

Nvidia Automotive Media Event

Company Participants

- Jensen Huang, Co-Founder, CEO, President & Director
- Ola Kallenius, Chief Executive Officer

Other Participants

- Yasmine Blair, Presenter

Presentation

Yasmine Blair

Hello, everyone, and thank you for joining us. Welcome to a very special announcement on behalf of Mercedes-Benz and NVIDIA. My name is Yasmine. I am your host today for this conversation, and I am very excited to have two high-profile executives from two separate industries. And as I've just learned, these are about to join forces in an entirely new way. But don't take my word for it. Let me introduce my two guests today.

First of all, we have live with us from Santa Clara, California, Founder and CEO of NVIDIA. Good morning to you, Jensen Huang.

Jensen Huang {BIO 1782546 <GO>}

Good morning, Yasmine. Nice to see you.

Yasmine Blair

Nice to see you as well, Jensen. And also live with us from Stuttgart in Germany, CEO of Mercedes-Benz. Good evening to you, Ola Kallenius.

Ola Kallenius

Hello, Yasmine. Great to be here.

Yasmine Blair

Hi, Ola. Nice to see you again. Great to have you, gentlemen. Now, today, Ola, I would like to stick with you for now. Mercedes-Benz is known for finely engineered luxury vehicles. But as I understand, you are about to add new layers, so to speak to

that experience for your customers, so why don't you fill us in, Ola, what is today's big news all about?

Ola Kallenius

Absolutely. We're here today to launch very important strategic partnership between two great companies, Mercedes-Benz and NVIDIA. What do we want to do? In simple terms, we want to launch a groundbreaking software-defined high performance computer architecture for driving assistance and autonomous drive. And that's the next generation that will go into the Mercedes fleet, targeting a launch sometime towards the end of 2024. That's what we're here for today.

Yasmine Blair

That is big news. Very exciting news indeed, Ola. And Jensen, NVIDIA, you guys have made a huge name for yourself in the gaming industry. But there is so much more going on at NVIDIA, maybe not everyone is aware of that. So why don't you tell us, Jensen, how does this collaboration fit into the company strategy perfectly?

Jensen Huang {BIO 1782546 <GO>}

Well, NVIDIA is all about solving problems that ordinary computers can't solve. And autonomous vehicles is one of the world's great challenges. And if solved, has enormous impact on the world. You know that the world drives some 17 billion -- excuse me, 17 trillion miles per year. And someday, all of those miles are going to be completely autonomous or assisted. And we are at practically zero today. Going from here to there is going to require some bold steps, new technology, new products, new applications and services. And today, we're starting that with the -- with a once in a lifetime, the biggest opportunity here, a partnership with Mercedes and we're super excited about that.

Yasmine Blair

It does sound super exciting, and it sounds like there's still a lot to come. Maybe we'll get back to that at the end of the conversation, what we have to look forward to in the future. Now, Ola, this announcement comes a somewhat of a surprise. We have been speaking about strategies at Mercedes-Benz these past couple of weeks. Didn't see this one coming. So, how does this co-operation fit into your strategy at Mercedes-Benz? Same question here?

Jensen Huang {BIO 1782546 <GO>}

Yasmine, this fits perfectly into the strategic future of Mercedes-Benz as an innovative company. We were one of the first pioneers more than two decades ago that started working on driving assistant systems. And this is a field that has so many opportunities. It will make driving much safer in the future, all the way to autonomous drive. So, I would like to describe this partnership for us at Mercedes-Benz, really hitting two dimensions. One is the customer.

With regard to the customer through the technology that we're going to put on the road together with NVIDIA, it will be endless possibilities in driving assistance and also all the way to autonomous drive. And through an architecture, that makes it possible to update this experience during the lifetime of the vehicle, really releasing hardware architecture from software architectures. So it will be, in a way, for the customer, the gift that keeps on giving. It will always stay fresh and we can add more technology to it. That's the one aspect.

The second aspect, it's also important for the business model of our company. Many people talk about the car, the modern car, the new car as kind of the smartphone on wheels. If you want to take that approach, you really have to look at software architectures from a holistic point of view. And that's a decision that we have made at Mercedes, creating our own Mercedes-Benz operating system.

And one of the most important domains here is the driving assistant domain. And that needs to dovetail into that, what we call, software-driven architecture, to be able to, with high computing power, add use cases for the customer. In this case, the driving assistant autonomous space throughout the whole life and also add revenue streams, recurrent revenue streams, additional to the ones that we have already today to our business. So from these two dimensions, we are very excited about this partnership.

