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Ford Motor Co. (F)

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CORPORATE PARTICIPANTS

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

OTHER PARTICIPANTS

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

MANAGEMENT DISCUSSION SECTION

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Okay. Thank you, everybody for joining us. My name is Mark Delaney. And I cover the US autos and industrial tech sector at Goldman Sachs. I'm very pleased to have with us today from Ford, Lisa Drake, the COO of North America. Thanks for being with us.

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

Thank you, Mark for having me.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

The agenda for today is that Lisa has some prepared comments and slides that she'll start with, then I'm going to ask them questions, and then lastly we're going to take a few questions from the audience which you can submit with the form on the webcast. As a disclaimer, this session is intended for investors and is not intended for the media.

And with that, let me turn it over to Lisa.

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

Thanks, Mark. As I was mentioning, we're really proud of the announcement. On the screen, you can see BlueOval City, which is the announcement we made earlier this year in Western Tennessee of our new electrified F-Series plant where we plan to expand our franchise, also battery cell plant there, and among some vertical integration. So I just wanted to reiterate, very excited about that announcement.

But if we could turn to the next slide, I want to start – we always start with Ford+ framework, and this is the framework in which we operate. We really look at all the foundational strengths that we have, the iconic

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nameplates. We have leading market positions in many high-volume segments. We just announced the 45th year of F-Series leadership as well and also an incredibly strong credit facility. And then we're building on that. All of these enhanced capabilities with our embedded systems, hardware and software, the connectivity experiences and data and analytics, and I have to tell you, I'm just very pleased day over day when we work with Doug Field who has joined us, to see how he's really accelerating us in this space. And all of that is to unlock all of these new growth opportunities, not only in electrification, which I'll talk about quite a bit today, but our commercial vehicles and services through Ford Pro, all of the connected services and of course, our autonomous mobility work with Argo.

So if we can go to the next slide, we really believe we can lead in electrification. It starts with those icons. So we're going to talk about some volumes in a few slides. Jim Farley has mentioned and made a few statements and we're really excited about how fast we've been able to scale to the demand that we've seen for these exceptional products. We have our modern tech stack, so that's our fully networked vehicle architecture. We call it BlueOval Intelligence, fit-for-purpose architectures and multiple cell technologies and suppliers. And I have to tell you this was a strategy we designed in years ago and it's paying a great dividend right now because the demand for things like our Mach-E, our F-150 Lightning, and the E-Transit caused us to have to lean into this design. And we're using multiple cell suppliers and technologies in order to deliver the increased scale that I'm going to talk to you about.

So it's paying off quite well for us. We've fully competitive battery costs and scale, and I want to talk a bit about that roadmap and how month-over-month that evolves for us and it evolves for the auto industry in general. And then, of course, our highly flexible manufacturing expertise, if there's one thing we know how to do, we know how to scale manufacturing and we know how to do it very quickly.

If we can go to the next slide, we had a really full and fast year in 2021. 2022 will be no different. Just looking back this year, [indiscernible] (00:07:16) BlueOval Intelligence system at Capital Markets Day and that underpins all of our digital experiences. We have our joint venture partnership with BlueOval SK. We announced three battery cell plants in North America in the United States, Tennessee and Kentucky. 129 people at our capacity to come online in 2025 and 2026. We had our investment with Solid Power, solid state battery company. Also SK On, who is our joint venture partner also invested in Solid Power, and this is part of our building block on moving towards lower cost dollar per kilowatt hour pack and new chemistries.

Volume growth, we'll talk a little bit about that in the next few slides. Our F-150 Lightning is really taking off by nearly 200,000 retail reservations at this point. And then all of this really underpinned by work that we need to do in the raw material space, we truly believe our work with Redwood will be differentiating for many reasons, not only cost but very quick, localized battery raw materials supply, and more importantly a very closed loop process where we can take, whether it's battery scrap or end of life batteries, get them back into the system, back into cathode facilities and back into our battery cell plants; much less expensive than new mining.

