Q1 2020 Earnings Call

Company Participants

- Elon Musk, Co-Founder and Chief Executive Officer
- Martin Viecha, Senior Director of Investor Relations
- Zachary J. Kirkhorn, Chief Financial Officer

Other Participants

- Adam Jonas, Analyst, Morgan Stanley
- Ben Kallo, Analyst, Baird
- Emmanuel Rosner, Analyst, Deutsche Bank
- Gene Munster, Analyst, Loup Ventures
- · Pierre Ferragu, Analyst, New Street

Presentation

Operator

Ladies and gentlemen, thank you for standing by and welcome to Tesla's Q1 2020 Financial Results and Q&A Webcast. At this time, all participants are in a listen-only mode. After the speaker presentation, there will be a Question-and-Answer session. (Operator Instructions) Please be advised that today's conference is being recorded. (Operator Instructions) I would now like to hand the conference over to your speaker, Mr Martin Viecha, Senior Director for Investor Relations. Please go ahead, sir.

Martin Viecha {BIO 17153377 <GO>}

Thank you, Sherry, and good afternoon everyone and welcome to Tesla's First Quarter 2020 Q&A Webcast. I'm joined today by Elon Musk, Zachary Kirkhorn and a number of other executives. Our Q1 results were announced at about 1:00 PM Pacific Time in the update deck we published at the same link as this webcast.

During this call, we will discuss our business outlook and make forward-looking statements. These comments 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.

During the question-and-answer portion of today's call, please limit yourself to one question and one follow-up. (Operator Instructions) Before we jump into Q&A. Elon has some opening remarks. Elon?

Elon Musk {BIO 1954518 <GO>}

Thank you. So Q1 ended up being a strong quarter despite many challenges in the final few weeks. This is the first time we have achieved positive GAAP net income in a seasonally weak first quarter. Even with all the challenges we achieved a 20% automotive gross margin excluding regulatory credits while ramping two major products. What we've learned from this is that we've obviously learned a lot here. After the Model 3 ramp from three years ago, our new products get run faster and become profitable sooner. In Q1, we produced more Model Ys in the first quarter than Model 3s in Fremont in the first two quarters.

Thus far, the Model Y ramp has been even faster than the Giga Shanghai ramp in Q1. More surprisingly -- in other words, we are ahead of the schedule that we were ahead of already. Most surprisingly, the Model Y was profitable already in its first quarter production, something we haven't achieved with any product in the past.

Regarding Autopilot we released a new software update for traffic lights and stop signs to early access users in March and to all US customers with the full self driving package just last week. Our cars will now automatically stop at each stop sign or traffic lights until the driver gets a confirmation to proceed. I should say that the car is actually capable of much more than this, but we are only exposing functionality that we feel quite good about and where we feel that it is probably a safety improvement.

We are collecting data from over a million intersections every month at this point. This number will grow exponentially as more people get the update and as more people start driving again. Soon we will be collecting data from over a billion intersections per month. [ph]Great all of those confirmations are training on neural net. Essentially the driver when driving and taking action is effectively labeling reality as they drive and making the neural net and better and better.

I think this is an advantage that no one else has and we are quite literally orders of magnitude more than everyone else combined. I think this is difficult to fully appreciate. It's the reason that say -- it's very difficult to have a search engine that competes with Google because everyone is training Google all the time with their searches. So when you are searching something and you click on a link, you're training Google every time you do that. It's very difficult for any new search engine to compete on that basis.

So -- but what -- so all those confirmations are training on neural net and soon cars will be able to drive through an intersection without a confirmation, as well as to make turns and we're really feel we're -- I feel extremely comfortable -- extremely confident that it will be possible to do a drive from your home to your office and most of the time with no interventions by the end of the year. So this is -- we can almost do this already with the leading edge alpha [ph]boats[ph] than are driving in the car.

So, let's see. On other technology front or fronts, we increased the range of Model S and X yet again. This time to 391 miles for Model S and 351 miles for Model X. Actually we said that actually the Model -- the real Model S range is 400 miles. But when we did the last EPA test, unfortunately ATA left the car door open and the keys in the car. So the car -- and they did this overnight and so the car actually went into waiting for driver mode and lost 2% of its range and as a result it had a 391 test.

As soon as the EPA reopens for testing, we will redo the test and we are actually confident that we will achieve a 400 mile or greater range with the Model S. But to be clear, the Model S that for the past two months, the true range of the Model S the past 2 months has been 400 miles. And of course we're not stopping there. We're continuously [ph] pushing for improved range over time and improving handling, acceleration and all those details that make a Tesla special.

For Model Y, we introduced the revolutionary two piece rear underbody casting that we are going to be making a single piece casting later this year. Meaning like essentially the rear third of the body is cast in a single piece, which is no casting of the size of complexity has never been done before. In fact, there isn't even anything that is on par with the two piece casting for the Model Y. So we're really pushing the envelope on vehicle structural engineering and manufacturing. I'm very excited about this approach as it allows us to reduce the weight of the cast and improve NVH. It's better in every way, essentially.