Yasmine Blair

And from both dimensions, strategically makes a lot of sense, of course. Thank you, Ola. Obviously, there is also a great mutual respect between both of you, the two companies. You have already successfully worked together in the past. You have the history with MBUX. But nevertheless, let me ask you this. Ola, you have options at Mercedes-Benz. Out of all of these, why team up with NVIDIA? And the same question goes out to you, by the way, Jensen. At NVIDIA, you have been working and you work with other OEMs. Why team up with Mercedes-Benz? Ola, perhaps you would like to go first?

Ola Kallenius

Well, the answer is really simple. We want to work with the best. And we feel that NVIDIA is the best when it comes to putting this technology on the road. We already have experience. I think what we did together in the infotainment domain, what we call MBUX, the user experience in the car for MB. A few years ago when Jensen and I talked about this, he said, I have this new Parker chip coming and it's going to be fantastic. Do you want to go first? Do you want to put some real power into your car? And anybody who is a gaming fan knows what the graphic, especially the graphic power is of NVIDIA's processors. And we did it. And I think we put the MBUX on top with the help of NVIDIA. So to go to a now much deeper, much broader collaboration and in an even more technically sophisticated domain, I think it was a natural fit for us.

Jensen Huang {BIO 1782546 <GO>}

Yeah. This is the biggest partnership of its kind in the transportation industry that's ever happened. And I can't imagine a better company to do this with. This is a gigantic endeavor. And this partnership breaks grounds in several different fronts. Of course, the first part is the technology and we're leveraging NVIDIA's multi-billion, multi-year investment in a platform -- autonomous vehicle platform, we call the NVIDIA DRIVE.

And this is the first time a partnership that is going to work together from top to bottom and end-to-end, from the chip to the most powerful computer, to the system software, to the application for autonomous driving from end-to-end, from data collection to AI model creation and testing and virtual reality simulation and over-the-air updates, this is a partnership that goes deep and is top to bottom end-to-end.

The second part is that the entire product is going to be designed differently, whereas in the past, a car is at its best condition at the point of sales in the moment you take ownership of it. But in the future, this is going to be a perpetual upgradable machine. And there'll be thousands of engineers that are working along with your car for the entire life of the car. And their software is going to be developed on these AI supercomputers to write the special type of machine learning application that will then be upgraded into the car for its entire life.

The business model, as Ola said, is going to be transformed. This is a brand-new business model opportunity for the two of our companies. For the very first time, we're going to be developing applications for a fleet of cars that will be on the road for quite a long time. And these machines that Mercedes built are so high quality, so well engineered, they last to 10 years, 20 years on the road. And for the very first time, we'll be able to offer applications to these customers for their entire life.

And then, of course, the last part of it. The user experience is going to be transformed. And I can't imagine a better company to do this with. The engineering, the market, the customer base, the loyalty of the customer base, the incredible brand and of course, the gigantic global scale of Mercedes. In order to make this technology work, we have to invest greatly. In order to benefit from this business model, you need a very large installed base. But if we could create those two conditions, which I have every confidence we will, we will absolutely revolutionize how cars are sold, how products are created and how customers enjoy their automobiles in the future.

Yasmine Blair

This is -- Jensen, this is groundbreaking news and you've just mentioned on how many different levels the news is groundbreaking. And I keep on using the term market changer in my mind. What do you think? This is a question that goes out to both of you. What do you think this co-operation between your two companies is going to change for perhaps the entire automotive market in the future.

Ola, would you like to go first on this one?

Ola Kallenius

For us, this is such a crucial part of our strategy. As I mentioned in the analogy of a smartphone on wheels, we are developing a full-scale operating system for the whole vehicle. So a Mercedes-Benz operating system. And there is no domain that is more important on that map than driving assistance and autonomous drive. So, this effort of an operating system, it will work seamlessly with the work that we're doing now with NVIDIA that we already started, as I mentioned in the infotainment domain.

So literally, we will have the software architecture that will be downloadable over the air. And as Jensen said, throughout the life of the car and this is 10 years, plus 20 years, that you can just keep on adding use cases in different domains and specifically in this domain of autonomous drive and driving assistance. And I think, as I see technology develop here and sensors are getting better and the perception and all those things are moving along, it's literally going to change the driving experience and also increase safety. So it's technology that will ultimately save lives.

Yasmine Blair

Jensen, how much potential do you see for the future market? I'm sorry.

Jensen Huang {BIO 1782546 <GO>}

The definition -- the definition of the car is going to change forever. No longer will the best moment of your car experience be at the point of sale. In the future, the car is the starting point. The beautiful amazing Mercedes-Benz is the starting point of their experience with Mercedes-Benz. Behind it will be thousands of engineers. And those thousands of engineers are like, they're going to stay with you, they are personal software and artificial intelligence research lab, that's going to stay with you your entire ownership life of that car.