And then, of course, world-class manufacturing, we've talked about that with BlueOval City. That's our announcement in Tennessee, a fourth US F-Series plant. We believe that franchise has a lot of room to grow. And then, the BlueOval SK Battery Park, which is a set of twin battery cell plants in the state of Kentucky.

So, if we can go to the next slide, please, and talk about some of the products, Mach-E, we think there's global demand for Mach-E well-over 200,000 units a year. We just launched it last year. Frankly, we started shipping earlier this year, through the pandemic, through all of the challenges, even with chips, we are at 22,000 sales year to-date. Most exciting for us is a lot of these customers new to Ford, which is fantastic to see that franchise grow.

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F-150 Lightning, nearly 200,000 retail reservations, retail, that doesn't even account for the Ford Pro commercial reservations, again 75% of those customers new to Ford. The ability of that franchise to just grow and expand maybe well-beyond what we traditionally thought an F-150 customer would use the truck for is incredibly exciting. And then, of course, the E-Transit. And for us, it's that bottom plus in the E-Transit that's probably the most exciting, because we've been commercial vehicle leaders in North America and Europe for a long time, especially in the US, commercial vehicle business, Ted Cannis would say, we – Ford owns work. But when you, [Technical Difficulty] (00:10:24) underpin that commercial vehicle business and you electrify it and then, you add on all of the connectivity capability and now the in-house charging software depot outfitting that they can do, it's going to take the total cost of ownership of that commercial vehicle franchise to a whole new competitive level. And I'm really excited to see, what Ted Cannis and the team continue to do with Ford Pro.

And I have to say these are just the EVs. We can talk about Bronco. We have Bronco Sport. We have Maverick and then again, a 45th year of F-Series leadership. So we probably have the strongest lineup we've ever had in decades at Ford, both our EVs and ICE.

If we can go to the next slide and talk a little bit about batteries, we announced at Capital Markets Day that we need to develop 240 gigawatt hour battery cell capacity by the end of the decade. 140 gigawatt hour of that is in North America. As you know, we announced three plants in North America with BlueOval SK, but this is going to continue to grow. And those are our own manufactured battery cells. We also have incremental capacity through our supply base. We have exceptional relationships with LG Energy Solutions and that relationship has allowed us to scale on the Mach-E very quickly.

And we do expect that within the next 24 months, based on the [indiscernible] (00:11:52) demand on these products there would be the number two EV automaker, probably close to 600,000 EVs a year globally when you look at the lineup that we have and we don't plan to stop there. When we start to bring on facilities like the Tennessee facility and others in the back half of the decade, we think there's a clear ability to be to be number one. And we're setting up all of our plans to do that.

If we go to battery pack cost, it wouldn't be a EV discussion without battery pack costs. There was a lot of work done, especially with the BlueOval SK to take a 40% reduction in cost versus this year when we launched. And quite proud of the team to get that done, but that's not where we're stopping. That was our initial work to launch those cell plants that we mentioned and that's largely on the back of an NMC chemistry.

For us, there is a clear roadmap to get to $80 a kilowatt hour and those could be new chemistry options LFP, we discussed at Capital Markets Day, it could be unique form factors inside of the pack. There's technologies like cell to pack and then there's even other technologies beyond LFP that we are working in conjunction with some key critical global cell suppliers on. So I want to just remind everybody this space moves fast, every month we learn something new. Every month we find another way to shave $1 kilowatt hour off and this is going to be a journey. But our sight is on the $80 a kilowatt hour, well before the end of the decade. And we think we'll have the partnerships and the technology solutions and the designs to get us there.

If we can go to the next slide, just if you haven't seen the full EV look, this is not HEV, PHEV, this is just our EVs only. So in Michigan, as you know we have the Rouge Electric Vehicle Center, which is in Dearborn, it makes our F-150 Lightning. That's a dedicated facility in our final assembly that only makes the Lightning. It's one of the reasons we were able to double the production right away to 80,000 units, and we're now actually looking to increase that capacity even further.

