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Tesla, Inc. NasdaqGS:TSLA

FQ3 2016 Earnings Call Transcripts

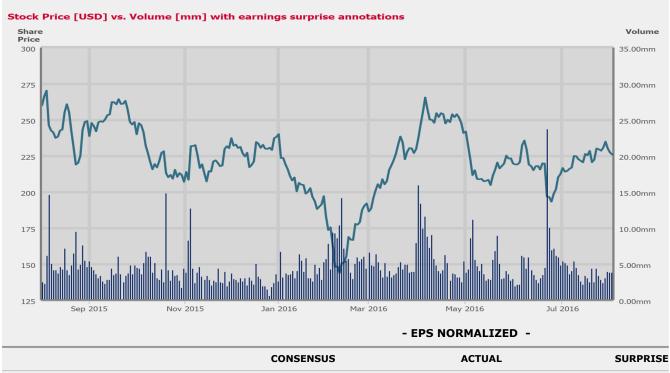
Wednesday, October 26, 2016 9:30 PM GMT

S&P Capital IQ Estimates

	-FQ3 2016-			-FQ4 2016-	-FY 2016-	-FY 2017-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS Normalized	0.02	0.71	3450.00	0.36	(1.31)	1.27
Revenue (mm)	2232.71	2298.44	^ 2.94	2435.20	7575.99	10861.25

Currency: USD

Consensus as of Oct-26-2016 9:48 PM GMT



	CONSENSUS	ACTUAL	SURPRISE
FQ3 2015	(0.59)	(0.58)	NM
FQ4 2015	0.11	(0.87)	NM
FQ1 2016	(0.67)	(0.57)	NM
FQ2 2016	(0.62)	(1.06)	NM

Call Participants

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CEO, Product Architect, Chairman & Co-Founder

Jason S. Wheeler

Former Chief Financial Officer

Jeff Evanson

Vice President of Investor Relations

Jeffrey B. Straubel

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Jonathan McNeill

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Presentation

Operator

Good day, ladies and gentlemen, and welcome to the Tesla Motors, Inc. Third Quarter 2016 Financial Results Q&A Conference Call. [Operator Instructions]

I would now like to introduce your host for today's conference, Mr. Jeff Evanson. Sir, you may begin.

Jeff Evanson

Vice President of Investor Relations

Thank you, Chanel, and good afternoon, everyone. Welcome to Tesla's Third Quarter 2016 Q&A Webcast. I'm joined today by Elon Musk, J.B. Straubel, Jason Wheeler and Jon McNeill. Our Q3 results are announced in the update letter at the same link as this webcast.

And during our call today, we will make -- we'll discuss our business outlook and make forward-looking statements. These are based on our predictions and expectations as of today. Actual events or results could differ materially due to a number of risks and uncertainties, including those mentioned in our most recent filings with the SEC.

We will start today's call with some brief comments by Elon and Jason, followed by your questions and answers. [Operator Instructions]

And, Elon, I'll pass it over to you.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

All right, thank you. My comments will be brief because I think it's really what I would have to say is captured in the earnings letter. But obviously, the main thing is that we're able to have our best quarter ever, achieve full GAAP profitability, and moreover, I think we are headed to have a great fourth quarter as well.

One of the criticisms I've seen out there is that perhaps Q3 was late kind of expense in Q4. This is not true. And we currently believe that Q4 will be profitable, excluding noncash stock-based expenses. I think there's actually a chance that we will be -- there's a chance that we'll be profitable even including noncash stock-based expenses. It's just a chance. I would -- it's not a promise but I think we've got a shot at actually being profitable even taking stock-based expense, et cetera. But -- so it's very exciting. And I think I'm very proud of the Tesla team for executing so well on Q3 and going into Q4 and beyond.

So yes, it's been great, definitely one of the best moments ever in Tesla, I think. Jason?

Jason S. Wheeler

Former Chief Financial Officer

Cool. Thanks, Elon. Just a couple of points I want to hit on real quickly before we jump into Q&A. One is I just want to point out the prudent financial management that we've been able to accomplish over the last several quarters. An example here is back in 2015, we were spending \$400 million a quarter on CapEx. We've averaged about \$250 million a quarter in 2016. That will change as Model 3 starts to ramp up in Q4, but we are focusing on making sure that every dollar we spend is in its highest and best use.

From a gross margin perspective, if you look at automotive gross margin, and it excludes credit revenue, we had a 140 basis point improvement quarter-over-quarter. Lots of different factors there: one, obviously, the increase in volume helps on the labor and overhead front; second, our reliability continues to get better and better; a big change in Model X, over the last 12 months, as we highlighted in the letter; and continued improvements in batteries and drive units across both vehicles. Another source of gross margin improvement is the prior sourcing and the wind-down of our commitments on prototype parts for Model X.

Third point on financial management. You can see our OpEx is growing sublinear to revenue. The operating leverage that we've been talking about through the course of the year is starting to kick in. To put some real numbers around that, GAAP revenue was up 81% quarter-over-quarter, 145% year-over-year and yet GAAP OpEx was only up 7% quarter-over-quarter compared to 3% year-over-year.

The second thing I want to talk for just a couple of minutes about is what we've done to the capital structure and our sources of liquidity. As you may have read in the letter, we paid down \$600 million in debt within the quarter, most notably, \$422 million of conversions on our 2018 converts, derisking the balance sheet in the future. In addition to that, we were able to sign a \$300 million warehouse line, which gives us more leasing capacity at great terms. The terms on that vehicle are less than 2%.

Also, we managed to get an 80% increase with our largest North America leasing partner in the quarter, and we're also on task to sign up a new leasing partner in Q4.

