicly traded real estate company.

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

Okay, I think that's essentially like adding Superchargers to the asset-backed line. It's a little tricky to -- you have to -- when dealing with finance companies, they will generally say what's the resale value of that in a worst-case scenario. Then it's like sort of tricky to, say where -- who do you sell it to. And that, I think, tends to be their objection. But generally, I think our capital efficiency of Superchargers is quite, quite good and getting better. So...

Q - Unidentified Participant

I work in the industry. If you have any questions, I'd love to talk.

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

Right. All right. Thank you.

Q - Unidentified Participant

My name is (Dennis McAvoy) and I've been a happy Model 3 and Model S owner since 2012. I believe I'm representative of the vast majority of Tesla owners who are super happy with the company and the product. And we think that the next car we're going to get is going to be another Tesla. But that's not what we read in the mainstream media. If you were -- if that was your only source of information on Tesla, you'd think it was shoddy quality, cars that spontaneously combust. I think that the...

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

Yes. It is not a...

Q - Unidentified Participant

And that the company is on the verge of bankruptcy. And we know that's not true. But...

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

This is not true.

Q - Unidentified Participant

It's not true. But I think it's hurting Tesla because I have intelligent friends that are holding off purchasing Tesla cars because of their concern about the future of the company. So the company has done a fantastic job at solving the big issues that confronted them in manufacturing and engineering. And my question is, what's the plan to put more energy behind the marketing communications and take this issue head on so that the true great American success story gets told.

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

Yes. It's true, true, what you say. It's very distressing. It makes me sad. But I'm not sure what -- yes. I don't know what to do about it. We do provide a rebuttal. But that is then typically varied. That's like 7 paragraphs down and if it's there at all. But some of these things are just incredibly crazy. It's at least 10x more likely for a gasoline car or a combustion engine car, it's in the name. I mean, come on, it has highly flammable fluid that's designed to burn. And there's about 200,000 gasoline car fires per year in the U.S. alone. And there are -- it's extremely rare for a Tesla car to catch fire. And if it does, it's just incredibly rare and it's due to some extenuating circumstances. It's very slow. And it's almost never harmful. I mean would you rather have like a gasoline-powered cell phone or a battery-powered cell phone? I mean it's like no-brainer.

Q - Unidentified Participant

I think that if you put the same kind of energy towards solving this problem that you put towards solving the battery module production problem, you could do it. You could change the narrative.

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

Well we're really trying our best. But I have a -- I'm somewhat at a loss to -- it's not like we don't respond or anything.

Q - Unidentified Participant

(Probably a) documentary.

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

Make a documentary, yes. It's the most crazy disinformation campaign I've ever seen.

Q - Unidentified Participant

Yes. Yes.

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

Yes. So...

A - Drew Baglino {BIO 21161872 <GO>}

I'll just add. I appreciate your optimism and your passion for the company. And I think that is probably the best asset that all of you bring to the table. And if you can share that with everybody you know and give them the personal experience that you've had in whatever way that you can, that's really our best defense. So please continue to do so as it seems like you are.

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

Yes. I think safety especially, I think we -- it is paramount for us -- it's like the absolute primary thing is to maximize the safety of the car. So it's like -- and this bears out in the statistics. So it's really hard to have a serious injury in a Tesla, like it's not -- it's quite rare. And when you do look at objective numbers like the NHTSA probability of injury, which is you could get on the Internet, the Teslas have the lowest probability of injury of any car tested. So like if it was possible to have a 6 star, we would have a 6 star. It's like -- literally it's absurdly safe. And yes, it's -- there's just a lot of forces that are kind of arrayed against Tesla. It's a lot of forces. So...

Q - Unidentified Participant

Can you create the content? We'll help spread it.

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

Okay. Sounds good. We'll give you the information. And you can sort of spread it around. I mean the reason our sales are good is really because of you guys. And it's sort of customer testimonies and referral is the key to our sales. That's why it's good. So yes.

Q - Unidentified Participant

Elon, my name is (Steve). I've been a shareholder since 2012. And I've owned your vehicle since 2013. And I've enjoyed both rides.

