Canaccord Genuity Future of Transport Conference

Company Participants

- Martin Viecha, Senior Director for IR

Other Participants

- Unidentified Participant, Analyst, Unknown

Presentation

Unidentified Participant

All right. So we're going to hear from the leader in the battery electric vehicle market. So I'm lucky to have Martin Viecha here, Head of IR from Tesla. I also want to point out, Tesla has been kind enough to loan out a couple of cars that will be available for test drives with fully autonomous or with a version of that downstairs, starting at 5:00 p.m. -- or starting at 4:00 p.m. So you can drive them around the city and experience it firsthand. And so with that, I'll turn it to Martin.

Martin Viecha {BIO 17153377 <GO>}

Thank you very much. Yes. Absolutely, I recommend we have, I think, 2 Model 3s out there with Navigate on Autopilot, which is basically highway and autonomy, which is not available for all of our customers.

So I basically wanted to just walk you through our business and what we're trying to do and where do we go from here. So the first thing, I think, many of you would already know, the 3 products that we currently sell are vehicles, which is the vast majority of our gross profit; storage; and generation, which is solar generation.

When you think about automotive industry in general, I think one thing you notice is that the automotive industry, as of today, is spread across various different technologies. In other words, every single carmaker needs to continue to invest into gas-powered and diesel-powered engines and, at the same time, they're investing into fuel cell, EVs, plug-in hybrids, mild hybrids, et cetera, et cetera.

We're really focusing on one thing and one thing only and that is how do we get electric cars to work, how do we get them to be as cheap as possible, et cetera, et cetera.

So in order to build the Model 3, we have to build the largest battery factory in the world, which is Gigafactory in Reno. I'm just wanting to put something into

perspective of how significant this factory is.

Last year, in 2018, if you look at all non-Tesla electric vehicles sold around the world, the total number of batteries used in all non-Tesla EVs was about 46 gigawatt hours of batteries. So that's 1.1 million non-Tesla EVs sold last year times roughly average 49 kilowatt hours average battery pack size. So that's 46 gigawatt hours global production of electric vehicle batteries.

Our capacity as of today. So installed capacity today, is about 44 gigawatt hours, that's 35 gigawatt hours in Gigafactory, Reno and the remaining 9 gigawatt hours for Panasonic in Japan. So size absolutely matters when it comes to reducing the cost of making a battery.

The other thing I wanted to point out is that if you look at EPA range of the highest range vehicles on the market today, the range of Model S -- and I'm not sure if this thing has a laser or not. The Model S range is the orange bar in the middle.

Unidentified Participant

Upper right on that side...

Martin Viecha {BIO 17153377 <GO>}

I tried to click it. But it doesn't do anything. Anyways, it's fine. The range of Model S from seven years ago has still not been beaten by any electric car that was introduced since. And in the same time, Model S range increased over those seven years by about 100 miles. So from roughly 270 miles to about 370 miles as of today. But the really fascinating thing is that the Model S, on the very left part of the chart, has almost the same battery size as the Audi e-tron on the very right side of the chart. So one of them has a range of 204 miles, the other one has a range of 370 miles, yet the battery pack size is roughly the same.

The difference comes in powertrain. And I think this is the most underrated technology that during my conversations with investors that comes up is that there's a general feeling that anyone can make a powertrain, anyone can make an electric motor. Electric motors have been around for decades. While that is true, to make an electric motor that is incredibly efficient, has very fast acceleration, very high top speed, cheap to make and will last for 1 million miles, to have all of those attributes combined is actually very, very complicated.

So the most important part by far is energy efficiency. We all know that, for example, MPG. So for example, Toyota Corolla has a much better MPG than Chevy Camaro. The metric that we look at, which is an equivalent metric, is miles per kilowatt hour. And it's very easy to calculate. Again, you take the EPA range of any electric vehicle. So 310 miles for Model 3 divided by the battery size and you get 4.0 miles per kilowatt hour of efficiency. And if you -- you can see that the difference between Model 3 and the rest of the industry is quite substantial.

But that's not the only part of the story. The second part of the story is that acceleration is actually significantly faster as well. So better acceleration, better top speed and the best-in-class efficiency.

What this chart is basically telling you is that Model 3 can have pretty much half the battery size, half the cost compared to the e-tron and still have the same EPA range.

This is -- so if you take that into combination and you take, okay, you have battery packs that are relatively cheap to build and you have a motor that enables you to have a very long range, what's the result of the combination of these 2 things?