So generally, I'd just like to point out that our access to capital markets and our sources of liquidity is as strong as it's ever been.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes, in fact just to highlight one comment of what Jason is saying, our vehicle gross margin increased Q2 to Q3. One of the other things I've seen out there is that like somehow we achieved these numbers as a result of widespread discounting. That is absolutely false. The discounts -- there were a few discounts that -- but they were few and far between, and that has been absolutely shut down to 0. So you can see that in the fact that the vehicle profitability increased, even excluding ZEV credits from Q2 to Q3.

Jeff Evanson

Vice President of Investor Relations
All right. Chanel, I think we're ready for the first question.

Question and Answer

Operator

And our first question comes from the line of Colin Langan of UBS.

Colin Langan

UBS Investment Bank, Research Division

I mean, it looks like a very strong free cash flow quarter but when I look through the balance sheet, there seems to be a pretty large increase in accounts payable and accrued liabilities that seems to have helped. How should we think about that going into Q4? Does some of that unwind? Were there any changes to higher terms in the quarter? Or is that just this thing with the ramp in production?

Jason S. Wheeler

Former Chief Financial Officer

Sure, yes. Great questions, Jason. So yes, there was definitely an increase in payables and I think that will start to unwind a little bit in Q4, although this is natural. If you look at production, I believe it increased 37% quarter-over-quarter so there's naturally going to be more parts coming into the factory. So I think some of that is just in the course of business. And the other thing that I think is worth pointing out on the cash flow statement is receivables. We had a lot of deliveries right at the end of the quarter, so we weren't able to [indiscernible] all of our receivables. We ended up with a fairly large receivable balance on cars that were delivered in the last 10 days or so.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes, definitely. Also yes, with emphasizing that, I mean, it's the first approximation you expect, payables to increase by 37% if you -- production does -- and then you have to net out against receivables. And when you do that, I think it's not really -- not a material situation.

Jason S. Wheeler

Former Chief Financial Officer

Yes. And we are actively looking to increase terms with suppliers. And I think as our production has been more predictable, our suppliers have been much more open to that conversation.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes, in fact -- yes, thanks for making that point, Jason. I think it's worth emphasizing that for Model 3, but the Model 3 system is designed -- the whole manufacturing supply chain system is designed so that the faster Model 3 production grows, the faster Tesla's cash balance grows. So the terms that we're getting from suppliers are significantly better, almost 60 days, as compared to about 40 to 45 days for S and X. And the Model 3 production and logistics is way faster, so the car spends much less time in the factory and we're working on ways to expedite delivery of the vehicles to suit the end customer, which we can do when we have scale. We don't have to just wait for a ship to go somewhere. We can pull up the whole ship and just have the ship go whenever we want. So the net effect is that instead of growth in a capital consumer, growth is a capital producer. It's quite fundamental.

Colin Langan

UBS Investment Bank, Research Division

Got it. And so the other question I had is you're guiding to profit in Q4 without ZEV credits, and actually, it sounds like without even the stock comp possibly, yet production's about flat. Model X is going to get a little worse. OpEx guidance sort of implies that's up sequentially. So what are the key drivers that are actually going to get you to profitability if -- I think, if you take out the ZEV credit, there would have probably been still a loss in this quarter.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Well, we expect gross margin to increase. And, I mean, that's a huge factor. For some points that we [indiscernible] before, but like we're using very few prototype parts or growth of the low volume selling parts and we're not paying for the craziness of expediting and there are a bunch of design improvements, design cost down so that actually even a value-neutral to the customer is actually going to cost slightly better. And we have the P100. So one of the things that the 100-kilowatt hour car, or pack, was only in limited production towards the end of last quarter, and it will be in pretty significant portion of the mix this quarter. So yes, yes.

Jonathan McNeill

President of Global Sales & Service

I think one additional thing is the reliability of the cars continues to get better so our warranty costs are decreasing as well and that's a really -- that's a key driver for us not only from the cost side but from the demand side, where we're referring demand in market, given the reliability of the vehicles.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes, I mean, the reliability improvement is massive.

Jonathan McNeill

President of Global Sales & Service

It is. So the visits to service for Model X through the course of the year have declined 92%, which is just a fantastic result both from the manufacturing side, and the vehicle reliability teams have been working hard to achieve that and we're going to continue to improve against that.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes.

Jeff Evanson

Vice President of Investor Relations

All right. Chanel, let's go to the next question, please.

Operator

And our next question comes from the line of Brian Johnson of Barclays.

Brian Arthur Johnson

Barclays PLC, Research Division

Just want to go in a little bit on the regulatory credits. A couple of things. First, clearly with your delivery numbers, the California and the other CARB states are buying more Teslas. Yet last quarter, you talked about the value of those plummeting and we shouldn't really expect much. So kind of, obviously, you're generating more but a couple of questions. What's happened in the marketplace for those credits? And I know even under GAAP, you don't list that as a balance sheet asset, but if we were to think about the quarterly generation of credits as well as the credits on your -- in effect in your car bank that could be monetized in the future, how would we think about those?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Unfortunately, as I said on record before, the CARB, their credit mandate is incredibly weak and needs to be fixed. And when you have a weak mandate, obviously, the value of those credits decline conservatively. There are some quarters where we simply cannot even find a buyer for credit. And then when we can find a buyer, it's typically \$0.50 on the \$1 for those who have credit. So -- and then obviously, their credit

only applied to, what, roughly half of our market in the U.S., maybe slightly above half, and it doesn't apply to Asia or Europe or Canada or Mexico or anywhere else. So it's there. It's -- I think CARB really should be doing more. It's unfortunate that they're not. And then I need to sort of move right along a blog piece that's sort of going through this. But that Tesla's sometimes criticized for relying on tax credits and that kind of thing. People really misunderstand this. What matters is what does Tesla receive relative to its competitors, not what -- that we receive in the absolute. For our competitors, it may be worth noting, maybe you would consider us to be a risk or something that is problematic for us. Our competitors monetize ZEV credits at 100 cents on the dollar. We monetize them at 50 cents on the dollar where we could get it. That means if you have, let's say, -- I mean it depends on the scenario, but if you have, let's say, 3 ZEV credits for an EV that would essentially be worth \$5,000 each, so that would be \$15,000. So when, say, Jim or somebody sells an AV, they get \$15,000. But when Tesla sells an EV, we get half that.