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

It's a bit of a roller coaster.

Q - Unidentified Participant

That's true. But I actually enjoyed it coming in, in 2012.

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

Okay. Yes, yes.

Q - Unidentified Participant

Just to that last gentleman's comment, it's obviously on your mind, many people's minds. So I'm just going to sneak in a little suggestion. You're right. The constructive response is so. So challenging. And maybe one little opening would be there are some people such as Michael Bloomberg, who is both obviously a titan in the media industry and also very, very publicly expresses his care about the environment.

Perhaps not a debate but a discussion, a joint discussion to talk about climate change, public awareness. I think you get the point at where I'm trying to go with that and have it be something public. There might be other people. I know last year, Arianna Huffington expressed her concerns for your well-being. I think your well-being would be best served if people -- I think really the biggest issue with the media -- and I shouldn't say issue, the biggest challenge is there doesn't seem to be anybody in the media who's pointing out what other parties in the media are doing. So effectively, utterly false narratives receive a police escort to the public. Nobody is speaking up about it. So that's why I suggest people like Bloomberg or Arianna Huffington.

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

Sure. That's a good idea. Yes, I mean, weirdly, there have been quite a few negative articles in Bloomberg.

Q - Unidentified Participant

Yes. There have.

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

So -- but perhaps talking to Michael Bloomberg would be helpful. I agree, we need to take action here. I think we'll definitely provide people with like clear rebuttals of the disinformation. That's a good idea because we've done a piecemeal. But there's not really like a page that just debunks the myths. You kind of have to put it together from a number of comments that we've made over time. But we could put it all together on 1 page and sort of debunk the myth, that's going to be pretty good.

Q - Unidentified Participant

Elon, I'm (John) from Irvine and with seeing the Model 3 being so successful and the Solar facet of your business coming up, I was wondering where you see Tesla is on their mission to accelerate the (avenues of same old) transport and what hindrances or facilitators you see in the future in that mission.

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

Well I think we've really helped convince the auto industry to move towards electrification. When we first started out, we had sort of like the kind of the -- I mean I've -- to be clear, I've always felt like electric cars and solar were important from when I was in -- a freshman in college. And I just always thought that it would just happen because it's just obviously the right thing from a physics standpoint. But this was not guaranteed. And it's actually -- so I kind of trace Tesla back to 2003 with J.B. and I having lunch in El Segundo -- it was with Rosen. Harold Rosen?

A - Jeffrey B. Straubel {BIO 16619298 <GO>}

Harold, yes.

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

Yes. That was like a good conversation.

A - Jeffrey B. Straubel {BIO 16619298 <GO>}

Well I mean I think we've made pretty amazing progress since then. We didn't exactly envision how this would unfold and exactly being here and standing here, at least I didn't.

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

I thought we just for sure would fail like...

A - Jeffrey B. Straubel {BIO 16619298 <GO>}

But it needed to be done. I mean it was clearly something that was worth doing, even if the odds of becoming where we are today or even 10% of that or 1% of that were slim. It was still worth doing. But it's pretty awesome to see EVs driving around on every road all over the place. It's incredible. But it's still 1%. So we -- while it's rewarding and it's awesome to see what -- where we've come, there's still a long way to go. So we can't -- I don't know -- I feel mixed emotions that we shouldn't pat ourselves on the back too much.

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

Definitely not. But back in 2003, 2004, there was -- people thought like electric cars were the stupidest thing ever and definitely not going to work and would be bad in every way. And we're like a milk float or something or like a golf cart and like they would not look good or go far or go fast or it was just like they would just be bad in every way. And they kind of were. That's like they generally were.

So the number of times -- sort of talk about the media situation today, which is very negative. But it's pretty much always been negative actually. This is unchanged from 2003. And I mean way back -- you can go way back, like 15 years. And this is like, oh, Tesla is the dumbest thing ever, it's never going to succeed. Then it's like, well, I do think there's a good chance we won't succeed but just worth trying. And now there's -- I think almost every car company has announced electric cars. And some have announced that all of their cars will go electric sometime in the next decade. This is a good thing.

