Thank you. So last quarter we delivered more than 95,000 vehicles, which is a record for Tesla. To put that in perspective, it's nearly an 80% increase in deliveries compared to the second quarter of last year. I mean it's sometimes hard for people to appreciate when you have a large manufactured item with a complex double supply chain, just how difficult that is. I'm incredibly proud of the Tesla team for being able to do that.

I think this level of growth is possibly unprecedented, might be the fastest that any large complex manufactured item has grown in history. So just, I think, really great work by the Tesla team to achieve that outcome, and we expect growth to continue in the future at -- for several years to come at 50% to 100% level.

So – it's like generally that's not well appreciated how the quarters [ph] to grow at that rate. So -- achieving record number of deliveries is an important milestone and it shows the rapid progress we've made in managing our global logistics and delivery operations at high volume. And as I said, all this was achieved, thanks to the tremendous hard work of the entire Tesla team.

Model 3 was once again the best-selling premium vehicle in the U.S., outselling all of its gas-powered equivalents combined. In Europe, Model 3 is approaching sales levels of its established premium competitors, and it was awarded a five-star rating from Euro NCAP earlier this month. This is in addition to Model 3 receiving an overall five-star rating in the U.S. from NHTSA and including earning five stars in every category and subcategory and achieving the lowest probability of injury of any vehicle ever tested.

Motor Trend also recently selected Model S as the best vehicle they have ever tested in their 70-year history across all other cars. So, Motor Trend, which is arguably the leading authority in evaluating vehicles, the Motor Trend Car of the Year is the most coveted award. It's pretty incredible that they would say that Model S in their entire 70-year history is the best vehicle they have ever evaluated. This is despite Tesla not buying any advertising in Motor Trend, and I think it speaks to their journalistic integrity. That's something special. So -- and since the vehicle that they evaluated, we've actually made -- commenced advancements of both Model S and Model X including our recent update of a new suspension with active damping capability, and an all-new drivetrain that's capable of 370-mile range in the Model S and 325-mile range in the Model X.

We've also issued numerous software updates and improvements that have made Model S and Model X faster, safer, and added dozens of new features. Just like Model 3, Model S and X have the hardware needed for future full self-driving capability.

As we look ahead to the rest of the year and into 2020, we remain focused on launching new vehicle and energy programs further expanding our manufacturing operations and continuing to improve customer service.

We remain focused on international expansion because local production is essential to being cost competitive. By the end of this year, we will -- we expect to be producing Model 3s in volume out of Gigafactory Shanghai. And as you can see it from the photos in our quarterly letter, the equipment installation there is progressing well. We also have to finalize a location for our European Gigafactory before the end of the year.

Here at Fremont, preparations for Model Y production has already begun. Since Model Y has high component overlap with Model 3, it should be -- we expect it to be a lot easier to ramp. It's something on the order of three quarters of all the parts are common between Model 3 and Model Y. And we expect the manufacturing costs for Model Y despite additional content to be approximately the same as Model 3.

This quarter, we opened 25 new service locations and added more than 100 mobile service vehicles to our fleet. And although our fleets have a total -- Tesla fleet size has doubled in the past 12 months, which is like again, just kind of a crazy thing to consider that Tesla is almost doubling all cumulative production every year. This is a totally mad thing to make as many cars in the year as we've made in our entire history, and to have that be an ongoing trend, I think it's difficult for people to really feel an exponential. So, we didn’t evolve to feel an exponential, we can feel linear, but we could only understand an exponential at a cognitive level. But Tesla is expanding at an exponential rate.

And in fact, if you look at the Tesla cumulative deliveries chart like year-over-year cumulative deliveries, it's about the cleanest exponential graph I have ever seen. So, obviously, if that trend continues, results I think are going to be pretty amazing and I think that will continue.

So, we've been able to improve service considerably and you can imagine that if -- obviously, if we're doubling our fleet every year, managing service is quite difficult. It's like a total -- because service scales as -- not just with new production but as the total fleet scales, service needs to scale. And we're going to scale service in a way that's sensible from a cost standpoint, a bit better that kind of it is really quite a difficult challenge to scale.

Nonetheless, we've made massive improvements in service, especially in parts waiting -- time to wait for parts and in collision repair, and we've in-sourced a great deal of the collision repair activities which has had, I think,

quite a good effect on customer happiness. And this will continue in the months to come.

So, it’s a very important milestone, and I think we believe Tesla has – is now at the point of being self-funding, and we expect to be cash flow -- free cash flow positive in future quarters with the possible temporary exceptions around the launch and ramp of new product. From a profitability standpoint, we expect to be probably around breakeven this quarter and profitable next quarter, so that's -- I feel pretty confident about that.

And then in terms of deliveries, we expect deliveries to be between 360,000 and 400,000. We expect production to be a slightly higher number than that, and demand to be a slightly higher number than that. So, people often confuse deliveries, production, and orders for Tesla, and they're actually three different numbers.