And every car will have software engineers and supercomputers that comes with it. It's quite an amazing thing. They witness the car. They enjoy the car. But behind it, at Mercedes-Benz, at NVIDIA, we're going to have software engineers and supercomputing infrastructures, and it's going to continuously enhance that car. The business model, of course, of the car industry will change.

I am absolutely convinced that this business model is going to revolutionize the way the cars are sold and cars are enjoyed. For the entire life of the car, you'll be able to add new value to your customers. They'll be able to enjoy new services. You can enhance it, update it, make it even better. Could you imagine owning a product and at a point that you eventually would like to hand it to your child? That car was actually -- is actually better than the car that you bought because the software was better, the capability was better, it was more personalized to you, it's smarter. All of these capabilities are simply not possible in the past. But for the very first time, the combination of circumstances of technology availability that we have now and a great partnership we have with Mercedes, we can now revolutionize the car industry.

Yasmine Blair

All right, gentlemen. We have received a number of questions throughout the day. And I'm going to try and get some of them covered as many as possible.

The first one up is for you, Ola. And of course, this is about BMW. People are wondering, Daimler and BMW have just announced the end of their autonomous car co-operation. So the question is, does this have anything to do with the announcement we're hearing today? And also how will this impact the partnership with Bosch on AV development for robotaxi? So how is this going to effect other partnerships?

Ola Kallenius

Let's call it a pause and perhaps not an end. It was mainly a timing issue. When do you want to go for the next generation technology? And we decided that we want to do this with NVIDIA towards the end of 2024, once we have kind of harvested our first generation in this domain that we're developing right now. And perhaps at some later time, those paths will come together again. I don't know. There is still ample room for co-operation on some of the parts that you need added to these systems such as sensor sets and so on. So, that's more of a timing issue.

With regard to full autonomy, which is something that we have been working on for the last few years as well. We have said, where is the best business case for that? We believe it's truck hub-to-hub. So as we announced before Christmas, we're going to focus on truck hub-to-hub first and the truck team is on that case. And the more bigger deployment of, let's say, robotaxis in an urban environment, we see that a little bit more to the right. And that's why we're putting all our focus now and the bulk of re-engineering resource. And they're very excited about this, by the way, into this partnership with NVIDIA.

Yasmine Blair

Thank you for that, Ola. The next question is about software and goes out to both of you. Jensen, perhaps you would like to take this one. First, are Mercedes and NVIDIA working on an exclusive car operating system? And is this engineering integration for autonomous driving only or also for other domains is the question, Jensen?

Jensen Huang {BIO 1782546 <GO>}

Well, eventually, we would like to see all cars be autonomous. And today, as I mentioned, 17 trillion miles are driven each year and more people are going to be coming to earth. And over time, there will be more miles driven. All of those miles eventually will be autonomous or autonomously assisted. We would like to see this tech capability adopted by a large number of companies over time. And Ola would like, too, as well. This is -- this is one of the capabilities you would like the industry to be able to standardize on.

However, being the first mover has great advantages. And this is the opportunity that we have here in working with Daimler -- excuse me, Mercedes-Benz, has the opportunity for us to combine the great forces of two great companies to be the first mover of this new architecture, this new way of providing a product and service and a new business model to the industry. With the scale of our two companies, it is the perfect match and this is really -- this is really a combination that can transform, revolutionize an industry.

Yasmine Blair

Now, Ola, Jensen, already said in your name, Ola agrees or Ola thinks so as well. Would you like to add anything to that?

Ola Kallenius

Yeah. Absolutely. I think this is so strong. We came out of the infotainment area, as I mentioned and now we're going into autonomous drive. And these, you can look at it as pieces of the puzzle. The overall puzzle is what we call the software-driven architecture, where literally, everything in the car will be in one operating system. This -- the code for this, we are writing as we speak.

And it goes without saying that this co-operation with NVIDIA, that will fit like a glove into the software-driven architecture, so it's compatible. But I would like to add one aspect, which I think is very, very important here. And I think Jensen kind of hinted at it. It's the power of the chips. You need computing power for that product to be able to grow over time and be better later than when you bought it, it's almost like you -- you always go for a little bit of an overkill on computer -- computing power in the beginning. It's like you're buying a new house, but you're not furnishing all the rooms at once. You leave some spare capacity to add more furniture later. And I think, especially in the driving assistance autonomous domain, you need that computing power. And that's what the next-generation chips of NVIDIA will provide us here.

Yasmine Blair

Let's stick to you, Ola, because the next question that goes perfectly with what you were just speaking of. When it comes to business cases, have you thought about ownership models of and features, pay once or subscription is the question? Are you already that far in detail when it comes to development and planning?