This is a trailing 12 months of the U.S. electric vehicle deliveries. And there's 2 things that I wanted to highlight about this chart: number one, 100% of the growth is coming from a single product, which is the Model 3; and the other thing I wanted to highlight is that, that orange bar or the orange area at the bottom is actually gently declining. So those are all the other EVs combined, that's the Chevy Bolt, Nissan Leaf, Jaguar I-Pace, Audi e-tron. And so on. And the fact that we've seen absolutely no growth in non-Tesla electric vehicle sales for the past 2.5 years, yet there's been quite a few new entrants that came to the market is quite odd.

So what is the reason why all these new car makers are coming in with their EVs, yet there's absolutely no impact on volumes? I would actually say that the #1 reason by a country mile is the price of these cars.

Electric vehicles -- these are the 5 most popular electric vehicles in the U.S. I would say that the price of electric vehicles in the U.S. is extremely high compared to their gas-powered equivalents. So if you look on the left, you see Audi e-tron base price $75,000. You can buy for $50,000 slightly bigger, slightly faster Audi Q7. And it's the same story with I-Pace, same story with Chevy Bolt and Nissan Leaf. They're dramatically more expensive than their gas-powered competitor.

On the other hand, if you look at the Model 3, Model 3's price -- Model 3 is the first electric vehicle in history that's priced on par with its gas-powered equivalents. In other words, before subsidies, before tax incentives, before fuel savings, just your base ticket price is on par with gas-powered equivalents. But actually, Model 3 basic equipment is you have autopilot, you have satellite navigation, you have parking sensors and a lot of other kit that you would have to pay for with other car brands.

So if you give customers a choice, you give them an equal choice of -- for roughly the same price, you can get an EV or you can get a combustion engine vehicle, this is the result.

After less than 12 months of sales, Model 3 started to outsell BMW 3 Series, Audi A4, Lexus IS, Mercedes C-Class and Jaguar XE combined. This -- I've never seen this in the automotive industry before, maybe in the '70s when Toyota Corolla came to the U.S. market for the first time and completely blitzed the competition. It's extremely rare to see this in the industry.

And it's just not one point. So since July 2018, one year later, this is what happened. So this is the last 12 months. Again, Model 3 substantially higher number of sales than all the main competitors combined.

So what are the reasons for this? Because a lot of people say, hey, all these other carmakers are just going to start their EVs. Well does it mean that Mercedes C-Class, if there's going to be an electric version, is going to sell 3 times as many units as a regular C-Class? Probably not. There's probably something else about the vehicle that people like that is not just the electricity.

So actually, this is like a short list of things that I think are different about Model 3 than about other cars. And these are the reasons why people want to buy Model 3.

So firstly, you have ground-up design. If you design the vehicle from ground up to be electric, you can extend the interior space. So I highly recommend going for a drive later on, you can see that the interior space is quite a bit bigger than equivalent gas engine vehicle simply because there's no gas engine so you can extend the interior size.

Secondly, decluttered interior. I'm not sure if you remember using your iPhone for the first time in 2007 or 2008. It felt a bit weird compared to using a Blackberry, right, like you were probably missing your buttons. And it was more difficult to text. But then after a few months, you just realized there is no way back. It's just so much nicer to have this decluttered, nice and simple interface. And that's exactly what we tried to do with the Model 3.

Then you have software updates, 4G. This is another thing that's, I think, fairly fascinating. Apple has introduced software updates 12 years ago. We have introduced software updates on our cars seven years ago. I'm not aware of any carmaker that has introduced software updates to their fleet even after very, very significant amount of time passing.

Then we have Superchargers. We learned that it's basically impossible to mass sell electric vehicles without a charging network because people don't buy cars for 90% of their journeys or 95% of their journeys. People buy cars for 100% of their journeys. And as a result, you absolutely need a supercharging network to allow people long-distance travel.

Then you have own stores. And this is an important one, not so much from customers' perspective. But mostly from the business perspective. Dealerships, generally speaking, do not want to sell electric vehicles. They don't want to sell electric vehicles because the maintenance cost and the reoccurring revenue and profit generation is pretty limited for electric vehicles. That's why carmakers are not really -- sorry, dealerships are not really incentivized to sell many EVs. That's exactly why many other carmakers were forced to build their own dealer networks, such as BMW i, their own dealer networks to be able to sell some EVs. And lastly, of course, Autopilot.