Brian Arthur Johnson

Barclays PLC, Research Division

Right, they have an internal marketing...

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

It's not me who are being subsidized but our competitors. Now, an interesting thing is there is a limit to our disadvantage because of them credit thing is so weak, it only goes so far, it only applies to certain states. So what you will see our competitors do is they will limit their production and they will only sell into those states or almost entirely in those states. That doesn't scale. That will take them to maybe 40,000 or 50,000 units a year best case but not -- but we're talking about doing 500,000 units a year, which means at high volume, we no longer suffer the disadvantage of a big credit regime. It's wholly misunderstood.

Jeff Evanson

Vice President of Investor Relations

That help, Brian?

Brian Arthur Johnson

Barclays PLC, Research Division

And was there --

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Better strength [indiscernible].

Brian Arthur Johnson

Barclays PLC, Research Division

Yes, and just a quick follow-up on GHG credits. Were there any?

Jason S. Wheeler

Former Chief Financial Officer

Say again, Brian?

Brian Arthur Johnson

Barclays PLC, Research Division

Just a follow-up. Were there the Z -- GHG or other Cap A credit and how did they compare to prior quarters?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Those are mouse nuts.

Operator

And our next question comes from the line from Colin Rusch of Oppenheimer.

Colin William Rusch

Oppenheimer & Co. Inc., Research Division

Can we just look at the shipment numbers? So a quarter ago, you were guiding to roughly 80,000 vehicles. A year and now 3 months later, we're down at 75,000. Can you just walk us through the factors that are impacting that lower shipment number, or delivery number, I should say.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Well, I think this has really gone over the last quarter's call, is that we had problems getting to rate in the first half of the year, rate being an average of roughly 2,000 cars a week. Just a lot of things broken in our production system. I personally probably took a year off my life or more camping out of the freaking factories solving that along with a number of other members of the Tesla team, went through a bloody h*** in first half of this year. We got out of that basically around mid-June and then the result is achieving a weekly production target of roughly 2,000 cars a week.

Colin William Rusch

Oppenheimer & Co. Inc., Research Division

Okay. Maybe I can take that off-line. So then the second question for me is really about absorption. With nearly 40% increase in deliveries, can you guys break out the impact in gross margin to absorption? It would seem that, that would be a meaningful number at this point.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

What are you talking about?

Colin William Rusch

Oppenheimer & Co. Inc., Research Division

Factory absorption.

Jason S. Wheeler

Former Chief Financial Officer

Like, do you mean like fixed cost versus...

Colin William Rusch

Oppenheimer & Co. Inc., Research Division

Yes, fixed cost on the factory and how that flows through the depreciation line.

Jason S. Wheeler

Former Chief Financial Officer

Sure. I mean, the way to think about that is I think Elon actually just covered it in his last answer. We had capacitized the factory and had the factory to actually produce much more -- many more cars in the first half of the year and we fell short of that. And now we're at the rate that we had planned to be at early in the year. So our absorption is about where we'd expect it to be. And I think what you're seeing now from an absorption perspective as it's related to gross margin is a good steady state rate.

Colin William Rusch

Oppenheimer & Co. Inc., Research Division

Okay, I was just looking for a quarter-over-quarter number in terms of the contribution margin.

Jason S. Wheeler

Former Chief Financial Officer

We typically don't break down all the different factors within gross margin.

Operator

And our next question comes from the line of Ryan Brinkman of JPMorgan.

Ryan J. Brinkman

JP Morgan Chase & Co, Research Division

Can you talk about the drivers of the substantially less-than-expected capital expenditures in the quarter and the reduction to the full year CapEx guide? Should we think about this as being more about the push-out or delay of certain activities that give rise to CapEx? Or is it more that you're on schedule with those activities but doing them in a thriftier way or some sort of combination of these factors?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

One of the things that what we've found is way better with the 3 program than X and S is that our equipment suppliers are willing to work with us on payment terms and we're being able to back-end load. And in fact, post-production load, a huge amount of the CapEx. So that just stood up a lot better than we expected. But we've not taken any action that would cause the Model 3 time line to be extended in any way. We're quite confident of reaching volume production in the second half of next year.

Jeffrey B. Straubel

Chief Technology Officer

Yes. If I might chime into that a tiny bit as well. We also are continuing to improve the capital efficiency per unit of the production lines. And especially over the last few months, we've put a huge amount of engineering attention into really focusing on that problem, and we're seeing results. And I think we'll continue to see incremental improvements all the way from things like the battery cells all the way up to the vehicle itself.

Ryan J. Brinkman

JP Morgan Chase & Co, Research Division

Okay. And then the follow-up to that is just in regards to the amended S-4 that you filed a couple of weeks back. There was some changed language in there from Tesla's currently planning to raise additional funds by the end of the year to you're now stating that you expect adequate liquidity through at least the end of the year, I think it says. So what was the primary change would you say? Does it relate to this CapEx issue that we're talking about here or to higher earnings or to another factor?

Jason S. Wheeler

Former Chief Financial Officer

Yes, I think it covers all of the above. So we've gotten really good at capital efficiency. And J.B., who was just speaking, has done a great job of that up at the Gigafactory in particular. And I think we're just executing very well. We met our internal targets for Q3 so -- and you see what happened on the cash flow statement. So I think it's operational execution as well as capital efficiency.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

One thing that's worth mentioning and certainly, I would take this with a grain of salt and not like it's a -- like sometimes I'll say things which I think are sort of speculation or my best guess but they're not -- it's different from a promise. Our current plan, our current financial plan does not require any capital raise for Model 3 at all. So now that's different from saying whether we should raise capital or not to account for uncertainty, to have a larger buffer and to sort of derisk the business. So -- and then we also feel pretty good having examined the SolarCity financials that it looks like SolarCity will actually be at least

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neutral, but perhaps a cash contributor in the fourth quarter in a small way. But again, let's not take this to the bank. It's not a promise. This is like -- this is what appears to be the case. So contingent upon shareholder approval, we expect SolarCity to be somewhere between neutral and cash contributor in the fourth quarter. And yes, I mean, things are looking good. Yes. It's not to say that there'll be some darkness ahead but they look really quite good right now. It seems like we probably won't need to capital raise even in Q1. I'm not saying we won't, but probably not. And yes, just overall really, things are looking quite promising.