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In Missouri, the Kansas City Assembly Plant, that's where we make our E-Transit. We do have the Mach-E that is built in our Cuautitlán facility in Mexico. Again, scaling that very quickly and that plant supplies to both the US and Europe. And then we announced our BlueOval City in Tennessee. We call it a City for a reason. It's 6 square mile campus. It's 3 times the size of the Rouge Complex here in Dearborn. It is built to transform over time. So while it will launch in 2025, that site was chosen to be with us and transform and grow well into 2035, 2045 with more EV. And then, of course, our Kentucky sites where we'll have two battery cell facilities on BlueOval SK.

And then a lot of questions I've had about site considerations, why do we pick? Where we land? And I have to say the reason that size is number one is we needed the land. We needed it to be shovel ready. We're going to start construction next year. Infrastructure is critical on facilities like this. A battery cell facility can take five times the electricity that our Kentucky Truck Plant does. So you need to have good electrical infrastructure. We needed the site to be easily buildable and in a central location, and then workforce is critically important. And the Tennessee and Kentucky states did a great job with us on training grants and others. And then, of course financial incentives are already very important.

And then finally I'll stop on just a summary. This footprint on the next slide it is really going to allow us to lead in this EV revolution on a very – in a very efficient way. We chose a greenfield site because we wanted to re-architect the way we build high-volume, high-scale product like F-150 from ground up, all underpinned by this electrification and digital platform capability. So our final assembly work and the way we're designing this plant will be very different than anything that we have today. And we're very excited to get moving on that that facility in Tennessee and we'll have more to share sometime next year.

So with that Mark, I'll turn it back over to you for the Q&A.

QUESTION AND ANSWER SECTION

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

Great. Well, thank you for the – all those comments and slides a lot for us to dig into and maybe to get started, and we'd love to start on the broader topic of electrification. You mentioned several models doing well F-150 Lightning. You said in your comment 200,000 retail orders also Mach-E and E-Transit doing very well too. Maybe you can talk about what that tells you around the slope of your trajectory toward EVs is coming at the 40% to 50% EV mix target. Is that something we should expect pretty consistent progress toward or should we think about that as being a more back end weighted increase in your EV mix?

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

Mark I think it's going to be – I think we're seeing a step function happen now. The demand was so strong. I would say that we knew we would hit these volumes at some point in the cycle. The demand came on a bit stronger earlier than we thought. But we were ready, as I mentioned, one of the things that we know how to do is build flexibility into our supply base and into our manufacturing operations. And we were fortunate enough to have done that, so we were able to scale to that demand. I would say that right now, I think the next step will be as the battery costs come down, as the charger costs come down, inverters, frankly, the complexity of the product in EV space is much less than at ICE, not sure how that dynamic started, but it's starting to exist where the customers are not needing all of the complexity that they might have needed before in an ICE. They're starting to coalesce on lower complexity type of options.

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And that's going to allow us to be more efficient with our capital and more efficient with the labor and the assembly plants. And all of this is going to just continue to make EVs more affordable. And then certainly as governments start to lean in to climate change and you get more and more government support, it's all rolling in the right direction. So I think you're going to see a steady climb, but it all depends if any of those dynamics change. We are prepared to be able to react to those, if and when they happen.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

I want to talk operationally for a minute and something, of course you focus in with your role in particular and maybe just talk about what are most important things operationally that Ford needs to do in order to enable this transition?

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

Well, first and foremost is battery capacity. I think that's probably top of mind for everyone. And we decided on a strategy years ago that we wanted to have multiple battery cell suppliers in the portfolio. So while we have a joint venture with SK On and that's our BlueOval SK, we also buy cells in a traditional buy sell arrangement from LG Energy Solutions for the Mach-E and then for the Transit. And then overseas because we do have Europe and China operations in China, we do work with BYD and CATL and then Panasonic has been a long-term supplier for us actually, back from our HEV and PHEV days.