So yes, you obviously cannot deliver more than you make, and so typically we will make more than we deliver. And then the demand generation activities kind of move in kind of like -- to get together with production like it doesn't make sense to put a lot of effort into demand generation if production can't meet the demand and likewise.

So, what just happened is, we'll solve the production issues, and then the say okay, we need to increase demand, address demand, and then it may increase production, then increase demand. I -- and it’s like a few get caught up in the details a lot, but if you look at the actual results, like I said look at cumulative deliveries over time for Tesla, cleanest exponential you've ever seen, extrapolate that curve [ph]. So, there's a trend [ph] lot to be excited about at Tesla, and we'll have more to share in the coming weeks and months.

Zach is there anything you'd like to say about our results?

Zachary Kirkhorn

Yes sure. Thanks Elon. A few things I want to highlight before moving into the Q&A. Overall, Q2 was a strong quarter for Tesla. I'm extremely proud of the team for the progress we've made. We've achieved record vehicle production and delivery, record storage production and deployment, record services and other revenue with a corresponding reduced loss.

As we've mentioned a few times, we stabilized international logistics and delivery operations at higher volumes, and we saw gross margin improvement in nearly every aspect of the business adjusting for the impact of regulatory credit revenue.

As a result of these accomplishments, we once again achieved strong free cash flows which is only partially attributed to working capital benefits. We also successfully raised roughly $2.4 billion in net proceeds in May. Thus, we exited the quarter with $5 billion in cash and cash equivalents, the highest in our history.

Our net loss reduced significantly relative to Q1 aided by higher volumes and progress on cost efficiencies. A few things to note. There's $117 million within operating expenses for restructuring. We had a sequential reduction of $104 million related to regulatory credit, which is inherently lumpy. And in our other income line, we saw a $66 million reduction. This is nearly entirely due to foreign exchange, which we don't hedge.

GAAP automotive gross margin only reduced slightly, despite the reduction in credit revenue and expected reductions in our vehicle average selling prices. Adjusting for the impact of credits, automotive gross margin improved materially. For Model S and Model X, ASPs were impacted by pricing actions applied to inventory of vehicles built prior to the launch of our powertrain and suspension upgrades in April, the majority of which were sold and delivered in Q2.

For Model 3, global ASPs stabilized during the quarter at roughly $50,000, a sequential reduction, yet gross profit per Model 3 improved representing the continued success of our cost management efforts.

Note that we continue to defer a significant portion of revenue associated with full self-driving, which will be recognized in future periods upon the release of additional features.

Operating expenses, net of restructuring continues to improve as well despite the increases in volume, reflecting the immense focus on improving our operating efficiency. And while operating expenses and capital expenses may appear to be unnaturally low this quarter, that's not the case. Rather these reflect continued progress on cost efficiency and ability to scale our core technologies and processes.

If we take a step back here, I think it's important to remember that Tesla is on a long-term journey and it's difficult to see the full picture looking quarter-to-quarter. We committed that Model 3 would be a transformative product both for the industry and our business.

Three years ago, we unveiled the Model 3. Two years ago, we brought the product to market. One year ago, we demonstrated our ability to build the Model 3 at high rate. So far this year, we've demonstrated our ability to manage global deliveries and logistics at a higher rate, but the most important thing is that we've demonstrated our ability to generate significant

organic demand as nearly all orders generated in Q2 were non-reservation holders.

And thus far in Q3, our order pacing is ahead of where we were at this point in Q2. And as we noted in our Q2 production and delivery release, our order backlog increased over the course of Q2.

Ultimately, the Model 3 is accomplishing what our business needs it to do. It expanded our sales and customer base, enabling us to generate cash we need to reinvest. In the process, we've appropriately managed our operating expenses and have reduced the cost of running the business. This is critically important because I feel as though we've broken through a baseline fixed cost barrier, enabled by the success of the Model 3 business.

With continued focus on execution and cost management, the next 12 to 18 months should be the most exciting yet. During this time, we believe that Gigafactory, Shanghai will be producing at scale. Model Y will be in production, addressing the most popular vehicle segment.

Our European Gigafactory will be well underway. Our autonomous driving feature suite will continue to develop; energy products business will grow and maybe a few other things along the way.

And while there's inherent risk in any large and ambitious set of projects, our intent is to grow and invest as fast as we can afford to. With the cash we have on hand and the stabilization of Model 3 across the key areas as I've noted, we believe we're in great shape for this next phase of growth.

Martin Viecha

Thank you very much. Now let's start taking some first questions. Sorry about that. Sorry. Go ahead.

Elon Musk

Yes. Okay. So, an important update is that JB Straubel, our Co-founder and Chief Technology Officer will be transitioning to a Senior Advisor from the CTO role; and Drew Baglino will be taking over most of JB's responsibilities. I'd like to thank JB for his fundamental role in creating and building Tesla. Thank you, JB.