Jason S. Wheeler

Former Chief Financial Officer

Yes. And the other thing I would just add on top of that is just go back to some of the comments I made at the beginning of the call about our others versus liquidity. I mean the capital markets are up open to us and as our asset base grows, our ability to monetize those assets kind of increases. We've got our ABL line. We've got the \$300 million warehouse line. So we've got the things and we've also been able to line up a bunch of incremental capacity on the leasing side during the course of the quarter as well, so that's definitely a piece of it.

Operator

And our next question comes from the line of Emmanuel Rosner of CLSA.

Emmanuel Rosner

CLSA Limited, Research Division

I have a couple of questions on your recent announcement around the autonomous driving. So I guess, the first one is on hardware and then the second one on the software. On hardware, it seems like -- at least from the outside where we're sitting, it seems like just recently, you were indicating you will be deemphasizing the vision approach to aid us in autonomous driving. And now it seems the latest hardware seems largely based on vision. So I was curious how -- what was the thought process there? And still within hardware, how do you acquire confidence that the hardware you're putting in cars today would still be adequate to take you all the way to full autonomy when it's only based -- I mean, largely based on vision?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes, first of all, I would separate what Tesla says from, say, some supplier of ours issuing bulls***, okay. The blog that I wrote was very clear that radar is moving from a supplemental to also a primary sensor. It's not to the exclusion of vision but it's also a primary sensor. Vision is still the main thing. But radar, instead of merely being like a crosscheck against vision, is really, when done well, and we're very confident at this point that it can be done this way, can be a primary sense as such that you can take actions based on radar information alone. You can also take actions based on just vision alone. Much as a person might take action based on whether you hear something or you see something, you don't need to both hear it and see it. Yes, so there's no -- I would feel highly confident that a camera solution with 12 ultrasonics and a forward radar and the computing power that we now have on board is capable of full autonomy at a -- is significantly greater than even -- there are obviously skeptics out there, well, I suggest that they do not bet against this.

Emmanuel Rosner

CLSA Limited, Research Division

Okay. And then on the software side, I guess a lot of the players involved in developing autonomous solutions seem to think that a big input for autonomous driving, especially higher levels of autonomy, sort of a map, a live updated map, what are -- there was not a lot of new information on the most recent announcement on this. What are Tesla's plans for this part of the solution?

Jason S. Wheeler

Former Chief Financial Officer

You mean...

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I think we're getting into like technical questions that are not really related to this quarter, so we'll have to pass.

Jeff Evanson

Vice President of Investor Relations

Yes, stay tuned for product announcements as they come out.

Operator

And our next question comes from the line of John Murphy of Bank of America Merrill Lynch.

John Joseph Murphy

BofA Merrill Lynch, Research Division

Just a somewhat of a redundant follow-up question here but I really just want to make sure I get this right. I mean, as you're looking at R&D and CapEx, I mean those are 2 items that as we're looking at a very significant product launch next year or kind of running at very, very low levels. I'm just curious, as you're talking about this, do you think that -- well that -- I mean, no, they're not that low but I mean relative to what we would expect on a product -- ahead of a product launch, do you think that R&D at absolute levels can stay here and support the Model 3 launch and everything else you're working on or will that need to go up? And then also similarly, I mean, this CapEx number of \$1 billion-plus in the fourth quarter really is a significant step-up. I mean is that really just too high a number and you guys really are running significantly lower than this \$2.25 billion, lower than \$1.8 billion, maybe something significantly lower and really finding a massive amount of efficiency here? And I'm just really trying to understand what these levels are going to be because they are very impressive to date.

Jason S. Wheeler

Former Chief Financial Officer

Yes, sure. I can take the R&D piece. I imagine that R&D will continue to go up.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

But not like -- not in giant ways.

Jason S. Wheeler

Former Chief Financial Officer

Not in giant ways, yes.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Moderate increases in R&D to the extent that they're not some big, sort of, step-change.

Jason S. Wheeler

Former Chief Financial Officer

Yes. Yes, exactly. And on the SG&A side, that's where we're really finding our operating leverage. On the capital front, again, I think there's just continued opportunities for us to optimize this. There's a whole new kind of paradigm of thinking that we're going through. And it's breaking through conventional norms such as to add a step change in capacity, you have to have -- add a step change in capital. That's not true. You can always optimize things. You can make things move faster. It can be more efficient. You can use floor space better, so I think it's some of this thinking which Elon has talked about a lot about that's really getting baked into our capital plan.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes. I mean, maybe it seems low relative to the traditional industry, but I guess if we're comparing to what we've done in our past and even if we just look at the...

Jonathan McNeill

President of Global Sales & Service

Yes, it looks like a lot of money to us.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes. The S program was actually quite a lot lower R&D and lower CapEx than this. So it feels like a huge amount of money.

John Joseph Murphy

BofA Merrill Lynch, Research Division

But I mean you guys really are running at a run rate that is half of what you -- or less than half of what you're originally talking about for the year on a run rate basis. And I'm just trying to understand if that's something that is more realistic or we should expect a real big step-up in the fourth quarter.

Jason S. Wheeler

Former Chief Financial Officer

If you go back to actually our guidance at the beginning of the year on the OpEx side, I believe our initial guidance was 25% year-over-year, and we bumped that up to 30% year-over-year. So there is...