So, we have a good portfolio of suppliers that we can lean into. And that was first and foremost and both buy, sell and then also manufacturing on our own. And then when it comes to operational manufacturing experience, as I mentioned, we know how to scale. We know how to add capacity and frankly, we have a stellar workforce that allows us to do that. So, pretty proud of how we're leaning into them and then I'll lastly just mention that complexity reduction. The more we can reduce complexity even on the ICE business, it just fortifies what we need to do with the EV business with our dealers in the future. Reducing that ICE complexity reduces their dealer stock, their floor planning, they become incredibly more efficient than they are today and that's going to be necessary for us with them as we transition into EVs and compete with others that may not have a dealership network.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

That's great, and, you talked about a number of greenfield facilities, but you also have a number of factories you're working to upgrade, and maybe we can dig into that a little bit as well and talk about how much of the current facilities and equipment, can be reused from internal combustion engine to EVs. And maybe talk a little bit around what that could mean in terms of potential CapEx savings?

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

Yeah, Mark. I always find this question interesting because we reuse more than you would think, and in some day I really hope to deliver this proof point in a finer way because when you think about the paint shops, they're very reusable. We use almost 100% of our paint shop and then a body shop about 90%. These facilities are very modular in nature. It's not like one piece continuous flow through a body shop. There's framing out areas and underbody and upper-body and so you can change your top hat strategy, but you don't have to rip up an entire body shop to do it. So, those tasks are advantages because they are assets that we will sweat over and over and over and over again.

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Final assembly is where it becomes different, as most of you know. We build the vehicle completely differently and final. And Ford strategy is not to build ICE and BEV products in the same plant. You can't do that efficiently. You're going to compromise one or the other. So, for us and Dearborn, that's why we have our unique final assembly, unique final assembly, Cuautitlán, it's an EV facility only. And then in Tennessee, it's EV only. And for us, the biggest change in that is going to be how those facilities are laid out and how now these fully networked vehicles become, they become part of the manufacturing process themselves. They typically build a product and then you test it at the end electrically when everything's powered up and hooked up. You don't have to do that anymore.

You can build and test and communicate back to the operator every step through the process. You repair more in the process and then you don't end up with a backlog or an inventory at the end. And it's incredibly efficient. I'll just end with, a lot of people talk about our powertrain facilities and I would encourage also, they're very modular in nature and how a powertrain plant is set up. And the processes that we use on engines and transmissions, precision machining, casting, gear grinding, gear analysis, those are things you also need in an EV, they just come in a form of primary drive unit, [indiscernible] (00:23:40) secondary drive unit. So for us, those are transmissions for us and even the engine assets can be really used to build some of those. So our intent is to reuse, to reuse, to reuse and we have enough facilities in our portfolio that we can start to consolidate where we need and then open up that floor space just like we did in Van Dyke and then bring some of these components in-house in an incredibly efficient way. I don't think you'll ever see us needing to find a site to make e-drives or other components, we have them.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

No, that's really helpful. I wanted to talk a little bit more on the battery capacity expansion, especially in North America, the 141 gigawatt hour target, maybe you can talk a little bit more on the cadence we should think about of that starting to come online in any sort of comments you can share on the trajectory there, but also, I think a related topic that I've heard some investors talk about is why are you guys picking the size of the factories that you do, I mean why – should it be a 30 gigawatt hour truck or a 40 gigawatt hour truck, maybe just talk around how you're thinking about optimizing the size of those different facilities as they are in fact ramping.

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

Yeah. Mark, I'm glad you asked that question. I've been waiting for this, I don't know if Lynn and the team had any hand in it, but this is – I think this is going to be the next frontier of efficiency. These battery cell sites are incredibly capital intensive and you have to be very efficient about how you play them out. I'll answer your second question first. The [ph] 43 (00:25:18), because it does sound like a pretty specific number. It actually starts with the type of cell, you're going to manufacture. And in our case, we have a pouch cell format and there's a certain width and length to that cell. And the width of that cell and the capacity of that cell actually sizes your electrode line. So there is a certain size of electrode line that we have to have. And then from there it also sizes your assembly lines that come after that, there's plenty of steps, but electrode lines and assembly lines are really important and you actually start there.