The Model Y also introduced a revolutionary new heat pump, which allows the car to have a higher range. So the Model Y has remarkable range on par with -- in fact slightly better than I guess the Model 3 and despite being a bigger car that weighs more and this is -- the heat pump is a key contributor to that. This is especially excellent at low temperature driving. And the feedback we're getting from customers who have received the Model Y thus far has been universally positive. We're confident this product will be our best selling product ever.

So in conclusion and just to -- looking forward I guess this is a forward-looking statement. We are absolutely continuing our Model Y capacity expansion at full speed at both Giga Berlin and Giga Shanghai and here in Fremont when they will let us continue. Localized production in China and in Europe will bring the cost down, making our products even more competitive over time. While many other companies are cutting back on investment, we are doing the opposite. We are absolutely pedal to the metal on new products and expanding the Company and we're really looking forward to being in sometime next year a truly global manufacturer with major factories in North America, China and Europe and a capacity of well over a million units a year.

So there is a tremendous amount to look forward to and we can't wait to tell you what's going to happen. Thank you.

Martin Viecha (BIO 17153377 <GO>)

Thank you. And now to Zach's opening remarks.

Zachary J. Kirkhorn {BIO 20940148 <GO>}

Yeah. Thanks, Martin, and thanks, Elon. I'm very proud of the accomplishments of the Tesla team this past quarter. A few things to highlight and add to what Elon just mentioned. We successfully launched, ramped and demonstrated profitability of the Model Y, as Elon mentioned, significantly ahead of schedule. And this is our second large-scale product launch since Model 3 in 2017 and it's evidence to the progress we've made on cost control and ramp efficiency. It's hard to understate the significance of demonstrating profitability of this program and its first quarter of production.

Our Shanghai Model 3 margins improved dramatically since Q4 of last year, nearing equivalents of Model 3s built in Fremont. This is despite not yet running at full capacity, while also managing through the production shutdown in early February. We also announced a long range and performance variant of Model 3 for our roadmap, which will positively impact ASPs in China. On order rates, we did not experience much of an impact related to the expiration of government incentives at the end of Q4. In fact, we exited the quarter with our highest ever backlog yet again. Aided by these accomplishments, we were able to achieve our first ever Q1 profit.

Automotive gross margin, excluding the impact of regulatory credits remained strong for all products despite charges taken in Q1 associated with production downtime. We continue to make progress on OpEx efficiency as well as our service and other margins. Our Energy business was impacted as well by shutdown activities in Q1 limiting deployments. We also experienced expected launch inefficiencies associated with our third version of the solar roof, which impacted overall profitability. As I've noted before, we expect regulatory credit sales which are credits we sell to other car makers to generally increase with time. This can be seen by the increase from Q1 relative to Q4. And note that most of the credit revenue did not contribute to cash in Q1 and it's reflected in the accounts receivable on the balance sheet. Our free cash flows were impacted by the temporary increase in end of quarter inventory for all our products resulting from the abrupt suspension of production and delivery operations. Had these interruptions not occurred, we were pacing towards a record quarter of deliveries and strong free cash flows.

As Elon mentioned, it is extremely important that we remain on track to achieve our long-term plans and technology roadmap. We are taking the near-term actions required to continue those investments. Model Y in Shanghai and Berlin are proceeding as planned and we're making progress on improving capacity for Model Y in Fremont and Model 3 in Shanghai.

In the near term, our Shanghai factory remains operational, contributing an increasing level of cash flows and profitability to the Company. In Fremont, we're working towards restarting production as soon as that's possible. We are also continuing to deliver cars that we were unable to deliver at the end of the first quarter. Our vehicle inventory balance increased by 14,000 units at the end of 01, which was a headwind to free cash flows in 01 but is helpful in 02.

Note that one of the most important aspects of Model Y in Fremont and Model 3 in Shanghai is the dramatically improved cash conversion cycle by locally producing and delivering vehicles. While sales and delivery operations have paused in many areas of the world, we are still receiving many online orders, despite inability for our customers to experience the product prior to ordering. However unavoidably, the extended shut down in Fremont will have an impact on our near-term financial performance, and we will need to work through how quickly we'll be able to ramp production to prior levels. More broadly, we remain focused on ensuring our cash flows are managed appropriately. Working capital management, in particular raw material inventory, is the single most important lever in managing our cash flows during this time. The Tesla team has done a great job here. We've also taken actions to eliminate or reduce non-critical expenses and optional investments while continuing to drive efficiencies throughout the business.

Overall, we've modeled many scenarios into 2021 and remain comfortable that we have sufficient liquidity to proceed fully with our most important long-term investments. It's important to note that Tesla remains an extremely agile and dynamic company, and this is aided by the substantial work we've done over the last year to improve our cost efficiency and productivity and we have the ability to quickly adjust our spending and planning as required.

So thank you again to the Tesla team for success in Q1 and we will turn to questions.

Questions And Answers

A - Martin Viecha {BIO 17153377 <GO>}

Thank you very much. So we'll take the first questions from institutional investors compiled by Say Technologies. The first question from institutional investor is, most Tesla owners have yet to purchase or experience FSD and despite most vehicles having all the necessary hardware. What levers, could you pull to accelerate adoption and deepen your data advantage? For example, could you consider offering FSD as a premium subscription?