John Joseph Murphy

BofA Merrill Lynch, Research Division

I'm sorry, I meant on CapEx.

Jason S. Wheeler

Former Chief Financial Officer

On CapEx, our original guidance at the beginning of the year was \$1.5 billion. And then when we made the initial announcement to bring forward production of 500,000 vehicles into 2018, then we bumped it up. And I think now we're just getting smarter about that. And that's why we brought that guidance back down in the letter this guarter.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes. So we're probably just too conservative on our capital projections. It turned out to be we can do this with less capital than anticipated.

John Joseph Murphy

BofA Merrill Lynch, Research Division

Got it. And just one follow-up on mix. I mean, these 100 kilowatt-hour models, I mean, it sounds like in some ways, you may have underestimated the high end of the market, which is a good thing. I mean, as we think about that as a percent of mix going forward, I mean, do you really think there's a tremendous opportunity for that to be a material part of the mix?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes. It's one of my -- I mean, right now, there are like 3 things that I -- probably that are top priorities for me. Obviously, Model 3 achieving -- rate of schedule on Model 3 -- rate of schedule on constant Model 3

is top. Then it's advancing to Autopilot software, that Autopilot self-driving software. And then it's the 100 kilowatt-hour, kind of, ramp up the 100 kilowatt-hour production rate. I receive daily updates on the 100 kilowatt-hour production. After this call, I'm probably going to be on the 100 kilowatt-hour production line because the demand is high and it's -- we just need to satisfy that demand.

John Joseph Murphy

BofA Merrill Lynch, Research Division

Okay. It just seems like that almost might be more important as far as profitability and cash flow in the near term than the Model 3. Just because...

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Well, definitely in the near term. I mean it's a 100% fitment [ph].

John Joseph Murphy

BofA Merrill Lynch, Research Division

But even over time, but, okay.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes. Yes, it's a serial big deal. 7 days a week, I get an update on the 100 kilowatt-hour progress on the production ramp for that.

Operator

And our next guestion comes from the line of Ben Kallo of Baird.

Benjamin Joseph Kallo

Robert W. Baird & Co. Incorporated, Research Division

Elon, if I could ask a question about SolarCity. One of the things that I cover is SolarCity and you guys bought Silevo, my initial reaction was to be negative on it. And one of the things I'm worried about with the transaction if you guys acquired them or merging is the Buffalo deal, I mean it just being a cash cow. And so I was relieved when I saw Panasonic step in. Can you talk any more about that? And then maybe in the same question, how I saw this, the slide deck yesterday about how their business model is changing from lease to more cash sales or loan sales. What do you expect going forward and maybe that's Jason, from a cash flow basis? I know you said Q4 relates to that but can this be cash accretive to the business next year? Then I have 1 follow-up.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I think I expect SolarCity to be approximately cash neutral, all things considered next year, yes. It does depend on how fast we ramp up

production in Buffalo. And by the way, I think first in your question, you said "cash cow." I think you maybe meant to say cash back here. But we do it -- no question, that's what I'm saying it is. But the -- we do think it's important to have tight control over the production of the solar panels in order to really -- in order to have a beautiful solar roof product, we've got to be able to iterate rapidly and have them made exactly the way we want them, so that you have very high-efficiency cells at the lowest cost, that's our objective. Just as we've been able to achieve that in partnership with Panasonic on the battery front. We have the best cell at the lowest price. That's a really good place to be. And we are confident we can achieve that same outcome in solar. And while also creating a solar roof product that is better than a normal roof, looks better than a normal roof. Now, the market also bifurcated, as I mentioned before. There's like -- if somebody's just installed a roof and if the house is new, it's not going to make sense for them to go reroof the house. It makes more sense to have something that's solar panels are added to the roof. But for someone that is building a house or where the roof is nearing its expiry date, then the solar

roof is the right option. So the nice thing is you don't really cannibalize one or the -- one from the other. They're 2 separate markets. And so the -- I think we're quite pleasantly surprised by it what we debut on Friday. It's exceeded my expectations. And yes, I don't want to jump the gun on that. You should really see what we unveil on Friday. I think it's really great.

Benjamin Joseph Kallo

Robert W. Baird & Co. Incorporated, Research Division

And then one more maybe big picture and probably get made fun of this for asking. But stakeholders, I watch what the work you're doing with SpaceX, and you have this statement you said about the reason you want to make money is for your work on interplanetary transport. How do you judge a Tesla shareholder versus a Tesla car owner? How do you delineate between where you give value versus the different stakeholders and the whole group there?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I don't really think about it like that. It's really just, we want to make products that people love and then make enough money out from that to be able to develop new products. And that's it really. It's just -- there's like so few products, like how many parts in your body you really love? So rare. And I think to do something like that, people will buy them, they'll pay a premium for some things they love, of course. Yes, and then I think it ends up being a good outcome for shareholders, because the whole focus of any company existing is to make compelling products and services. Some of these people lose sight of why companies should even exist.

Benjamin Joseph Kallo

Robert W. Baird & Co. Incorporated, Research Division

Like so, for example, would you scale back the growth of SolarCity, even though it's the greater good for the environment, to be more cash flow positive, I guess, is a good way to look at it.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I don't think -- we have to look at this in the long term. And if SolarCity's moving lots of money, then that's not good for long term, but investors will not support such a situation. So I think there may be some intermediate slowdowns, but this is actually with an eye towards ultimately moving way faster.

Operator

And our next question comes from the line of James Albertine of Consumer Edge.

James Joseph Albertine

Consumer Edge Research, LLC

I wanted to ask a question, if I may, on battery cost and particularly, just kind of update on the Gigafactory and the impact of the Gigafactory on battery cost. It seems as we're getting closer to the opening, that while there is some improvement sort of going on in the background in terms of efficiencies of the battery cell production process, and also, with the trade secrets that you're working on between generation-to-generation of cell production, that at least 30% benefit from the Gigafactory, how should that filter into the model, let's say, over the course of the next kind of 6 to 8 months between now and maybe when you start to talk more about Model 3 production?