You start with those line sizes and you optimize those for the volume you want to make, so that these facilities can run at 98%, 99% and even higher efficiency level in terms of output. Once you do that, there is things called OSHA regulations and you can't have buildings that are too wide because you have to be able to get people out of those buildings in the event of emergencies. And so there's a real sweet spot on construction costs on a size of

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a building. So you put those three together and believe it or not, you can come up with an incredibly optimal dollar million per gigawatt hour number and that allows you to size these factories.

The other thing we did, it wasn't by accident. All three sites are [ph] 43 (00:26:42) on purpose. We want to scale fast. We want to do one and then we want to put up two more. And so in terms of timing, the first battery cell site in Tennessee will come online in 2025 calendar year along with the assembly plant. And then the first site in Kentucky will also come on at the same time in 2025. And then the second Kentucky site will be 2026 and again they're cookie-cutter versions of each other so we can scale it incredibly quickly.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

As you scale and as you already mentioned in your slide, I mean, getting that cost per kilowatt hour down is a big focus for the whole industry, including Ford, I mean, you talked about $100 kilowatt hours mid-decade, eventually striving to get to $80 kilowatt hours it's a metric a lot of the auto companies are talking about and investors focus on it because it is such an important input for EV cost structure. GM as an example, I know there's a multiple companies you compete with, but to pick on GM for a second they've talked about maybe getting to that $80 to $85 kilowatt hour metric I think around mid-decade. This isn't a GAAP metric in terms and so perhaps people will calculate that's a little bit differently. But I'd love to get your thoughts because when we talk to Ford, you talk about having leadership and clearly you're striving for some pretty good scale. So do you think there's something different in how Ford is calculating that metric versus maybe somebody like GM? Maybe there's – [indiscernible] (00:28:12) little bit more conservative or differences of assumptions, but we'd love to dig into to that because the $100 kilowatt hours mid-decade that that you articulated and maybe compared to what GM has talked about and I'm just wondering if we kind of compare those?

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

Yeah, I think these tasks are always complicated. You got cell versus pack, you always have to ask what level of economics anybody is using if it's an NMC chemistry, what spot price are they using on especially nickel these days and so and even lithium. But – so for us when we said a $100 a kilowatt hour at a pack level that was a Capital Markets Day. And we were largely referencing that nickel-rich cell that we believe is highly competitive. It's best-in-class in terms of its energy density. And it was the only cell that we felt that we could put in our highest variance of our F-150 Lightning, that truck had to be in no compromise truck on performance. People expect a lot of these F-Series and these trucks will be built for tough. So that was a nickel-rich chemistry, prices at the time clearly, we had to quote those levels of economics. But that's just the start that's why we have the $80 kilowatt hour. I think you're going to see different cell chemistries coming into play. I will tell you, Mark probably faster than mid-decade.

You're going to see different form factors and pack efficiencies, today we have cells, arrays, packs, at some point these arrays aren't going to exist, you're going to have a straight cell to pack. The beauty of this space is that innovation is on the upswing, and Ford Ion Park was created to accelerate that innovation. But then you have to get into every dollar. And our partnership with Redwood Materials has proven to be incredibly beneficial. We are looking at, I can tell you that the CEO of Redwood understands battery costs "well", and he knows where we have to create value so that we can scale. And we're already looking at recycled copper foil, which will help provide us some protection from copper pricing. And we're working with them now on the dismantling and recycling of not only our scrap, but some end-of-life batteries, because the faster we can get some of that material back into the cell chain, the less we have to mine, the less mining investments. The freight, these cathode materials travel tens of thousands of miles between the western hemisphere to eastern atmosphere back and forth being processed and that's waste.