A - Elon Musk {BIO 1954518 <GO>}

I think we will offer full self driving as a subscription service, but it will be probably towards the end of this year. I should say, it will still make sense as to buy FSD as an option as in our view buying FSD is an investment in the future and we are confident that is investment that will pay off to the consumer and to the benefit of the consumer. And in my opinion, buying the FSD option is something people will not regret doing,

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

I agree. And financially rolling the upfront purchase of your -- of the FSD option into a loan on the vehicle or a lease is -- will be the least expensive plan on a monthly basis to own plus you preserve the option value of increased value with time.

A - Elon Musk {BIO 1954518 <GO>}

Yeah.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

But we do understand that some customers who have ownership or have leased their vehicle did not purchase that option up front. And so this will enable those customers just --

A - Elon Musk {BIO 1954518 <GO>}

[ph]Opinion, buying the FSD option is something people will not regret doing. And financially rolling the upfront purchase of your of the FSD option into alone in the vehicle or lease is will be the least expensive plan a monthly basis to own plus you preserve the option value of increased value of time, but we do understand that some customers who have ownership or at least vehicle did not purchase that option upfront. And so this will enable those customers to spread out the cost of ownership of FSD or subscription over time. Absolutely. As you maybe like at a high level, our overall goal is to maximize the area under the curve of customer happiness. That is our goal and we think that's the kind of thing that all companies should try to do and it's what results in long-term value creation and loyalty, the guest's loyalty. So our goal is always really to do the best thing for the customers and we're confident that if we behave like that the customers in turn will behave the same way to us.

A - Martin Viecha {BIO 17153377 <GO>}

Thank you. The second question from investors is China recently announced changes to its NEV subsidy program that disqualifies Tesla vehicles from benefiting from the subsidies. To what extent is there room for Tesla to lower manufacturing costs in China and pass those savings to buyer so they can qualify for the subsidy?

A - Elon Musk {BIO 1954518 <GO>}

Yes. So we are making rapid progress on lowering the production costs in China and we're actually excited to announce on this call that we will be reducing the price of the Standard Range Model 3 basically tomorrow China time. So the day after tomorrow, California time, but tomorrow China time. And there will be a price below the subsidy limit it, and we feel confident that that's will still be a vehicle that delivers a good gross margin.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

Yeah. And on the manufacturing costs portion of the question. The cost of vehicles produced in Shanghai in Q1 is already lower than the cost to produce the Model 3 in Fremont, and there is still significant opportunity left to take cost out. So a fixed cost absorption from higher production volumes which are occurring in Q2 and will occur through the rest of the year. We're not fully localized on the supply chain yet, and so while a lot of the supply chain is localized it's not complete and there is additional opportunities there. And so we'll continue to bring the price down and expand

margin cost down and expand margin even with this reduction in price that Elon mentioned on the Standard Range version of the vehicle.

A - Martin Viecha (BIO 17153377 <GO>)

Thank you. The next question is Andy Grove once said that great companies are improved by crises. In which way has Tesla improved towards -- or is expected to improve coming out of COVID-19?

A - Elon Musk {BIO 1954518 <GO>}

Well, it has caused us to look closely at our cost structure and to be more efficient as a company. That's -- one always has to do that in a crisis and just thinking about our core beliefs and what do we want to do and we came to the conclusion that the right move is actually to continue to expand rapidly, continue to invest in the future in new technologies, even though it is risky and we've talked to some of our key investors and they support that approach as well. So I think that there is clearly an uncertain future ahead. It's bit of a bumpy road. But I think the long-term prospects are extremely good.

Anything you guys want to add?

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

Yeah, I agree with that, Elon. The prioritization on the key projects will enable us to execute more efficiently and faster on them, which I think is great. The other one that I would add is, it's always been our vision at Tesla to improve the customer experience and make that as digital as possible.

A - Elon Musk {BIO 1954518 <GO>}

Yeah, touchless delivery.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

So touchless delivery, mobile service, touchless sales has been something that we've been very focused on and made a lot of progress on.

A - Elon Musk {BIO 1954518 <GO>}

But Tesla is the only car that you can -- you literally order it and in less than 5 minutes on your phone, you can order a car and have it delivered to your doorstep with all the paper and everything done. That's it, effortless.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

And many customers do that.

A - Elon Musk {BIO 1954518 <GO>}

And they're doing it. Yes. In fact, a big part of it is just trying to communicate to people that this is something you can do. Because normally buying a car is quite a

pain --for most people, they would rather go to the dentist than buy a new car. Actually, my dentist is very -- but it's really quite an arduous thing when the typical retail experience of buying a new car is more painful to people than having a root canal done, you have to say, well -- and for Tesla it is completely as easy as ordering something on the Apple App Store or ordering something on Amazon and except it's a car. Yeah. And in five minutes -- if you really went fast, I think you could order car, probably in 90 seconds.