Jason S. Wheeler

Former Chief Financial Officer

Well, I'm not sure we want to give a detailed glide slope on this, but we're still very confident on the progress against the milestones we talked about previously. We're still confident that we'll have the very -- the best cell cost in the world when we start production. And I think those are really the most important

metrics. And long term, we see ongoing opportunities to keep driving that down as we add innovation into the manufacturing process and keep increasing scale.

James Joseph Albertine

Consumer Edge Research, LLC

And just to confirm when you're still expecting to sort of begin production on the Gigafactory itself. And then just a quick product question, as it relates to what you've done with the Model S and the 100 kilowatt-hour battery pack. Thinking about a fully loaded optimized Model 3, which obviously is smaller vehicle, is there a potential to see range? Again, this is not a price-sensitive question, but at the high end of the Model 3 side, is there potential to see range extend significantly further than what we're seeing with the S and X?

Jason S. Wheeler

Former Chief Financial Officer

Well, maybe to your first question, I mean, we're still generally on track as we stated with the Gigafactory schedule and production. There's equipment being installed and being commissioned as we speak. There's a fairly extensive process of bringing that equipment online, starting up pilot production, validating the pilot production. So I mean, that's exactly what we're in the middle of and continuing to ramp up through the end of this year. So we feel good about where that's at, and we feel that we're definitely on schedule for production for Model 3.

Operator

And our next question comes from the line of Adam Jonas of Morgan Stanley.

Adam Michael Jonas

Morgan Stanley, Research Division

Just one question about the Autopilot software development. As you guys are putting the hardware and the software and learning capabilities in the entire fleet of incremental production, you're going to have lots of -- lots and lots of very rich data that is going to be brought to you for analysis and processing and learning. And I guess, the question is when, Elon, would you say would be the earliest reasonable opportunity for you and perhaps backed by the scientific community and your own community in your company to make the case, make a strong case to the regulators with the empirical data as you get and analyze it at the safety of the vehicles, even if not in a fully autonomous application but even in the semiautonomous so that you can bring more visibility and transparency to the urgent need to address the spiraling deaths and injury on our roads?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes, well, I should say we do work actually very closely on a daily basis and have for a long time with NHTSA and other regulatory agencies around the world, so really at a very detailed level. So -- but they're certainly aware of kind of with nitty-gritty, and as I've said before, it's -- we already see a significant improvement in safety with the semiautonomous features. And what sort of lessons we'll see outside is ROE, the cases where the Autopilot actually did a lot to mitigate the accident. So that the impact velocity was -- went from being potentially fatal or severe injury to customer stepped out and walked away. There are many of those which provides a much more statistically significant sample set then fatalities because fatalities are extremely rare. And you need really 1 billion miles or more to try to achieve a statistically significant conclusion on fatalities. So -- but as our fleet grows, and it's growing rapidly, the number of semiautonomous miles grows, to the point where I think we're now trying to punch 1.5 million, almost 1.5 million miles per day of Autopilot in all kinds of work conditions and weather and -- throughout the world. So -- and the more time that goes by, the more miles we accumulate, the stronger the argument gets about the confidence interval tighten, and it becomes clearer and clearer. So I'm really quite optimistic about where things are and where they're headed on that front. I think they're headed to a good place.

Operator

And our next question comes from the line of Jeff Osborne of Cowen and Company.

Jeffrey David Osborne

Cowen and Company, LLC, Research Division

Just 2 questions on my end. One, how do we think about the cadence of CapEx in '17? Should it persist at a continued rate in the first half of '17 up until the Model 3 launch at a similar run rate as you're seeing here in Q4? Or what's the thought process there?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I mean you will see a ramp up in Q2 -- in Q1 and Q2, as you would expect, as we get closer to production. And then a lot of the payments come after our start of productions in Q3, Q4. And there'll be obviously extensions on new vehicle development. So you can expect it to ramp up a fair bit over time. But I stand by what I said earlier, which is currently, if we did not go out and raise a bunch of money, our current plan says we don't need to raise any money. It gets a little scary in terms of how much capital we owe the bank relative to our sales volume, but it does -- currently, raise capital, it's something that's a nice to have not a necessity. And maybe it's a smart move to derisk things in a way. So just looking at the bigger picture, taking into account also that we're designing the 3 program to be a cash generator, that the paths of the 3 grows that will stronger our cash position. I don't think you need to worry too much about CapEx being like a dilutive event or something like that.

Jason S. Wheeler

Former Chief Financial Officer

Yes, and just so it's clear, Elon's talking about the step-up from our Q3 levels, not a step-up from Q4.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes.

Jeffrey David Osborne

Cowen and Company, LLC, Research Division

So do you care to throw a number out there for CapEx for '17 at this point? Or do you think of it as kind of flattish but front-end loaded on '17 versus '16? Too early for that?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I heard '17 than '16, for sure, yes.

Jeffrey David Osborne

Cowen and Company, LLC, Research Division

And then around CapEx as well, any thoughts on kind of partner commitments to Gigafactory? What's the trend there? And then also, I might have missed it, but what's the reservation count for Model 3 and the release that was there?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I mean, we see very strong supplier commitments on Model 3. Yes, we don't see any deficit in supply commitments there. They're very strong. This is the most interesting vehicle program, maybe the most interesting product program in the world. And so suppliers really want to be part of something like this. As for the 3 deposit number, this is not something we comment on and not something that is a figure of merit in any way. We do no promotion of Model 3. We don't advertise -- well, we don't have to advertise, in general, but we don't -- like, how often do you see me mentioning a Model 3? I think we almost mustn't forget like that, that -- all we did for the Model 3 was have our webcast. There was no advertising, no

.....

guerilla marketing campaign, like send out a few tweets, like, "Hey, there's going to be a webcast". And like a lot of people decided they want to place a deposit for the car, which is cool. But we didn't want to get -- feel too distracted from today's product in favor of tomorrow's product. And then when somebody went -- comes into our store to buy a Model 3, we say, "Well, why don't you buy a Model S or an X, instead? So we anti-sell the 3. Still a lot of people -- still a lot of people order the 3, but whatever, that's -- plus the 3, like we're basically sold out the first year of production, so it fits well [ph] into production or thereabouts. So what's the point of trying to sell the 13th month in production with very little to be had -- going to be had there in doing so.