JB Straubel

Thanks, Elon.

Elon Musk

If we hadn't had lunch in 2003, Tesla wouldn't exist basically.

JB Straubel

It's been – yeah, it's been quite an adventure, 16 years.

Elon Musk

Yeah. But lunch with you and Harold Rosen [indiscernible]. That's the reason Tesla exists.

JB Straubel

I remember it well. And maybe just to add a bit more to that, I'm not disappearing, and I just want to make sure that people understand that this is not some lack of confidence in the company or the team or anything like that. I love the team. I love the company and I always will. So, Drew and I have worked closely together for many, many years, and I have total confidence in Drew, and I'm not going anywhere if there's anything I need to do to be helpful to Drew or the whole team or any of the ongoing projects. Yeah, I mean, I'm actually really happy with how we've kind of phased and transitioned some of these different projects and people in, and I feel like this is a super good process overall. Drew, you want to say anything.

Drew Baglino

Obviously, big shoes to fill JB, but we have been working closely. In fact, we've already been talking about this project back in 2003 all along and –

Elon Musk

You guys talked back in 2003 as well?

Drew Baglino

Yes.

Elon Musk

Well, 2003 was a good year.

Drew Baglino

I was graduating and I didn't know what to do.

Elon Musk

Okay.

Drew Baglino

I was like, let's do this project. But I – I feel exactly as you feel that we are well set up that we know how to get help where we need to from you, and that we're very excited about the growth ahead of us, about myself and the whole team.

Elon Musk

Yeah.

JB Straubel

And I'm excited to stay involved in some of our core technologies, and all that help where I can. Just in less of an operational, obviously less – not an executive type role.

Elon Musk

Sounds good. Well, JB, thanks again for your integral role in creating this company and Drew as well. So that's cool you guys were talking about it in 2003, it sounds like the right year.

JB Straubel

Good year.

Elon Musk

Good year.

Drew Baglino

It was – the technology was ready.

Elon Musk

Yeah. Looks like finally ready, it’s ready to be put in a car, AC propulsion, [indiscernible], you’re going to give those a little credit. Yeah.

JB Straubel

Yeah. They did some pioneering work.

Elon Musk

Yeah. So, can we have some questions now?

Question-and-Answer Session

A - Martin Viecha

Thank you very much. So, we have some first questions from our retail shareholders from say.com. And the first question is, it has been stated that Tesla is supply constrained, not demand constrained. Can you help us shed some light on why Tesla is lowering car cost if supply is constrained?

Elon Musk

Sure. There's a number of things to consider here. The -- there's really two key dimensions for demand. There's value for money and then there's affordability. Obviously, if somebody simply does not have enough money to buy the car, it doesn't matter how much the value -- how good the value for money is. You can have infinite value for money if somebody does not have the funds to buy the car, they simply can't get it.

So, this is just very important to parse those two. And I think there's like – there's tremendous amount of desire to buy our cars, but people obviously they don't have enough money to buy them, they cannot. So, we have to make the cars more affordable. Actually, like in the U.S., our cars got almost $2,000 more expensive with the expiry of the tax credit on July 1 or partial expiry.

And we only dropped the price of the Standard Range Plus Model 3 by $1,000 or actually -- yes, by $1,000. So, the base Model 3 actually got a $1,000 more expensive, which seemed like a reasonable compromise. So that's actually -- we feel sometimes just having this sort of pretty absurd notions like, if it's tremendous high, you can just charge any price, like, you cannot charge any price. I think making our cars more affordable is also a fundamentally part of the transformation. So, yes, is there anything you want to add?

Zachary Kirkhorn

Yes. I'll just add to that. I agree completely. What I'll add is that, generally speaking, within the Model 3 lineup, the pricing adjustments for our higher trim [ph] cars were slightly more than that for the Standard Plus. So, the – so we'll see how the data plays out on this as we take in more orders, but the expectation is that our mix will move towards higher trim to some extent offsetting some of the ASP adjustments from the pricing changes.

And one other thing I'll add is that, we are focusing on a couple of markets as well to target and identify some of our sales, and so some of our pricing adjustments reflect those elements of that strategy.

Elon Musk

Yes. Essentially, like, we expect average selling prices to be the same within a few percentage points.

Zachary Kirkhorn

That's correct.

Elon Musk

Yes.

Zachary Kirkhorn

Generally, on ASP, as we noted in the letter, it was roughly -- even over the course of the quarter, stabilized around $50,000, and we have good visibility into where ASPs are going based on order data. So that gives us one to two months of lead as to where our actual recognized ASPs will be.

And so, I would expect some adjustment to our Model 3 ASPs as a result of this pricing change, but the trim mix will offset some of that. And we continue to make great progress on cost efficiencies. And so, overall in that our expectation is that the Model 3 gross margin will continue to grow.