A - Drew Baglino {BIO 21161872 <GO>}

And on the energy side, to complete the picture, I guess I will just briefly say, 100% renewable grids were in a similar situation, I would say, in 2003. And now both Tesla and a number of other partners in this effort are succeeding in taking entire islands, parts of nations 100% renewable. And that shows the growth on that other key aspect of the mission. And yes, that's been personally very rewarding and then for J.B. as well because, in 2003, he was the TA of a class I was in, talking all about this.

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

Yes. It goes back a while. Yes. So exactly. So solar and battery storage, yes, that was also like laughed at pretty much, still kind of is. But it's -- obviously, the key to a sustainable future is I think primarily solar, obviously with wind and geothermal but things that are sustainable long term. Then you have to have battery storage because generally sustainable energy like the sun, it doesn't shine 24 hours a day. So you have to have batteries. So -- but like the 3 elements of sustainable energy future, electric cars, solar and battery storage. And so we're trying to advance that as quickly as possible. Then I think when we show that it can be done, then other companies try to do it as well. And that's great.

Q - Unidentified Participant

Everyone, my name is (Jessica Heiss). Right now, I work in media relations. So I'd love to help change the negative narrative. First, Elon, I just wanted to congratulate you on the Stephen Hawking Medal for Science Communication. My question for you is, as a horse owner, I'm wondering what the towing capacity for the truck.

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

Sure. I didn't mean to insult horses earlier by the way.

Q - Unidentified Participant

No. That's fine.

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

Horses are cool. It will -- it's designed to meet or exceed an F-150. So if an F-150 can tow it, then the Tesla pickup truck should be able to do it.

Q - Unidentified Participant

So Elon, we're at about 90 minutes. Do you want to take one more question from each side?

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

Yes, yes, a few more questions. That's fine.

Q - Unidentified Participant

Elon, my name is (Caleb Elston). I recently got my Model 3. And I'm happy it has hardware 3 in it. So I watched the Investor Day for autonomy. And you talked a lot about the FSD chip, the neural network. But you didn't talk much about the gap between navigate on autopilot today to the end of 2019. I was wondering if you could geek out a little bit on where we're going to go from now till December, January, February, feature wise. Is that already running in your cars like the demo? Are we going to cherry pick it? Or what gives you the confidence that feature complete, not hands-off. But feature complete is possible? And what -- can you excite us a little bit about what that's going to be like?

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

Yes. I mean I -- when I drive like the latest development version of the software, it can take me from my house to the office. But not with -- but there are interventions at times. So it doesn't perfectly deal with every intersection or every turn. And I think it's possible to -- like, well, you can obviously just like game the system and just make it perfect for a particular route. But then that's just going to work on that route. Then if that route changes or there's construction, then it won't work. So it's very hard to come up with a general solution. So when one reads about these other self-driving car companies, the issue is that they have very specific solutions. But they're brittle. They rely on very high-resolution maps, a lot of LIDARs, a high precision -- like really expensive GPS and inertial measurement and -- but it's -- but even then, it's just not a general solution. And if they go off the route that they're used to, they don't work. So we -- when we release something, we're releasing it to 500,000 cars and all over the world. And so it has to be a general solution. So then we -- our progress may appear slower than it actually is relative to others that are developing self-driving technology. But in fact, I think it is quite a lot more advanced because any element that we release is a general solution.

A - Drew Baglino {BIO 21161872 <GO>}

There's also like a plateau that you will reach taking the alternative approach that just having experienced what the team, a lot of the work ahead of the Investor Day, like the trajectory is crazy, especially with the advanced compute capability that we have. So that's my personal comment on it, I guess.

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

Yes. We learn a lot of -- in terms of like what should we retrain the neural net to do. Then once we discover, okay, we need to train it to -- we need a net that's going to like really effectively recognize curves for example. And previously, we trained the net on free space. So it's like -- free space is just anything you can drive on that's not going to destroy the car. But this is not comfortable if you're just driving on like dirt or the car just drives over the grass. Like technically yes. But it's going to be disturbing. So we -- like road edge and curb are 2 training nets that we are developing right now to say this is independent of drivable free space. So you want to know what drivable free space is for an emergency. So if you need to go on the shoulder of the road to avoid something, then okay, drive. Free space is important. But then you also need to know where does true road space end because it's undesirable to go past true road space. Then for -- especially for parking lots and tight corners, just recognizing curves. These like little details. they make -- they're very important.