So the other thing I wanted to speak about is that many people tell me that, well, this is unsustainable. This massive gap between us versus all of our competitors combined doesn't make any sense. It's not sustainable. There's actually something more behind that. Only 12% of our trade-ins -- so this is a database of all the trade-ins we've ever received from people who are buying a Model 3. From all the people who traded in their vehicles, only 12% were driving another midsize premium sedan, like the C-Class Mercedes, like the BMW 3 Series, et cetera. 25% came from other premium vehicles. So Mercedes SUV or BMW 5 Series, et cetera, et cetera, just completely different cars. But 63% are coming from nonpremium vehicles.

So every single year, a portion of population transfers from nonpremium to premium. And disproportionately, from this group of people, they're choosing a Model 3. So we're sort of grabbing that -- the people who jump from, say, Corollas or Camrys or some of these cars to their first entry to premium. It's disproportional to a Model 3.

So what does it mean for our cash generation? So this is a chart of our volumes and how our volumes have grown thanks to the Model 3. And if you overlay that with free cash flow, you can see that there's quite a bit of similarity. By free cash flow, we mean operating cash flow minus CapEx.

The main debate after Q2 by far has been the gross margin. That's the topic that I've been getting by far the most questions about. The gross margin -- the headline number declined. So from about 20% to 19%. And we can see that if you take out the regulatory credits, the underlying gross margin actually improved by about 200 basis points to about 17.2% in Q2.

So what's our global expansion approach? Where do we go from here? Well this is what we are today. We're making Model 3s in Fremont, California. We will basically build or we're currently building a simpler version of the same production line in Shanghai, China. Then we are building a similar vehicle, SUV, SUV based on a Model 3, which is called Model Y, 78% components commonality with the Model 3. We're going to build that in Fremont, California in a bit over a year. Then we basically can take the same copy-paste approach with Model Y in China and then Europe.

And of course, on top of that, we're preparing some new product as well. So we have the pickup truck unveil, hopefully, later this year. And the Semi truck and the Roadster.

So when people ask me -- I've been working in the automotive industry all my life, what is the main difference between Tesla and every other carmaker or every other automotive-related company that I have ever worked with. And it's -- by far the #1 difference that I have seen is the pace of innovation. And I'll try to give you one example.

This is the original Roadster. We stopped making the original Roadster in 2012. And at this time, we were able to produce about 10 units a week. And it wasn't -- probably

wasn't a very good car. Five years later, we started to produce a Model 3, which is hailed by journalists as one of the best cars ever made. We can make 5,000, 6,000 a week consistently. And it's easily 70% cheaper to make than the original Roadster. This was five years later.

If you also look at what's happening in Shanghai, this is Gigafactory Shanghai in January of this year. And I remember at the time when pictures started to come online that this is where we want to start producing cars at the end of this year, it was like madness. Six months later, this is how it looks like.

And actually, it's not just the shell. If you look inside, it's the same story. So it's a stamping press getting ready robots (for) body welding. So we're, hopefully, going to start inviting investors to Shanghai early next year so people can see it for themselves because it is a very important part of the next leg of the growth story for our company. Thank you very much.

Questions And Answers

Q - Unidentified Participant

(inaudible)

A - Martin Viecha {BIO 17153377 <GO>}

Sir, shelf life as in...

Q - Unidentified Participant

Usability. How long their car does work?

A - Martin Viecha {BIO 17153377 <GO>}

Well it's a...

Q - Unidentified Participant

(inaudible)

A - Martin Viecha {BIO 17153377 <GO>}

Got it. So it's a -- well, Model 3, the warranty is 120,000 miles, which is essentially roughly the mileage at a -- it's roughly a scrappage mileage of each car in America. So when car gets scrapped, on average, it would have about 120,000, 150,000 miles on the clock. So we gave a warranty of 120,000 miles. And I think the battery is also 8-year warranty. But of course, I mean, we've had Model Ss and Xs that have run 200,000, 300,000, 400,000 miles. And they're still working.

Q - Unidentified Participant

Can you talk a little bit about storage and generation (inaudible)?

A - Martin Viecha {BIO 17153377 <GO>}

Absolutely. So the storage and generation, I think, I'm personally much more excited about the storage part because the growth that we've seen there is -- has been really strong. So last year, we deployed 1 gigawatt hour of energy storage. This year, we're going to roughly double that number. And a fairly significant growth should continue in further years as well. We recently launched this new product called the Megapack. So we used to have Powerwall, Powerpack and now we have Megapack.

Megapack is essentially just an incredibly large version of a battery pack that can be deployed quickly all around the world as a peaker plant or if you want to attach it to your existing factory, et cetera, et cetera. And of course, we're currently negotiating with several different parties, whether it's different governments or different states, about installations of such Megapacks. So that's a bit I'm excited about.