A - Martin Viecha (BIO 17153377 <GO>)

Thank you. The next question from institutional investor is can you give us a brief preview of the Battery Day by generally highlighting steps Tesla is taking to improve self energy density and timeline for introduction?

A - Elon Musk {BIO 1954518 <GO>}

Yeah, actually. We're just -- we don't want to preempt Battery Day. You want to leave the exciting news for that day, but there will be a lot of exciting news to tell and I think it would be one of the most exciting days in Tesla's history and we're just trying to figure out the right timing for that. We think probably the right timing will be the -- probably the third week of May. That's not giving a firm date, but we think that probably that's the right timing. And depending upon what we are allowed to do, it will either be in California or Texas.

A - Martin Viecha {BIO 17153377 <GO>}

Okay. And the last question from institutional investors. Could you please update on progress stores development and commercialization of full self driving? How much revenue have you recognized so far?

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

So there is a couple things on the financials for full self driving. And so currently in North America, it sold for \$7,000 as an option. We take roughly half of that as revenue and the other half of it goes into deferred revenue. That's associated with features that will be released with time. Our deferred revenue balance is continuing to grow, it's a little bit over \$600 million. And so as we release features with time, at the end of every quarter we take a look at what features have been released, associated value and then we can release that from the deferred revenue into our financials for that quarter. And then cars going forward, once a feature is released we can recognize that revenue. So we reduce the amount of deferral and we can recognize that revenue within period. So I mean this is one of what we think will be one of the most powerful gross margin levers time as the feature suite is rolled out.

A - Elon Musk {BIO 1954518 <GO>}

Absolutely. There's also a tremendous amount of untapped potential in the beat out there that could upgrade to turn on Autopilot, basic Autopilot, or full self driving. And that's something we will enable just as a simple in our purchase or as we talked about earlier just towards end the year as a subscription. So that's just a lot of untapped potential there. That's not in the deferred revenue line obviously but is

certainly a great deal of deferred potential that we think is a large portion of which is like to -- likely to reach fruition.

A - Martin Viecha {BIO 17153377 <GO>}

Thank you. And now let's go through the questions from retail investors. Question number one. Elon has mentioned a 50% compound annual growth target for Tesla in the past, is this still in line with Tesla's ambitions for the next 5 to 10 years? This would be 4 million vehicles in 2025 and more than 20 million vehicles in 2030. Is 40% or more a realistic target?

A - Elon Musk {BIO 1954518 <GO>}

Well, it's always difficult to predict of what the macro situation is going to be. I think very few people would have predicted the unexpected roundhouse that COVID came up with it sort of came out of nowhere. So I think in the absence of something - some massive force majeure event, but quite massive, I think 40% is the likely number. It's possible that is 40%. I would be very shocked if it's less than 40% even with force majeure, short of World War III.

A - Martin Viecha (BIO 17153377 <GO>)

Okay. The next question from retail investors, when will you announce the next Giga? How many Gigas do you have planned for the next 5 years?

A - Elon Musk {BIO 1954518 <GO>}

I think we will announce the next Giga possibly as soon as a month but we may now as soon as next month. This is not a prediction, just saying that's if that could happen it will certainly be within 3 months and possibly one month and that would be in the US. So as for how many it will be in 5 years, I'm not -- I don't know right now what that number would be. I guess several more than there are today, but I'm not sure what exactly it would be in 5 years. But some number more than today.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

And I'll also add that our Gigas have gotten bigger.

A - Elon Musk {BIO 1954518 <GO>}

And it could arguably -- it could start being called Tera.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

With multiple products as well. And so the absolute number of Giga factories we may ultimately build might be less, but each one is larger and that's under a belief that it's just significant efficiencies by having as much as possible and similar product lines under the same roof and as much vertical integration as possible, all in one facility.

A - Elon Musk {BIO 1954518 <GO>}

Yeah.

A - Martin Viecha {BIO 17153377 <GO>}

Thank you. The next question is, can you give us an update on Solar Roof ramp? How many are you currently able to install per week? What is your installations per weeks target for the end of 2021?

A - Elon Musk {BIO 1954518 <GO>}

We were actually gaining interest momentum with the Solar Roof before COVID, but and COVID essentially shut us down, both from the ability to install and the ability to get permits. I think the permit offices were closed. And with the shelter in place all over the place. So we obviously cannot install and if you can't get permits then you can't physically do it. It's basically impossible. So -- but I think the long-term trend for Solar Roof is extremely good and I'm confident that let's say within the next I don't know year or maybe even by end of year, we should be installing at a rate of 1,000 a week. That's not in the middle of winter or something, it's like taking seasonality, allowing for seasonality where it's hard to install on roofs that are covered in snow and ice, a bit like in say spring, I think it's installing but which is the hard part.

We actually have demonstrated the ability to hit 1,000 a week plus build rate for the solar glass roof already, so that's not a problem. It's building up the install teams, building out the third-party channel installers, the roofing industry installers. And internally, we want to have at least 1,000 Solar Roof install teams with -- and taking a week or perhaps a little less than a week to do an install, which gets you a 1,000 a week roof installations.