Operator

And our next question comes from the line of David Tamberrino of Goldman Sachs.

David J. Tamberrino

Goldman Sachs Group Inc., Research Division

Just want to circle back on a couple of things said earlier. First on the Autopilot, you mentioned that you work very closely with NHTSA. I'm wondering what your take is on the push from the recent document, the federal autonomous vehicles policy (sic) [Federal Automated Vehicles Policy] that really is looking for data sharing among OEMs. I think you're probably clearly in the lead with vehicles on the road and miles per day of data that you're aggregating. Wondering what your take is on potentially opening that up and sharing with some of your competitors.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

We'd be happy to share information with our competitors that would help improve safety; happy to do so.

David J. Tamberrino

Goldman Sachs Group Inc., Research Division

Interesting. Then the second one is really just on the cost side. You think about a traditional OEM and their supplier relationships. There's typically annual price downs, ranging in the 1% to 3% range, sometimes more for more commoditized products, and you're very vertically integrated. I wonder how you think about internal price downs and gaining economies of scale for the Model 3. And what you're really looking to achieve from an operational efficiency standpoint on an annual basis with the parts that you have going into your vehicles.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Model 3 efficiency as a whole, that really is a quantum change in productivity, like really, really crazy. I mentioned this before but as we go to high volume, what really matters is the factory, the machine that designs the machine -- or the machine that creates the machine is -- comes actually of greater significance, much greater significance than the machine itself. That's what we have most of our engineering team working on, so a sort of internal codename for the factory machine that builds the machine is the alien dreadnought. So the point at which our factory looks like an alien dreadnought than we know, it's probably right. So we think with Model 3, we'll be alien dreadnought Version 0.5 approximately. Then it'll take us about another year or so, I don't know, summer 2018 to actually get to alien dreadnought version 1.

David J. Tamberrino

Goldman Sachs Group Inc., Research Division

And I'm a little bit hazy on quantifying crazy. Is there any rule of thumb that you can point to with what you're looking to achieve at least in terms of bringing the cost down from a component level from the S to the 3, not even thinking about the X, given the increasing complexity that was involved with the vehicle?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Well, it's rough approximation. We think it'll be about half. That's not like everything's half. Some things are way less than the half the cost and some things are more than half the cost, but on average, about half.

David J. Tamberrino

Goldman Sachs Group Inc., Research Division

And predominantly internally sourced?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Well, depends on how you consider the value chain, but yes, I guess, arguably, it's majority internally sourced. But there's still a huge number of suppliers. The thing that happens when you -- once you start making almost all major subsystems internally, your supplier count actually grows dramatically; you have far more suppliers, not far fewer. But as a -- but they're at the component level not at the major subsystem level.

Jason S. Wheeler

Former Chief Financial Officer

Yes, just the one thing I'd add to that too, regardless of what is sourced from the supplier, the way to think about our cost and then just goes all the way back to first principles with the value, with commodities in the part, whether they cost reasonably turn those commodities into a usable part with reasonable labor overhead, and that's how we think about all material cost decisions, internal or external.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes, I mean, the long-term aspiration for the machine that builds the machine, the factory alien dreadnought thing, is the long-term aspiration is limited physics. I mean we call it like limited physics manufacturing.

Operator

Our next question comes from the line of Joseph Spak of RBC Capital Markets.

Joseph Robert Spak

RBC Capital Markets, LLC, Research Division

I wanted to ask a question on leasing. I know you pointed out that the percent of vehicles that are subject to the RVG this period, I think declined by 4 points. And I don't know whether this was coincidental or not, but it looks like the direct lease percentage also went up by about 4 points. So as you dwindle down the RVGs, is -- are you planning that the ultimate lease rate is somewhere in that low to mid-30 range?

Jason S. Wheeler

Former Chief Financial Officer

There's a bunch of different levers here. So one that's worth pointing out and we haven't talked a lot about is we've put out some very compelling loan products in the marketplace.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Working with partners, yes.

Jason S. Wheeler

Former Chief Financial Officer

Yes, different partners, yes. There are 2 partners. So of course, we always want to continue to do that, and we're always looking for ways where we can provide just compelling and useful financing programs for our consumers, whether that's in a lease through a partner, whether that's a loan through a partner, or

whether we leverage our own balance sheet in the case of a direct lease, we'll do that too. Really it's about the consumer experience. And if we can use other folks' capital for that, great. If we use our capital for it, that's fine too. We're willing to make those decisions.

Joseph Robert Spak

RBC Capital Markets, LLC, Research Division

Okay. And then just back on autonomous, maybe to ask Adam's question a little bit different way. I know, Elon, you talked about a cross-country trip in '17. But in terms of turning on for the consumer, I think in the past, you said you need about 6 billion miles traveled for regulatory approval. If I just do some crude math based on your delivery, you've got time line that seems like, at some point in 2018, you'll get there, maybe it's a year or so later if you believe consensus deliveries. But if you put aside the regulatory issues, is that roughly the time frame you think it's ready for the consumer?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes, I think the time frame that we think it's ready and then the time frame that regulators will approve, because we've got to present the data to them, they've got to think about it, then they've got to render a verdict and that can sometimes be a long process. And it varies -- can vary quite a bit by jurisdiction. I think we may see some jurisdictions giving the okay a lot sooner than others. But when you think about like the global average fatalities, it's sort of somewhere around 60 -- 1 fatality every 60 million miles on a global basis. So if you're at 6 billion miles, you're 100x the -- what the fatality is per mile. I mean, at the -- like -- yes, so you really start to get quite statistically significant at that point, and can make quite a strong argument, I believe, at that point that it would be morally wrong not to allow autonomous driving.