Yes. So I mean I have most of this working in like the development version that's on my car. I have actually 2 dev branches, 1 for enhanced Summon and 1 for full self-driving in 2 different cars. But it would not be good to release that to the general public, I think, not yet. All right.

Q - Unidentified Participant

Elon, J.B., Tesla team and Tesla Board, huge fan. Best wishes and lots of love from India.

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

Thank you. Are you from -- let me guess.

Q - Unidentified Participant

You guys have a great team and you guys are the problem solvers. Thanks for persevering all the way through to the financial, intellectual business problems. And Elon, you're such a visionary and a leader. Thank you. So much. It puts a smile on my face when I hear Gwynne Shotwell point out to Mars is it's the fixer-upper of a planet. You instill those values into your employees and every fan boy out there. Thank you. So much for all that.

I'd like to ask a question. Why do you ask this team, which has put a Roadster up in freaking space, right? So actually I'm out of questions on that part. So then I thought to myself, any questions, no. And I've always felt bad for Nikola Tesla who has been a great inventor of our time. And for a genius that he has been, he was always constrained by funds to run his experiments. And as a result, world lost so much more. Did history repeat itself? I don't know. Maybe. But it's up to us not to repeat the same mistakes and fund this Tesla this time to make impossible a reality. As Uncle Ben rightly said, "With great power comes great responsibility." People and organizations with excellent balance sheets, you have the power to invest and make a difference; and hence, you have the responsibility to do so. It's time big companies unite when it comes to welfare of the planet and sustainability of the generations to come. And speaking of great companies, who knows better than Berkshire Hathaway of picking a great company? As the market paradigm has now shifted from buying profitable companies to buying companies who are innovating and changing the world for the better, I request Berkshire management to consider investing in Tesla for the long term. Why? Because you want insurance? They have it. You want automobiles? They have it. Electrification? They have it. Utility? They have it. (Robotaxis), whatever you want, they have it. So -- and because there has never been a better opportunity for the world and there has never been a better buy price for Tesla in 2019 than right now.

Lastly, congratulations to all the Tesla shareholders in advance who sooner or later are going to be part owners of this trillion -- multitrillion-dollar behemoth. And to Elon and team, thank you so very much from all of us and the future generations who will want to thank you and your team for all the great work you did, you do and you will do. Cheers.

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

Oh, thanks. Cool. Thank you. Much appreciated.

Q - Unidentified Participant

Elon, when can Tesla come to India?

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

I thought that question might be asked. So we -- I hope soon. There's -- the regulatory or like the rules for importing to India are kind of complicated. Or -- yes, we definitely want to come to India. So -- but there are like complicated rules around like the tariffs for importing and then what you're allowed to do as for sales and service. And we're currently able to sell as many cars as we can make. So the -- adding additional complexity is not required right now. But I think we really want to come to India as soon as we can. So I think I would be really surprised if we're not there by next year. I think that's -- at least next year I think, yes. Right. Right.

Q - Jennifer Behr {BIO 20184332 <GO>}

My name is Jennifer Behr. And I'm here on behalf of PETA, People for the Ethical Treatment of Animals.

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

Okay. The steering wheel.

Q - Jennifer Behr {BIO 20184332 <GO>}

Yes. The steering wheel. You got it. So during last year's annual shareholder meeting, you assured us that Model Y "would not have any leather in it, including in the steering wheel if it does have a steering wheel." We have tried confirming this privately. But have been met with silence. And the website does not specify. It's also our understanding that all current Tesla models come standard with a leather steering wheel and need to be special ordered to be vegan.

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

That's true. Currently.

Q - Jennifer Behr {BIO 20184332 <GO>}

As you know, the United Nations reports that animal agriculture, which includes the leather industry, is responsible for more greenhouse gas emissions than all of the world's transportation combined. The Higg Index has found that in terms of water scarcity, climate change...