We see demand is good, production is good. So it's really all about the install. And then like I said, it also build out the training, the very diverse group of companies in the roofing industry to also install Solar Roof that I think will scale -- allow us to scale far beyond 1,000 a week.

We're also seeing a lot of interest outside of North America, so we do expect this to be a product that is international and actually seeing a tremendous amount of interest from China on the Solar Roof. So we're confident that this will be a very significant product for the Company over time.

A - Martin Viecha (BIO 17153377 <GO>)

Thank you. The next question is, can you elaborate on Tesla's plan to enter the residential and or commercial HVAC markets? Can you provide some basics of how your system will work? Will you consider the heat pump water heater market as well?

A - Elon Musk {BIO 1954518 <GO>}

Well, as I said on Twitter. I'm personally extremely excited to build a kick ass HVAC system that also has sort of hospital grade particle filtration, basically have the filtration that filters out. Viruses, bacteria, pollen, fungi and it also neutralizes specific alkaline gases that is quiet and efficient and these are all things we've achieved in

our cars. In fact, I don't know if a lot of people realize but the Model S and X are the only cars in the world that have a hospital operating room grade heavy filters built in. They're very big. But you can get to a particle count that is insanely low with our cars.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

And 3 and Y have like MERV 16 or 15 capable filter (inaudible) which is --

A - Elon Musk {BIO 1954518 <GO>}

Yeah. It's not like Model 3 and Y are -- they're no slouches. Model 3 and Y are also way -- they're way better than any other car, to the best of my knowledge. They're not quite as good as possible operating room, but they're extremely good, way better than any other normal car. And we're continuing to improve the filters on 3 and Y. I (inaudible) these -- these actually have a big effect on health even in normal just day-to-day living is reducing particle count and it has effect on allergies and all sorts of things. So it's really -- air quality is incredibly important, you know in the non-COVID situation extremely important. So taking that all those things that we've learned and applying it to how many HVAC would be -- and commercial HVAC would be just very exciting. And then if you got -- if you're condensing water, like why not also have a few water source. If you have water, you possibly could then heat the water and have a water heater as well.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

Yeah. Use it as a heat source if you need it instead of the outdoors when the outdoors is really cold or it's the other way around. So lots of options.

A - Elon Musk {BIO 1954518 <GO>}

It could be a hell of a product, so we just have to -- at Tesla, we have a tendency to apply a formula [ph] we continue on the product front. So we're going to make sure - we got a lot of ice in the fire here for new products with the Cybertruck, Semi new Roadster and the Gigafactories in various parts of the world and brilliant [ph] Model Y and Autopilot and the Solar Roof and -- yeah, exactly. Powerwall, Powerpack, Megapack. We are seeing tremendous demand for stationary storage, more than we can supply, at least for 2020.

A - Martin Viecha {BIO 17153377 <GO>}

Thank you. And the last question from the retailer is when will Tesla start acquiring utilities like the Hornsdale Power Reserve and most lending instead of selling them battery storage? Does it make sense for Tesla to buy bigger plants and convert them?

A - Elon Musk {BIO 1954518 <GO>}

Well, we haven't really thought about that yet. It's not out of the question, but our brand is full. Excuse me sir, our brand is full. That's not out of the other question, our overarching goal is to help accelerate the advent of sustainable energy, And the three elements of that are sustainable power generation, then you have got to store the power, stationary storage and then you've got have electric transportation. So it's

-- and well we don't have like specific market share goals or anything like that, it's just to the degree that we can accelerate the advent of sustainable energy. We think that's a fundamental good for the world and we want to do that as fast as possible. But it's not -- it makes it market share growth as a goal in and of itself, it's just the faster this happens the better off the world is.

A - Martin Viecha (BIO 17153377 <GO>)

Thank you very much and I think now we can move to analyst questions.

Operator

Thank you. Our first question will come from Adam Jonas with Morgan Stanley. Please go ahead.

Q - Adam Jonas {BIO 3339456 <GO>}

Thanks, everybody. I hope everyone is safe and healthy. I got one question, and one follow-up and I point out, I've had a root canal before and I would agree, Elon, it was less painful than buying a car.

A - Elon Musk {BIO 1954518 <GO>}

I mean it really, it's -- exactly.

Q - Adam Jonas {BIO 3339456 <GO>}

It's a big problem actually. It's a big problem.

A - Elon Musk {BIO 1954518 <GO>}

It's crazy. Yes.

Q - Adam Jonas {BIO 3339456 <GO>}

Different conversations. Zach, first for you, any real-time update on company liquidity at the end of April? Some companies have, given the circumstances, gone out of their way to give a little color on that. Just wanted to give you a shot at that. Then I got a follow-up.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

Yeah, it's a fair question. I don't have any additional color to provide. So \$8.1 billion in cash and cash equivalents at the end of Q1. We're managing it very closely. As I mentioned in my opening remarks, we do have an increase in inventory of vehicles that we were unable to deliver at the end of Q1. So we're making progress delivering those through April, which is helpful for liquidity. And as we've been looking at liquidity, we've been looking at this over the next 18 months, and there's ups and downs to the liquidity. Currently now as we're not producing, we still have payables from Q1 that we're paying off. But then in a couple of months we'll quickly be through that and then we'll have a gap in payables since we don't have any parts coming in. So it does go up and down a little bit. But in looking at the long-term

horizon, which is how we're managing it right now, we feel pretty comfortable with the liquidity the position of the Company.