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So, I'm very confident in the $80 a kilowatt hour. I do think we'll see it a lot faster than what we think. And so, we're very competitive. I don't see that there's any disadvantage, to be honest, Mark.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

No, that's great. Thank you for all the thoughts on that. And you also alluded to some of the future battery technologies that the Ford is working on and solid state is one of those that you did touch on at the Capital Markets Day and I think in your comments as well this morning. Maybe you can talk a little bit on the timeline we should be thinking around solid state and how you're thinking about some of the partners that you guys have been working with? Would love to get your latest thoughts on some of these future battery technologies like solid-state.

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

Yeah. So we made our investment in Solid Power earlier this year along with BMW. So we're the two auto manufacturers that have exclusive joint development agreements together. We share a very common view not only with Solid Power, BMW, but also our own cell supplier, SK On, who has actually also recently made an investment in Solid Power that we want to be able to have a technology – the manufacturing capability of these solid state batteries is really what the critical element is. And we think we can reuse a lot of the assets that we're putting in place now, not only in North America, but just around the globe on the NMC chemistries with the Solid Power technology. It's going to be really important to reuse those, as you mentioned, building all these factories and then showing up with another chemistry that isn't going to work, and then you're investing all over again is not going to be efficient.

So we're very excited about solid state. We think it's going to be commercialized well before the end of the decade and we're going to continue our work with Solid Power and again in collaboration with SK and even BMW.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

No, that's great. And maybe we can continue on this discussion around costs, but also just talk about probably cost more broadly as we think about the EVs versus internal combustion engine vehicles? I mean, at least to start, EVs are higher costs, but then they also have a number of performance benefits, right, I mean, the acceleration that we all get to experience with some of these EVs like the Mach-E. There are a lot of fun and so different features that perhaps you can price for. So, at the same time you've got costs coming down as you drive on this battery cost roadmap. So maybe you can kind of talk around if we zoom out, when we think about EV margins, when should we think about those being comparable to ICE merchants?

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

We don't think of it in that way. The way we're starting to think about this is how – what this revenue stream looks like for digital, a digital product, not here was our cost and our revenue on an ICE, and here's your cost and your revenue on an EV. That's not – I don't think that's how this space is going to play out. We're looking at it more like the revenue generation, the long-term customer loyalty, the always on when you own a digital product. And, with EVs, by design, they're naturally underpinned with a digital experience. I drive a Mach-E, and on my iPhone, on my first screen, my FordPass App is there, because that's how you interface with the vehicle, whether you're charging, trip planning, preconditioning, changing when you want to leave, changing the state of charge that your battery sits in your garage, it's not always good to keep it at a 100.

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And that app is in a really great neighborhood right next to my Google Maps, Instagram, Starbucks app. I mean, I'm staring at that FordPass App as much as I'm staring at those really, high-value applications. And so that's the unlock there on the digital side.

And the way we're starting to communicate through the FordPass App to the customer, it is this always on. Just when the winter started in, in Michigan, I started to get tips on how to get more range out of my Mach-E. And even though I know some of that, it was great to be reminded to do these really small changes to get the best experience. And Ford is always on your mind then, you're communicating with the company. And I think that's the big unlock that underpins the EVs. Same is going to happen in the ICE when you're interacting with your vehicle in that manner.

So for us, you got to keep the battery costs low, that's a given. We're going to vertically integrate, that's a given. We've got the scale, and that's proving to be very beneficial for us right now. And now the next step is really unlocking those digital services. And I can't say enough, Doug Field joining and how fast he's accelerated some of our thinking. Our capability was there, we just didn't see it ourselves. And he saw in us, which is why he joined and he's unlocking it now. So we're incredibly excited to see what we're going to do in the next couple of years with some of those services.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

No, that's great. We would be remiss I think to have somebody in a COO overall on and not talk about the operating environment with everything going on in supply chain. So I do want to make sure we spend a little bit of time on that, and yeah, we're about to just get an update of what you're seeing on the operating environment as you close out 2021, but also heading into 2022, maybe you can talk around semiconductor supply and any of the bottlenecks that Ford is experiencing with production and how you're working through that?