Jeff Evanson

Vice President of Investor Relations

Okay. We're coming up on the hour mark. We have one other analyst on the call, and then we have some journalists we definitely want to hear from as well. So let's -- you want to go a little bit over an hour here, Elon?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Sure, sure.

Operator

Okay. And our next question comes from the line of Charlie Anderson of Dougherty & Company.

Charles Lowell Anderson

Dougherty & Company LLC, Research Division

I'll just ask one question. There was a reference to the Tesla network and the ability to buy self-driving today. So I wonder, Elon, if you could talk, maybe, philosophically about how you're viewing Tesla network. Is it something that will generate income for Tesla to help develop future products, et cetera, at a reasonable gross margin? Or is it something that you'll use more for market share gain, help people offset the price of the car long term?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

All right. Sorry, just sort of talking to [indiscernible] sitting there. I think it's a bit of both, really. This would be something that would be a significant offset on the cost of ownership of a car and then a revenue generator for Tesla as well. Obviously, the majority of the economics would go to the owner of the car. Sometimes this has been characterized as Tesla versus Uber or Lyft or something like that. It's not Tesla versus Uber; it's the people versus Uber.

Operator

And our next question comes from the line of Daniel Sparks of The Motley Fool.

Daniel Sparks

I just wanted to get a little perspective on -- I noticed in the shareholder letter, the narrative kind of shifted. In Q2, you guys were saying that you're aiming for volume production towards the end of 2017, but now the letter is saying you're looking for volume deliveries in the second half of 2017. Am I just reading into this too much, or does that reflect a greater confidence on management's part or...

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I think our confidence has been approximately the same. Obviously, as time goes by, there's some amount of the uncertainty is collapsed. And so, I guess, you could kind of call it confidence, but it's -- that's looking good for production volume second half of 2017. As always, I really want to remind people that car is -- consists of several thousand unique items. We can only go as fast as the first item, and so what we're trying to do in advance of -- through production is to increase the scope of Tesla's internal capability so that we're internally capable of making almost anything and kind of like reserve troops. You don't know exactly where they'll be needed, but you know it's a good idea to have them. And so that we can minimize the degree which a single supplier can stop the entire production line.

Daniel Sparks

Okay, great. And then as Model S and Model X, with higher levels of sales recently, higher levels of deliveries and as Model 3 approaches, do you feel confident in these levels as Model 3 approaches? I know that we haven't talked too much about 2017, but just kind of speaking as far as trajectory for those deliveries go and how we could think about it.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Yes. I mean, another thing I want to emphasize is when you -- the production ramp tends to look like a -- is exponential or ultimately, it's an S-curve. Exponential goes to linear, then goes to log. And it's very difficult to predict exactly where that beginning part of the exponential and the S curve fits in between quarterly reporting. A shift of even a few weeks one way or the other can have quite a dramatic effect on what it looks like in that quarter, but that's not indicative of the future. So we're kind of telling you what -- what we -- we're giving you the best assessment we have short of having a crystal ball. I think things will look very good exiting 2017, but it'll be complicated and bumpy and dealing with a lot of unexpected issues in the first -- in the beginning of Model 3 production in Q3, Q4 -- or Q3 particularly is very uncertain because it's the beginning of an exponential. It gets a bit more -- it gets a bit clearer in Q4, then starts to be probably crisp and in the -- in the Q1, Q2 time frame of 2018.

Operator

And our next question comes from the line of Tim Higgins of WSJ.

Tim Higgins

Just to go back to the capital issue, I hear you saying you don't need to raise capital this year, and I hear that you probably won't do it in the first quarter of next year, but what about next year in general? Should we look at that as a second half or a first half event; you want to raise capital in the first half of next year even if you don't need it?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

I think we cannot make -- it's actually -- I don't think it's legal for us to make specific predictions of certainty with respect to doing an equity raise or something like that. It's just really exactly what I said before, which is our current projections, and which should probably be taken with a grain of salt. Current projections, say, we don't need to go out and raise much equity. The -- there could be unexpected

negative things that occur. There could be some global macroeconomic slowdown. There could be, I think -- who knows what can happen. And so there may be value in derisking the business and just having higher capital reserves. We're not ready to make that decision yet.

Operator

And our next question comes from the line of Phil LeBeau of CNBC.

Phil Lebeau

Elon, quick question. In your shareholder letter, you guys mentioned that you're continuing to explore possibilities for expanding production to Asia and Europe. As you start to look at the production ramp and expanding your facilities in Fremont, do you have a time frame for when you might make a decision in terms of -- I think this is when we'll probably make some kind of a decision about another production facility, whether it's in China, whether it's in Europe, wherever it might be, somewhere beyond Fremont?

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Right now, we're really focused on Gigafactory 1 and Model 3, spending very little time on facilities outside of Fremont, California and Sparks, Nevada. So it's really hard to say at this point except to say it's pretty obvious that long term, you want to have your production close to your consumption, so you don't have massive logistics costs, transporting cars halfway around the world. And yes, so that's -- I think we're probably not ready to talk about that now, and we just don't have a fully formed idea now. Probably end up talking about that next year.

Operator

And I'm showing no further questions on the phone lines at this time.

Jeff Evanson

Vice President of Investor Relations

All right. Thanks a lot, Chanel, and thank you, everyone, for joining us today.

Elon R. Musk

CEO, Product Architect, Chairman & Co-Founder

Right. Thanks, everyone.

Jeff Evanson

Vice President of Investor Relations

Bye-bye.

Operator

Ladies and gentlemen, thank you for participating in today's conference. This concludes today's program. You may all disconnect. Everyone, have a great day.

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