A - Elon Musk {BIO 1954518 <GO>}

Yeah, I should say we are a bit worried about not being able to resume production in the Bay Area and that should be identified as a serious risk. That we only have two car factories right now, one in Shanghai and one in the Bay area and the Bay are produces the vast majority of our cars, all of S and X and most of the 3 and all of the Y. So, the extension of the shelter in place or frankly I would call it forcibly imprisoning people in their homes against all their constitutional alliance, that's my opinion, and breaking people's freedoms in ways that are horrible and wrong and not why people came to America or built this country. What the expletive [ph]? Excuse me. People -- the outrage -- system outrage.

So but it will cause great harm not just to Tesla but to many companies. And while Tesla will weather the storm, there are many small companies that will not.

And all of people's -- everything people have worked for their whole life is going get -- is being destroyed in real time and we're going to have many suppliers and our having many suppliers that are having super hard times, especially the small ones. And it's just causing a lot of strife to a lot of people.

Q - Adam Jonas {BIO 3339456 <GO>}

Elon, on that point, you mentioned people that gave their lives to build the country, my thoughts for you on this. There have been a lot of comparisons drawn to the state of the US economy to the early 1930s when Roosevelt began a series of new deals and infrastructure projects or post-World War II when Eisenhower launched the US Highway Act and when JFK launched the Apollo program which you could say was influenced by the cold war clearly and you benefited from and our space program benefited from, what would be your message to US lawmakers on this call as we in addition to your opinions on shelter in place but thinking longer-term, your message to US lawmakers coming out of the crisis, specifically around EV infrastructure and a chance to kind of work with taxpayers to support sustainable transport and renewable energy? I'm wondering if you see this as a chance to make the crisis and all the loss and lives lost not be in vain. Thanks.

A - Elon Musk {BIO 1954518 <GO>}

I think it's high time we invested in infrastructure in this country. We have a lot of crumbling highways and bridges, and frankly when I visit China, I see their infrastructure as being much better than ours. It's great. Europe has better infrastructure. It's really quite sad that US infrastructure, especially roads and highways is where it is today. And our airports, a lot of cases are an embarrassment. So, and it's not just a question of money it's a question of will. Sometimes we spend a lot of money on these things, but what are we gaining for it? So and yeah, we really need to be thinking about what is the transportation of the future not the transportation of the past. If this was 1920, do you want to be investing in steam engines or internal combustion engines? Obviously that's not steam engines. So this is a time to think about the future.

And also to ask is it right to infringe upon people's rights as what is happening right now. I think the people are going to be very angry about this and are very angry because somebody should be -- if somebody wants to stay in their house, that's great. They should be allowed to stay in their house and they should not be compelled to leave, But to say that they cannot leave their house and they will be arrested if they do, this is this is fascist. This is not democratic. This is not freedom. Give people back their goddamn freedom.

A - Martin Viecha (BIO 17153377 <GO>)

Okay. Let's go to the next question please.

Operator

Thank you. Our next question comes from Emmanuel Rosner with Deutsche Bank. Please go ahead.

Q - Emmanuel Rosner {BIO 16323493 <GO>}

Hi, good evening. Question on Model Y. I was hoping you can elaborate a little bit more on the drivers of how the gross margin is already positive at such low volume. How much of it is a function of the commonality with the Model 3? What other factors should we think about and what does that mean for the ampler for the eventual gross margin on Model Y?

A - Elon Musk {BIO 1954518 <GO>}

Zach?

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

Sure. A couple of thoughts there for Y. The first is, it does carry a higher ASP. So on the revenue side. It carries a higher ASP than Model 3. And the deliveries that we started with were of the higher ASP versions of the cars. So we started with deliveries of performance initially. And so that helps create some of the margin, and that will come down with time more variants are released and we have more of a steady-state mix. But it's similar to the ASP trends that we had with Model 3 when we launched that product in Fremont two years ago.

On the cost side, and I think you hit on a couple of the buckets, the commonality is huge. That's very important. And in addition to that, manufacturing processes are very similar to Model 3 as well. And so we have experience with that both with Model 3 in Fremont, and then as well in Shanghai. And it helps to have an existing factory with existing workforce and knowledge here as well, so the ecosystem to support and launch the product is there. There remain a lot of opportunities to take - continue to take cost out of the car and the number of vehicles that we've built in the first quarter is quite limited relative to our goal.

A - Elon Musk {BIO 1954518 <GO>}

Yeah, agreed. We take us out of the car and have to make the product better, so it's a test -- it's not make the product worse. It's -- and if we can take costs out of a car and make it worse. We want to take -- costs out of the car, figure out how we can make it lighter and simpler and so it's -- we want the car to just incrementally improve as well as incrementally lowering cost. But for a 5-seater Model Y, we expect marginal cost that car to be comparable to the Model 3 once we have reached say 10,000 or 20,000 units or something like that and (Technical Difficulty).