Elon Musk

Yes. On the gross margin point, like the full self-driving is just – is an extremely important part of the margin calculation, and the features for full self-driving are – only a portion of them have rolled out. So, the revenue recognition on the full self-driving option is limited at first until those features roll out and also the demand for full self-driving package is limited because the features are mostly prospective instead of current.

But as those features roll out, I would expect the take rate for full self-driving to increase significantly as well as the recognition -- revenue recognition for full self-driving to obviously match the roll out of the product. So, the gross margin over time will be really quite compelling when factoring in the full self-driving option which is yes, accounted to $7,000 in mid-August, and that number will increase over time.

Martin Viecha

Thank you very much. The second question is many of us who follow Tesla closely are incredibly excited about Battery and Powertrain Investor Day and its technology implications. Can you provide us any more detail on when this will be and what will be covered?

Elon Musk

Yes, I think for Battery Day, we're going to do a comprehensive review of cell chemistry, module and pack, architecture, and a manufacturing plan that has a clear roadmap to a terawatt-hour per year. The time for this probably is about six months like maybe February or March next year, show and tell [ph].

Martin Viecha

Great. Thank you very much. The next question is you stated on the Q4 2018 earnings call that customer service was a personal priority for 2019. Can you update us on what has been done to-date to ensure that all owners are receiving an industry-leading customer experience?

Elon Musk

Sure. I meet with the service team multiple times a week and get daily updates on the reliability of the vehicle. We -- the best service of course is no service. That's like the vehicle just reliability and quality being so good that service is rarely required. That's what the main goal is like, eliminate the need for services.

Then in terms of increasing service resources, initially we're opening service centers as fast as we can and have already opened to 25 new service locations this quarter and that will increase -- the rate of service center opening will increase dramatically through the course of this year as well as more Mobile Service.

Mobile Service is really great, because it's like we just come to you and fix the car wherever you are, and that's hard to beat that for convenience. For cost delivery, we've made vast improvements to logistics for getting parts to service centers. Hey, Jerome do you want -- Jerome -- how we manage the service -- global service and--

Jerome Guillen

Yes, as you pointed out, the best service is no service. So, we're trying to continue improving the quality of the cars and track this daily and fewer and fewer service visits are required from the most recent cars that we're building. So, we're on a good trend there. We also need a lot fewer work to finish the cars in the factory. Besides that, we still we are making more parts to all the service centers and we ship everything same day pretty much so that people don't have to wait for cars -- for parts, and we accelerate service and increase capacity. There's a lot of improvements that we've already implemented and many more on the way. So, I am relatively optimistic and I'm happy to help with the service team.

Elon Musk

Yes. We had the regional service heads of U.S. at the factory last week, and it was incredibly helpful, just a closed loop on with service and production and with the software team. And for example, like a lot of services visits are just questions about how to use the car and...

Jerome Guillen

And it's the number one visit is, how to use Autopilot test. So, yes, a bit of education there helps.

Elon Musk

Like how do I turn it on.

Jerome Guillen

Yes.

Elon Musk

Like, it's good. It's like how do I turn it on? Okay. So just providing better feedback on user interface and usually how do you turn it on. And yes, a whole bunch of things that are quite elementary to reduce service load.

Martin Viecha

Okay. The next question is; in April, Gigafactory one had efficiency of about 23 out of the 35-gigawatt hours theoretical capacity. Has this been improved yet? And is Tesla still cell constrained? Are there any near-term plans to increase the plant’s theoretical capacity?

Elon Musk

Drew?

Drew Baglino

We have seen improvements in the 23-gigawatt hour number. We're in the high 20s now with the trajectory continuing upward. We're not...

Elon Musk

So about 28-ish?

Drew Baglino

Yes 28-ish. I would say, we're not so constrained for any of our activities at the moment.

Elon Musk

Cell volume is approximately matching the production ramp rate.

Drew Baglino

Yes.

Martin Viecha

Great. Thank you very much. And the last question is what is the new laser facility?

Elon Musk

Nothing major. It's just a distribution warehouse.

Jerome Guillen

Yes, we're optimizing the real estate trying to conciliate everything under one roof, reduce the cost, there’s nothing special there.

Martin Viecha

Okay. Thank you very much. Latif, we can start the Q&A question queue on the call.

Operator

Yes sir. Our first question comes from the line of Dan Galves of Wolfe Research. Your line is open.

Dan Galves

Hey, thanks very much for taking the questions, and congrats on the $5 billion cash number, I'm halfway expecting to some headlines tomorrow of seeing Tesla's got too much cash on the balance sheet.

I was wondering if you could update us on Gigafactory China. We don't have a great sense of what delivery volumes in China are for Model 3 at the moment. Some sources are around maybe 3,000 or 4,000 per month. What have you seen in terms of order flow and demand since you announced pricing at a local product that gives you confidence that you can get to 3,000 per week type of demand in that market?