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

Yeah, I mean, it's I wish I could say it was over. I wish the chip shortage was calendar-year-led, it's not. December 31 and January 1 probably are going to look a lot different. But for us we're more prepared now than we ever were to manage that chip shortage, there's no doubt about it. We did say that next year we think our wholesales will be up about 10% over this year. We're prepared to go into the first quarter very strong. We understand the situation much better and we have different arrangements than we did in January of last year.

We signed our MoU with GlobalFoundries. That's a really important partnership for us. And some of the designs that we were dual sourcing or duplicating or adding flexibility into are now available to us next year that we didn't have a lead time when we started this year. So I think it will still be a challenging year, but I think we're much better positioned than we were, and we did give an indication we thought we would be up about 10%.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

You mentioned the GlobalFoundries relationship, I imagine this was one of several things you would like to perhaps do a little bit differently longer-term with all of the things that we've all gone through with COVID and other supply chain issues more recently. Maybe you can talk about what some of those other things are? Would you carry more inventory, dual sourcing or maybe just talk around some of the things you'd like to do longer-term whatever the supply chain flexibility will allow for it?

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Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

Yeah, I mean, I think it's all those, dual sourcing, some inventory protection, not egregious by any stretch, but we understand what our pipeline and chain is. Some of our plants [ph] operate as jets, (00:38:05) some don't, so you have to take that into account. And then we're expanding this of course into where we need to be on battery cells and some of the important components in power electronics. You got to really watch this space. And vertical integration I think is going to be a term – we haven't used the word vertical integration in a long time in this industry. And I think you're going to hear that a lot more often on these critical components.

Batteries, most importantly, all the way down to the raw materials, is going to be mission-critical and we're actively involved in that space.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

A question came in from an investor, I think it fits in well here. If you think about some of those down to the chip level semiconductors, you guys made some announcements and GlobalFoundries being one of the public ones you recently put out. Is Ford's idea Ford's actually going to be designing its own chips or is this more around just strategic sourcing relationship?

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

I think it's both. I mean, we do the design specification on a lot of the chips. And so, I think you're going to see more of that, especially the ones that are very critical, critical functionality high feature. And then of course, we'll have much more strategic sourcing relationships than we do today.

And I can say our Tier 1 suppliers who largely held that relationship with the chip manufacturers, they're very encouraging for the OEMs to do this, because, frankly, they don't want to find themselves in this situation either next year. They're doing everything they can on these allocations and it's not fun. And so, I think there's broad industry alignment on how we have to make a shift in this space.

Mark Delaney
Analyst, Goldman Sachs & Co. LLC

Q

Got it. I think we maybe have time for one last question. You brought up some of these connected opportunities. I think it's a really exciting time for the auto industry and a lot of that Ford's doing on that. Ford talked about at Capital Markets Day 33 million connected vehicles by 2028 and a number of different things you can do to monetize that connected fleet. I wonder maybe just talk a little bit more on BlueCruise, and if you could talk around that offering in particular and what kind of update you're now seeing there.

Lisa Drake
Chief Operating Officer-North America, Ford Motor Co.

A

You bet. So, we're shipping today. So BlueCruise is actually shipped with our Mach-Es that are coming out of factories, same with the F-150 Lightning. So those are in production. And Doug and the team are working very hard and quickly to make an over-the-air update available to all of the users all the way back to the original launch in the first quarter of next year. So, we're very excited about the BlueCruise opportunity. But there's just so much more. If we had more time we could talk forever about this, but especially in the Ford Pro side, the more we understand how these commercial vehicle customers, especially small, medium fleets are using these EVs,

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there's a lot of information we can give them off of the vehicles that are going to make that even more efficient than they are today. We can't wait to deliver some of those services to them.

Mark Delaney

Analyst, Goldman Sachs & Co. LLC

That's great. Well, we're all looking forward to seeing how this progresses. Really appreciate the time today and unfortunately we're going to have to end this here as we are out of time for this session, but Lisa thank you very much.

Lisa Drake

Chief Operating Officer-North America, Ford Motor Co.

You bet. Thanks, Mark.

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