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

Yes. Okay. I got it. I totally agree the -- I actually asked this question of a team earlier this week. And I believe we're close to having a nonheated steering wheel that's not leather. There are some challenges when we heat the nonleather material and also how well it wears over time. So steering wheel, that's like actually, it really needs to be very hardy because there's a lot of -- like we have a lot of basically oil and sweat and stuff on our hands. It gets kind of nasty if you don't have like the right surface treatments on the material. So it's an easier proposition to solve it for seats than it is for the steering wheel. So there's actually a remarkable amount of effort to solve the steering wheel. But it is a thing that we are -- we're working on and hope to release soon.

Q - Jennifer Behr {BIO 20184332 <GO>}

That's fantastic. So can you confirm the Model Y will be vegan as promised?

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

Yes, I can -- it will.

Q - Jennifer Behr {BIO 20184332 <GO>}

And that all of Tesla's models will be free of animal products by next year's shareholder meeting?

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

I'm not -- there might be the tiniest bit left. I'm not sure. But Model Y and Model 3, I think I'm confident about that. We have a lot of things to solve. But I think we can for sure the Model Y and the Model 3 soon. And you can also special order for the S and X.

Yes, like third row.

Q - Unidentified Participant

I'm (Dan Howe). I just have a quick question and that is you've expressed your frustration. I think we're all frustrated with the media narrative around Tesla. And you've expressed your frustration in refuting some of the false information out there. There's another alternative to that, which is to proactively advertise. And my question to you is are there any thoughts to revisiting the advertising decision.

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

Sure. Well as I was saying, currently, we are selling more cars than we can make. So it is not -- spending money on advertising would make things worse financially. And I'm sure it will probably increase demand. But we're selling more cars than we can make. So that's not a thing that's necessary right now. And we're trying to make as many cars as possible. So yes, I think like advertising -- like generally I have not -- I've had an aversion to advertising because there's like -- it's just too much trickery in advertising. There's this like -- there's a lot of false association, whereas they'll have a bad product and then put it in a nice environment with good-looking people and then like trick you into buying it. It's like common and then some of the advertising can be quite strident. So it just tends to be sort of bad. So I don't like advertising for that reason. But we could have advertising in terms of information, to refute some of these issues. It's tricky though because if you have an ad that says, "Look, our cars don't catch on fire. This is BS." Then people might think, "Are your cars actually catching on fire? Like what's going on?" There's so much trickery in advertising. Like maybe the opposite thing is happening. I wouldn't say that we're against advertising forever. But it hasn't been necessary, thus far. And yes. So yes.

Q - Unidentified Participant

What about a short film or documentary contest? Then the filmmakers, they're dying to make this into a contest, a challenge -- a film challenge.

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

Sure, that could be cool. Absolutely. So yes, we'll definitely give that some thought. Those are some good suggestions. Thank you.

I'll do like one last question.

Q - Unidentified Participant

One last question, yes.

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

Yes, last question.

Q - Unidentified Participant

Everyone, I'm (Lux Filaday). I have a really exciting question. Will Tesla make aquatic cars? And if so, when?

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

Do you mean like a quad bike or something? What do you mean quad car?

Q - Unidentified Participant

Aquatic car as in a boat or submarine car.

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

Oh, aquatic. Oh, I see. Okay. Do you mean a car that can go in the water basically?

Q - Unidentified Participant

On or under or both, the water.

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

It's funny you should mention that. We do actually have a design for a submarine car like the one from The Spy Who Loved Me, the -- sort of the Lotus that turns into a sub. And actually -- I thought that was like the coolest thing I'd seen in a movie. So I actually -- I have that, the one from the movie. Now that one cannot actually transform because it has like fins where the wheels are. That's obviously not going to work. But if you make it a bit bigger, then you can actually have a submarine car. It's like technically possible. I think the market for this will be small, small but enthusiastic. So -- but we actually do have a design for a submarine car. Like that would be -- it'd be difficult. It would not be -- be a bit of a distraction I think. So -- but maybe we'll make one as a show car at some point. That would be really fun.

So thank you. Thanks, everyone. All right. Thanks.