Elon Musk

Yes, we don't talk too much about like detailed price plans, but are you asking like what do I think the long-term demand for Model 3 is in Greater China region? I think it's about, from Shanghai Gigafactory, I think it's actually -- long-term demand is about 5,000 a week.

Dan Galves

Okay. And -- sounds good. And have you considered potentially sourcing cars to Europe from that China plant at all?

Elon Musk

No. Our plan is to source cars to Greater Europe area from Fremont, California until we have European Gigafactory operational. And that's -- but that's probably a couple of years before, it's probably 2021 before we have an operational Gigafactory in Europe. And so, until that time, we will source from California. Yeah, it's like, this is a speculation and it's my opinion, but so what I think say long-term demand is for Model 3, it's probably 15,000 units a week globally something like that.

Dan Galves

Okay. Thanks for taking my questions.

Martin Viecha

Thank you. We'll go to the next question please.

Operator

Our next question comes from the line of Toni Sacconaghi of Bernstein. Your line is open.

Toni Sacconaghi

Yes, thank you. I was wondering if you can comment about whether you felt that Q2 benefited from consumers in the U.S. sort of rushing out to buy Model 3 in advance of the declining federal tax credit, a phenomenon that you sort of saw in Q4. And part of the reason I ask is, at least by my analysis it looks like maybe 70% of the Model 3 sold in the quarter were in the U.S., which is sort of higher than your normalized percentage of U. S. sales. And so, do you feel that that phenomena may have occurred in Q2? And are you still confident that Q3 deliveries can improve sequentially? And beyond the data point that you provided on the call that the orders quarter

data are better than last quarter, is there anything else you can point to that provides that confidence?

Elon Musk

Yeah, I think we'll -- demand in Q3 will exceed Q2. It has thus far, and I think we'll see some acceleration of that. So -- and then, I think Q4 will be, I think very strong. So, we expect that quarter-over-quarter improvements. I think Q1 next year will be tough. I think Q3 or Q4 will be good, Q1 will be tough. Q2 will be not as bad, but still tough. And then I see like Q3 and Q4 next year will be incredible.

Zachary Kirkhorn

Yeah, just to add on the tax credit step down, so the step down from Q2 to Q3 was significantly lower than the step down from Q4 to Q1. It's also important to keep in mind that there's seasonality in the auto business in Q1, which also is part of the impact. But generally speaking, our order rates so far this quarter is higher than where we were at this point in Q2, and we haven't seen a significant impact on U.S. based orders as a result of the step down.

Toni Sacconaghi

Okay. Thank you for that. If I could just follow-up. Elon, I'm wondering, if you can comment on whether you believe Model 3 is having any cannibalization impact on S and X sales or why you think that – or why else there might be sort of a structural step down in the demand and delivery levels relative to what we've seen over the last five or six years?

Elon Musk

Actually, we're just talking about this earlier today. We're not quite sure ourselves. I think there's some cannibalization, maybe false expectation in the market that there's like some big overhaul coming for S and X, which would then cause people to hesitate to buy, if they think there's some like radical redesign coming, which is why I've stated publicly that this is not the case.

The Model S and X today are radically better than the ones that – when we first started production, especially S. Like say like 2013 or 2012 Model S compared to today's Model S night and day. In fact, I still run into people I know, who have like 2013 Model S, and they think it hasn't changed. And like it is dramatically better in every way. But we don't do model years. We just roll in improvements as they come. So – but I think there is maybe a

communications issue, where people don't realize just how much better the S and X are today than when we first started.

And I think we actually want to address that communications issue and just get a better understanding of– from the front lines like what demand should be higher for S and X than it is and will get to the bottom of it and fix it.

Martin Viecha

Okay. Thank you very much. Let’s go to the next question.

Operator

Next question comes from Emmanuel Rosner of Deutsche Bank. Your line is open.

Unidentified Analyst

Hey, it's Edison on for Emmanuel. Just first question on the guidance, I know previously there was a target out there of 25% kind of on S and X and Model 3. Just wondering is the updated one is that suggesting that that's no longer in play for the year or kind of what are the implications with today's update?

Elon Musk

Well, if you factor in the full self-driving option. I think it is in play for the year. We seem to get the features done, make sure they are great, roll them out, and recognize revenue and increase the take rate on full self-driving. There's also – for the existing fleet, there's a very significant opportunity to upgrade the existing fleet to full self-driving. Since mostly he has not purchased this option yet. So there's a significant margin potential for the existing fleet to upgrade to full self-driving, which most of the fleet can. So, yes, absolutely, I think, like long term we are talking 25%, 30%. Not long term meaning like a year. Long term, like, in terms of vernacular that 30% gross margin is I think quite likely.