Q - Unidentified Participant

(inaudible)

A - Martin Viecha {BIO 17153377 <GO>}

That is correct. So essentially, our cell production wasn't at the right place at that time. And we just decided to divert all the cells into Model 3s. But now the cell production is significantly better. So we can start selling Powerwalls at higher volumes now. So it used to be, if you wanted to buy Powerwall a year ago, it would be like six months waiting time. And now it's a lot better. You can get one pretty quickly.

Q - Unidentified Participant

You mentioned that the stores are a part of the strategy. What is going on with the number of stores? Last year, Elon -- or some months ago, Elon said you'd close some, then rationalize some (flows in sales). What's the current situation?

A - Martin Viecha {BIO 17153377 <GO>}

Yes, I think it's -- we haven't been opening any new stores for a while. We closed down a few. But not that many. The main thing we're focusing on is service centers. So we are trying to open as many service centers as we possibly can. I think we opened like 26 service centers last quarter. We added 100 vehicles to our mobile service fleet. So service centers are, I think, we believe, the main driver.

You need to have the infrastructure. As long as people see service in their city and bunch of supercharging stations in their city, like, that's going to make them go online and buy the car. But store growth, we've noticed, historically, does not really generate that much demand.

Q - Unidentified Participant

What portion of your customers have test driven the car?

A - Martin Viecha {BIO 17153377 <GO>}

So in -- I think the last number we gave on this statistic was end of Q1. So from the -- I would say, the past year, the number of Model 3s bought without a test drive was more than 70%. Super high. And it's simply because, I think, people read the reviews online. Reviews are great. Their friends take them for a drive or somebody else takes them for a drive. And there's no other car that you can buy instead of it. There's no other peer. So people just buy it.

Q - Unidentified Participant

Do you have data on whether they've actually driven another vehicle, et cetera?

A - Martin Viecha {BIO 17153377 <GO>}

No. We wouldn't have the data. No.

Q - Unidentified Participant

Because, I mean, the reason why I ask is (we would) ask that question about all other vehicle purchases (inaudible) very small %.

A - Martin Viecha {BIO 17153377 <GO>}

Correct. Absolutely.

Q - Unidentified Participant

So my question is, if you actually make them available, it's going to be a line of (inaudible). If you actually make them available, your demand (would likely be) a little bit higher, no?

A - Martin Viecha {BIO 17153377 <GO>}

Potentially. Yes. Like, in theory, there's a lot of things we could do. At the moment, I think we're still in a phase where there's a lot of growth opportunities in Europe, for example. Sorry?

Q - Unidentified Participant

Your production...

A - Martin Viecha {BIO 17153377 <GO>}

I don't want to talk in that detail just because it's the most sensitive topic. And we've already talked about it in our last earnings call. But...

Q - Unidentified Participant

(inaudible)

A - Martin Viecha {BIO 17153377 <GO>}

But generally speaking, like in the U.S., we're outselling all of our competitors combined. In Europe, we're not outselling a single one of our main competitors. There's so much potential for growth in Europe. U.K., specifically, for example, I think this is not a worry.

Q - Unidentified Participant

Maybe one more -- in fact, one more question. (inaudible)

A - Martin Viecha {BIO 17153377 <GO>}

I know, anniversary's tomorrow.

Q - Unidentified Participant

(inaudible) about 40% in your (growth) capital -- CapEx -- mainly the CapEx has been declining steadily. How do you fund the growth that you talk about in the presentation with your cost of equity and cost of debt going up in (that equity)?

A - Martin Viecha {BIO 17153377 <GO>}

Can we -- can I go back to the presentation? So I mean, we can see that this is actually happening. So it's not just like us presenting about us. This is a real building that's going to start producing. The other thing that I wanted to highlight was this: the deployment of step 2, which is the Model Y, is going to be uncomparably cheaper than deployment of Model 3 simply because so much of the production line can be shared between the 3 and the Y, the CapEx necessary for that is going to be a fraction of what we needed for Model 3.

The second thing I wanted to mention is that how many carmakers now are building new factories, building new plants all around the world? Not as many, if any. As a result, when we go to Kuka or Fanuc or any of these other component suppliers, the fact that very few other companies are building factories gets reflected.

And very lastly, our payment terms on CapEx side are better than they've ever been. So that's about it.

Q - Unidentified Participant

Thank you.

A - Martin Viecha {BIO 17153377 <GO>}

Thank you.