A - Martin Viecha {BIO 17153377 <GO>}

Hello?

Operator

Ladies and gentlemen, please stand by, your conference will resume momentarily. Thank you. Speakers, you're back online.

A - Martin Viecha (BIO 17153377 <GO>)

Hi, sorry, we got disconnected for some reason, what was the question again? Okay. Let's go to the next question please.

Operator

The next question comes from Ben Kallo with Baird. Please go ahead.

Q - Ben Kallo {BIO 16897436 <GO>}

Hey, thank you very much. Just wondering about the cell strategy. In Reno, you have obviously integrated there but you're buying cells I think in Shanghai and then what we think in Germany. And so how are you looking at that going forward? And then, could you just talk about Mr. Mizuno and that Board addition and kind of the process with adding him to the Board? Thank you

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

Sure. From a sales perspective, with all the partners we've had historically in the future, we're just looking for competitive technology and competitive pricing. I think we'll talk a little bit more about this at Battery Investor Day like how we're approaching all of it. But yeah, I mean, we don't have like one model we're restricting ourselves to pursue. We're just trying to find what's best for the products and -- in the long run.

And then the other question about the Board?

A - Martin Viecha {BIO 17153377 <GO>}

Sorry, we couldn't hear the second part of the question.

Q - Ben Kallo {BIO 16897436 <GO>}

Yeah, I was asking about Mr. Mizuno entering the Board and kind of the process behind that and what he brings to the Board.

A - Elon Musk {BIO 1954518 <GO>}

Okay. I think -- well we all need a Hiro. And obviously he brings a tremendous amount of experience investing at the highest levels in the world, and has done great work as -- at the Japan pension fund and which is the largest fund of any kind in the world. And in a generally the conversations over the years, just churning incredible insight into how the securities, the global security markets work and what he thinks is where there are areas for reform, just it seems like he has a strong, philosophical understanding about how to make the future better. And he shares our view regarding the environment and just a very sensible smart person who brings a lot to the Board and I think is generally recognized as such by many people.

Q - Ben Kallo (BIO 16897436 <GO>)

I guess linking into the Panasonic relationship, but maybe just how is that relationship going. And is there any read through on bringing him on to the Board. Thank you.

A - Elon Musk {BIO 1954518 <GO>}

No, I think this has got nothing to do with the Panasonic relationship. I mean, I have a great relationship with the Panasonic CEO. We meet regularly one-on-one and talk at all the time and so that relationship is strong and just -- he would bring more of a broader and a global strategic view to the Board.

A - Martin Viecha (BIO 17153377 <GO>)

Thank you. Let's go to the next question please.

Operator

Our next question will come from Gene Munster with Loup Ventures. Please go ahead.

Q - Gene Munster {BIO 2013219 <GO>}

Congratulations on the progress. And Elon you talked about full autonomy by the end of the year, I would love for you to walk through the rollout strategy of the Tesla network app and how that's going to look prior to the Robo Taxi stage. Are you going to gradually take over human routes with autonomous capable routes over time or how do you see that playing out?

A - Elon Musk {BIO 1954518 <GO>}

Well, it's pretty much going to play out as it has played out, which is we'll release more and more functionality and before we release any functionality, it goes through extensive testing and first we run it -- we have a simulations team that has, I think, a very good simulation in the real world. So we run any code changes through a battery of tests and simulation, then we have a global QA team which I'm on actually,

I'm on the global QA team and we test the releases in the real world where we'll find out the differences between the real and the simulation, which is -- which are very many because the world is very complex and where -- and then we release it to a small group of private beta testers within the Company then to a larger beta audience including people outside the Company then to early access Tesla owners and then finally, a broader release.

And so there is there are many stages that these things go through. So by the time something is being -- going to wide release into the US, it's gone through to all of those stages and the software that's at the very early stage is much more advanced than what people are seeing. So it's just going to go through a very rigorous safety process. So essentially we need to figure out is that get very good at complex intersections, get very good at complex turns in intersections and things like busy malls in the parking lots or office park or special events and sporting events, that kind of thing when those eventually come back.

Those are extra hard cases, but it's all tracking very well. If you like the Autopilot's engineering team is -- we just have an extremely talented group and I am deeply involved with the team. So we talk every week and meet every week when can, as of now, a physical meeting is difficult. So I have a quite a deep understanding of where we are and where we're headed. And I feel like we have a tremendous amount of momentum and we'll have the functionality that's really cool, also driving by the end of the year. And

After that functionality is released there's still another step, which is to improve the reliability of it once it is released, to kind of core self-driving with human -- supervised by the driver. And then if we keep improving the reliability to the point where it no longer needs to be supervised by the driver and we provide a vast body of data to regulators to show them that this was the case and then presumably the regulators, depending on which jurisdiction it is would give approval for the autonomous cars that can drive with no human on board. Obviously, the regulatory approval process that's difficult for us to predict with accuracy, because it's out of our hands. But for the rest of it, I feel very good about where we are and where we're (multiple speakers).