Zachary Kirkhorn

Yes. We continue to take significant costs out of the Model 3 in particular as well and Jerome can comment further on this. But every week -- nearly every week we had record lows on our labor content to build the vehicle. And we saw an ASP adjustment, net reduction in Model 3 from Q1 to Q2, yet the gross profit on the vehicle expanded, attributed to the cost reduction efforts that are underway.

Jerome Guillen

Labor cost saw more than 50% reduction in one year. Yes, it's progressing every quarter.

Elon Musk

Yes. I just want, like, to see what the labor hours were quarter-over-quarter.

Jerome Guillen

Yes. Reduced in half, yes, since the Q3 last year, but it's also all the -- for the fact that's associated with spares, the scrap is reduced to pretty much nothing, reduced 90% year-over-year. Spares are just more than half. So we're -- our goal is to make the car more affordable and sort of pushing everyday, yes. And every week we'll beat records on most lines.

Elon Musk

Yes.

Jerome Guillen

And in terms of output and cost per unit, yes. We're in very good dynamic and level of fiscal discipline that I have not -- we have not had in the past.

Elon Musk

Agreed, yes. So, like, for a core financial health standpoint, I think, I'd just like to echo Jerome's words, like, I think Tesla's fiscal discipline is dramatically better than times in the past.

Operator

Thank you. Our next question comes from the line of Joseph Osha of JMP Securities. Your line is open.

Joseph Osha

Hello, hello. Listen -- listening to you talk about mix here and the fact that you're running a single shift of your S and X facilities in Fremont, I'm wondering is there maybe some potential to reconfigure the floor space there a bit? And is that something that you're thinking about?

Elon Musk

Well, we are reconfiguring the floor space at Fremont and there's quite a lot of factory space that's probably taken up with the S, X parts warehousing, parts for the S, X line. And we don't really need that, so that's where we're putting a lot of the Model Y activity. Jerome, do you want to…

Jerome Guillen

Yes. We are improving the material delivery for S and X just like we have done for Model 3 of some ready components. We reduced production part warehousing costs by again 90%, 9-0, since Q3 last year and so we're making a lot of room. We have - we're much more efficient with parts delivery.

It helps that increasing production actually. So that's space that we cleared out, I'm looking at it right now in Fremont, which is going to put Model Y stuff in there. So every -- if you visit the factory from, I would say, every six months you'd have a hard time recognizing and finding their way. Yeah. It's constantly changing and evolving.

Joseph Osha

And as a follow -- I'm sorry, go ahead.

Elon Musk

Yes. Yes, just like efficiently factory, both Fremont and Giga is like just the rate of improvement which is not slowing down has been incredible. It's like you're just like you can feel it and see it.

Joseph Osha

And just as a follow-on then, could we see you manage to make 8,000, 7,500, 8,000 Model 3s in Fremont by the end of the year you think?

Elon Musk

Yes.

Joseph Osha

Okay. Thank you very much.

Elon Musk

I mean I feel confident it's -- let's just say that the trend is very clearly towards being able to get to 10,000 vehicles a week of which that would be -- there is rough numbers like 8,300 to 8,600 Model 3s and the balance in S and X. So, there's sort of 1,600 to 1,800 SX. In round numbers 8,500 3s, 1,500 SX per week, but probably a bit more than that.

Operator

Thank you. Our next question comes from the line of Dan Levy from Credit Suisse. Your line is open.

Dan Levy

Hi, great. Thanks for taking the question. I wanted to ask about your Reg credits in particular the non-ZEV piece. You're not disclosing the ZEV piece anymore, but just a couple of questions on this. First how can we think -- is there any quarterly cadence to think about this?

And then what's the composition of this? Is this going purely to European OEMs? There's obviously one automaker that you've agreed with. I don't know if there are any others that you're looking at.

And lastly to what extent can you -- or are you willing to sacrifice pricing in Europe to sell higher volumes to generate more Reg credits? And are you having discussions with other automakers on this one?

Zachary Kirkhorn

Yes, on your question about the cadence of regulatory credits, it's -- it is -- generally as I've commented in the past, we expect regulatory credits to become a more meaningful part of our business.

On a quarter-to-quarter basis, it's very difficult to forecast to them. As you saw from Q1 to Q2, that declined. And as you model regulatory credits in Q3, I would not expect a significant increase in regulatory credits, although it's hard to forecast exactly.

The regulatory credits composition is a mixture of these particular deals that are one-time. There's also some that are production-based over time. Production-based ones are easier to forecast because it's based on cars that we build and we get an outset to that way. The deal-specific ones are lumpier which makes it more difficult.

And then your final question was on does it make sense to sacrifice pricing to drive regulatory credit in certain markets. It might. I'm not sure if we've specifically gone into the details of that, but generally, we're selling cars in markets at the prices we think are appropriate and the regulatory credits into something traditional. We generally try not to run the business based on regulatory credit revenue.

Elon Musk

The regulatory credits is like I mean it's a relatively small part of the equation for Tesla. So, -- I think the ZEV credit situation, I think, really

needs reformed because the market for ZEV credits is negligible. Now some of what's happening here is, other manufacturers are kind of like waiting to see how their EV sales due before buying any credits from Tesla. And so it kind of depends on how that goes, if they sell more EVs then there's not really any to do deal with Tesla and if they sell fewer [than theirs].

Martin Viecha

Great. Next question, please.

Operator

Thank you. The next question comes from the line of Colin Rusch of Oppenheimer. Your line is open.

Colin Rusch

Can you walk us through the plan for battery sourcing in China? How many -- how much of the supply is going to come from internally produced batteries? How much is coming from externally? And what's your expectation around cost per watt hours as you start to ramp?

Elon Musk

I don't know if we want to talk about the details of battery supply. We've got a good handle on. We don't expect to be self constrained in China for the next year, I don't know. Drew what do you think?

Drew Baglino

Yes, that's what our plan looks like right now. In terms of internal versus external, I think we should wait until we have our discussion early next year. But yes, we have agreements in place with -- we're good for next year as you say Elon.

Elon Musk

I think you probably need to study or reset like Master Plan for our Powerplant 3, but it's really like yes to some degree, but Battery Day will be kind of national --, which is like okay, how do we get from kind of – any-tens of gigawatt hours per year to multiple terawatt hours per year.

What's -- that's a pretty dry scale increase in -- so yes. Sort of roughly 100, like a 28 gigawatt hours right now well actually there is one where you count the factories in Japan so, a little over 30% to 35% or something like that. And how do we get like 2 terawatt hours a year? What would you like? So to order bank to increase.

Zachary Kirkhorn

That's the way you have to think about it because that's what you need to do.

Elon Musk

Exactly. In order to make fundamental shift in the world's energy usage and really transform things to sustainable energy future, if you're not in the terawatt hour range it's like, it's a nice new story but it is not fundamentally changing the energy equation.

Colin Rusch

Okay. And can I have a follow-up question around Model S and Model X saturation? Obviously you guys have some ideas around how big that market is? How should we be thinking about sustainable volumes and pricing on those volumes?

Obviously we're seeing some lower numbers here and I think that's a core element of what's going on with the story that as we see pricing drop and volumes drop what are the right numbers to think about you guys from a planning standpoint in terms of sellthrough on both the Model S and Model X?

Elon Musk

Yes. I think it's probably too much focused on S and X . The S and X -- they are nice, but they're not -- and it's like without them we couldn't spell sexy. So the main reason, well not the main reason, but a reason is we want to keep spelling sexy. So, that is a reason, I should say not the main reason, but a reason to keep going with the S and X.

But the story for Tesla in future is fundamentally Model 3 and Model Y and I think like my guess is like long-term sales of – long term meaning, a couple of years I think. The demand for -- sales demand for 3 is like on the order of three quarters of a million units a year, and it's probably 1.25 million per year for Model Year, so they combined is like maybe two million from those two vehicles, and then S/X is like there may be 80,000 to 100,000 a year. So it's like 4% or 5% of the volume in 3 and Y. And then you could throw like a truck in there, pickup truck and a semi, but it just gets smaller and smaller. So they are great products, but they’re -- from a volume standpoint, they're not all that important in the long-term.

Martin Viecha

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

Operator

The next question comes from Pierre Ferragu of New Street Research. Your line is open.

Pierre Ferragu

Hey, thank you for taking my question. I'd like to ask you Elon about distributions. So you made like -- you guys made a big change at the beginning of the year going from like an almost 100% on line distribution model, you tried to push back on test drive and get people to buy the car, try it and return it if they don't like it. So could you give us an update on how it is progressing? Do you see this start becoming mostly like an online distribution on -- following an online distribution model? And I saw you opened 25 new retail locations in the quarter, so how do you see your retail footprints evolving over time?

Elon Musk

Actually we've opened 25 service locations. I think really what we find is that the word-of-mouth for Tesla is incredibly good. So once there's a new piece of customers in a particular area, they love the cars and they talk to all their friends about it and that's really what drives sale.

So if you think of like retail locations like a viral seed in an area. It would grow organically by itself, but the retail location actually is like a viral seed. It's not, they aren't needed, they are just -- they are like an accelerant.

What is needed for sales in any given area and I'd say this worldwide, frequently told

like this country is different or that country is different. Like people around the world pretty much want the same thing in my experience. They have to have a service location that's convenient, so it can't be like you've got to drive eight to five hours to a service location. So, you got to have service, you to have supercharging and charging all sorted out, you could have good consumer financing and then the price must make sense. And any place where those four things are true, our sales are great. So, we're rolling out service centers like crazy. Service centers are the key to sales, not the retail locations.