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

So to summarize, we want -- we're going to get the owners full autonomy some level of that by the end of the year and then a human in a loop Tesla network app some time Is it first half of next year, or that would be the hope.

A - Elon Musk {BIO 1954518 <GO>}

Do you mean like when can a car drive with no person on board?

Q - Gene Munster {BIO 2013219 <GO>}

But with a person, initially a person who observes would that be with the Tesla Network app, would that be really part of the year of 2021? Is that the hope?

A - Elon Musk {BIO 1954518 <GO>}

If described as a hope, I would say that's probably a fair description.

Q - Gene Munster {BIO 2013219 <GO>}

Okay, and then kind of take it to its end stage the Robo Taxi stage, any high-level thoughts to understand the regulatory is a massive unknown? But if you're going to put a guess on it, where would we -- when would we start seeing Robo Taxis?

A - Elon Musk {BIO 1954518 <GO>}

Well I think it's quite likely in my view, again, I could be wrong on -- as you see it was because of that we are ahead in some areas and we are behind in others. Because when I give a guess, I give the guess that I think is the likely midpoint. Not the point with lots of margin, if this is normal distribution, I'd give you the 50th percentile not the three segment optimistic or pessimistic.

So then that necessarily means at least half of my predictions will be wrong and half will be right. Yeah, I think -- or it might be right but offset by a few weeks to a few months, in some cases a few years. But I believe as everything I've ever said would come through did come through, it may come through late, but it did come through. So punctuality is not my strong suit, but I always come through in the end. So I think we could see Robo Taxis in operation with the network fleet next year. Not in all markets but in some.

A - Martin Viecha (BIO 17153377 <GO>)

Thank you. And let's go to the last question, please.

Operator

Our last question will come from Pierre Ferragu with New Street. Please go ahead.

Q - Pierre Ferragu {BIO 15753665 <GO>}

Hey, thanks for taking my question. One on gross margin first, I know your impressive performance in Q1. So there are three moving parts, the tailwind from credits of course, the Model Y ramping even if it broke even it probably took average gross margin down, and of course you had like Fremont being closed shut down the last week of the quarter it probably was the sort of an extra cost. And so, when I looked at how gross margin evolved sequentially excluding these three moving parts, I felt like your auto gross margin could have been up like a couple of points sequentially. So I wanted to check with you if that estimate would make sense. And then I will have a follow-up on energy storage. Thank you.

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

Yeah, sequential market improvement -- margin improvement. So the 3 things that you mentioned, had a little bit of a hard time hearing the full question here because we are having a bit of network difficulty in the room. I'll do my best here. So when we

look at margin, we do exclude credit as you have, so I agree with that. Model Y ramping bringing down overall gross margin, I agree with that as well. So it was lower than the overall average and that will increase with time. And shutdown and efficiencies in both Shanghai and in Fremont also weighed on margin. And the Shanghai margin was below the average as well even though it's increasing quickly and approaching Model 3, it's still is below the average. And so I think the sentiment of your question was, if you were to remove those factors was there a sequential increase in gross margin. I haven't specifically calculated that but I think your intuition is right. We saw strength in gross margin across the board, as I mentioned, and in particular S and X gross margins continue to improve despite slightly lower volumes there and higher fixed cost amortization.

So there is good progress happening both on the ASP side and the cost reduction side for our products and production. And I think this also lends itself to the power of the gross profit contribution to the Company once we get through these ramp inefficiencies, we get Fremont up and running again, we increase capacity so we can spread out fixed costs and continue to execute on cost reductions on our products, we feel very optimistic about that path going forward.

Q - Pierre Ferragu {BIO 15753665 <GO>}

Thanks. And I had a quick follow-up on energy storage if you can hear me well. I think like -- I can't remember I think from the very first days I heard you on the call, you've always mentioned that demand for energy storage is always outstripping supply and you have more orders than you can make. And so I'm kind of thinking there will be -- there should be an inflection point in that business at some point and it's going to be driven by your ability to add much more manufacturing capacity like battery manufacturing capacity. And at a high level, how are you thinking about that inflection point in terms of timeline?

A - Zachary J. Kirkhorn {BIO 20940148 <GO>}

In terms of timeline, I think what we've been doing with both our Partners and internally is looking at how to reduce the fundamentally the cost of investments in new cell capacity. Because when you look at a car, a vehicle product, there's a lot of things in the vehicle besides the cells. When you look at an energy storage project -- product, it's really just the cells. And so to really grow the energy storage business, it's all about cell investments. And so that's what we've been focused on, and I think not to give too much away but that will be one of the things we address in Battery and Investor Day is how we're focused on that. And when we have that in the place we want, it will be a lot easier to scale that business.

A - Martin Viecha {BIO 17153377 <GO>}

Thank you very much for all your great questions. Unfortunately, this is all the time we have today and we'll speak to you again in three months' time. Thank you very much and have a good day.

Operator

Ladies and gentlemen, this concludes today's conference call. Thank you for your participation, you may now disconnect.

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