Zachary Kirkhorn

Yeah. And we're going city-by-city on the service center point. We're looking at where our populations are of existing customers. We're mapping driving times from those customers to the service centers inclusive of traffic to improve densification of our service centers in locations in which our customers currently reside. We do have areas that are underrepresented for service centers, where the drive time is too long, where there are population that don't have appropriate access to charging or service centers and we are working as fast as we can to get places up and running in those areas. So it's very systematically being mapped out with a focus on service and supercharging as opposed to our retail presence.

Elon Musk

Yeah. Supercharging is incredibly important to us. You can't just have like 80% of the routes somebody who wants to take, you need 100% routes, a car is like it's really a freedom to travel, anything that inhibits freedom of travel, it –impairs the fundamental value of the product.

Zachary Kirkhorn

All perceived.

Elon Musk

Yeah, exactly, real all perceived freedom of travel.

Martin Viecha

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

Operator

Our next question comes from Joseph Spak of RBC Capital Markets. Your question please.

Joseph Spak

Thanks. So, Elon you mentioned the importance of full self-driving for gross margin. You've also mentioned the importance of China. Do you expect to be able to offer the full self-driving suite that you plan to offer in the U.S. and China? And I guess, even in Europe, where they've also been a little bit tougher on regulating?

Elon Musk

Yeah, we expect to be able to offer full self-driving actually everywhere except EU, because there's just some committee rules that were put in place

years ago that needs to be changed. It's not from a technical standpoint, it's very doable but we just need to work through the regulatory committees to get the regulatory approvals and rules changed. It's just – it all just take a bit longer than other places.

But I think, we'll see a lot of pressure from our customers in Europe to have these rules changed, so they can have access to full self-driving. And I think at the end of the day, the regulators will answer to the public. So I think that's just a temporary thing and it's as quite specific to the – to EU rules. And we're just not present really when those rules were drafted. So that's why – got to put in place. But they're making a ton of sense, but we just got to work through the process to change them.

Joseph Spak

Okay. And then the second question is you know, you mentioned service a number of times. There's always been some I think growing frustration with owners. And you mentioned parts availability and you've issued the dealership model, but I guess how do you plan on increasing parts availability without the corresponding working capital commitment that would be required as the fleet continues to grow?

Elon Musk

It's actually just taking the parts that were stored in a bunch of warehouses, and just moving them to the service centers. And kind of the just – the thing that make sense is to I think to have the service centers where the parts are kind of all on the wall, it's like a supermarket. Like, you know, you always know, where like the Cocoa Puffs are and you can just go eat there and go and grab it and you just replenish the shelves with parts.

And so what we're basically putting all parts that are used more frequently than like six weeks on -- the tray on the walls on service centers. There's no ordering of the parts, you just go take it off the shelf and put it on the car. Really want to get to, not merely same-day service, but same hour, sort of, like, definitely, which applied generally to service.

Zachary Kirkhorn

Yes. And specifically on the working capital piece of this, we actually have a significant amount of service parts inventory. The challenge is, it's just not at the service centers.

Elon Musk

Yes.

Zachary Kirkhorn

And so a lot of the lag that is experienced is, we have to get the part from the distribution center to the service center. And so by moving -- by localizing the parts, I don't expect that to be a large working capital drain on the company. It might actually be the reverse, where we don't need to store as many parts eventually.

Elon Musk

Yes. And, obviously, just having parts, if they're made at -- if we make them internally or if they're made at a supplier, just sending them directly to the service center, instead of like having them go through a bunch of distribution outlets. It's -- in fact like when I was in China, from my the last trip, I was like, actually the China team here, is there anything silly that we're doing that we should fix. And they said, yes.

Well, several of the parts that require replacement are literally made in China and then we end up shipping them to New Jersey and then back to China. And could we please just ship them like literally across the road. And like, yes, no problem. There's always like crazy things that happen as -- if you're like -- if you have a 45,000 person company and then just basically stop doing silly things. It's -- yes, a lot of what is needed for improvement.

Zachary Kirkhorn

And as the scale of the business increases, the economics of localization, of things like parts distribution make a lot more sense. Whereas in the past when the company was smaller having centralized centers was easier from a cost perspective.

So the business -- because the company is growing so fast, as Elon has mentioned, we have to continue to redesign processes and systems to re-stabilize ourselves on a new plateau of volume.

Elon Musk

Yes.

Zachary Kirkhorn

And then, we'll grow again and we'll need to rebuild those processes.

Elon Musk

Yes. I mean, Tesla is the only company made some things that volume that is fully product integrated all the way through sales and service and charge

of everything. So we really just need to look at the total system efficiency and say in the limit, if Tesla was the auto industry, how would we do it to maximize economic efficiency.

And that's -- we're got to kind of like recalculate that optimization, as we achieve greater scale. I'm confident we can achieve a fundamentally better economic efficiency than the rest of the auto industry.