Ola Kallenius

To a degree, yes. Some of it, we're doing today. You can already, in our app store, download all sorts of different features. If it's live traffic, music, different things that are primarily but not only in the infotainment area, that we launched already a couple of years ago with the first generation of MBUX. And the second generation that is coming in the new S-Class later this year will open that up. So let's say, the story is getting bigger.

In the area of driving assistance, we haven't done this so far. So, this new groundbreaking partnership is going to open up that domain. And I can't stress enough how technically sophisticated some of these problems are that you need to solve. You need the best software engineers and of course, a high-power computing platform. And I think the software engineers that NVIDIA provides into this partnership are world-class. It's best in the world and we are adding our team [ph] to that.

Yasmine Blair

Ola, thank you for mentioning problem solving because the next one is about technicalities. And Jensen, I would like to throw that your way. Now, when it comes to hardware, many users complained that the software updates cannot be implemented or are not supported by legacy hardware on the vehicles. How do you intend on solving this problem?

Jensen Huang {BIO 1782546 <GO>}

We are going to build this fleet like no other fleet has ever been built. We're going to put into and adapt into these, into this fleet of Mercedes-Benz's the most powerful computer at its time. And we'll have plenty of headroom. It is incredibly sophisticated. It's still being designed. Hundreds of engineers are currently designing that processor. And it will go into a computer, that will be outfitted into the entire fleet. In no time in history has so much computing power been put into a car, not to mention so much excess computing power to be put into a car.

As a result, the entire fleet of Mercedes-Benz's will have one coherent architecture. It will have more computing power than is needed at the time of selling the car, which creates opportunities for us to upgrade it with more and more software and more features, not to mention the thousands of engineers that are going to be with the car and with the fleet, optimizing, enhancing and creating new capabilities all along the way. And so this is a very, very different way of architecting cars, building out the product line and then delivering the product and services to customers. It has never been done this way. And I think it's going to be a revolutionary experience for customers.

Yasmine Blair

And I'm sure, they look forward to that. This is a question that I think a lot of people have on their minds. And Ola, I would like to begin with you again. It's about Tesla. It seems like Tesla for years have offered the ability to update software in their cars. And the question here is, what will Mercedes offer that is fundamentally different? Ola?

Ola Kallenius

I usually don't speak about competitors.

Yasmine Blair

I know.

Ola Kallenius

But as I mentioned, we took the first few baby steps of this over-the-air download ability a couple of years ago. And we can see in our app store that interest is growing. And this revenue stream is also growing. The electric electronic architecture that comes later this year with the new S-Class makes that domain so much wider. So, we see the opportunity here now to grow.

And with this partnership, it's like we're taking the ultimate step, dovetailing with the overall software-driven architecture to open up the whole vehicle, paying attention to all the traits of a Mercedes. It needs to be a luxury feel. It needs to be intuitive, easy to use, of course, safety first, that always comes with every Mercedes before you deploy something that it's been properly tested and so on. So, we're on a journey here and are quite excited about, I would say, how technology has created opportunities for us to change our business model. And that's part of the transformation of the auto industry that we're in the middle of.

Yasmine Blair

Jensen, from the software developers' point of view?

Jensen Huang {BIO 1782546 <GO>}

Yeah. Surely, for Tesla, we -- they deserve a great deal of credit for pioneering and pushing autonomous driving and software upgradable features and most importantly, inventing and discovering this new business model that is now proven to be quite successful. The opportunity to sell applications into software programmable cars is a business model that until now really hasn't had much validation.

This is a very big deal and we're delighted by that. We're going to take this one giant step forward unlike anything that's been done before. Of course, the quality of safety and the quality of engineering is going to be at a level that's never been seen. The capability is at a level that's never been seen. But no Mercedes-Benz customers have ever enjoyed something like this before. And now this entire market of Mercedes-Benz customers who love Mercedes-Benz's will have the benefit of this new way of enjoying cars, new way of buying into features, a new way of enjoying value over time. And then, of course, lastly, just a incredible scale of Mercedes. Ola runs an organization that's gigantic and manufactured, and sales and markets and have loyal customers all over the world. This level of scale has never been achieved before. And so I think the combination of all those things will be able to really make a difference.

Yasmine Blair

Jensen, thank you for mentioning the customers because the last question we're going to take is actually on behalf of the customers. You say, this will extend the life of the car. So the first question is how will this affect repurchase cycles and downstream used car market? But also, again, very interesting, on behalf of the customers is, will we be driving around in 20-year-old designs that have cutting-edge technology inside? Are we going to be driving old cars with state-of-the-art technology on the inside? Ola, what do we have to -- to look forward to?

Ola Kallenius

I think that last point, my whole design and styling team, they would resign if that would be the case. But don't worry about that. It's not going to happen. We're a luxury brand. We make luxury products. Like every luxury brand, you always have to reinvent luxury. It's got to be the right thing at its time. And styling is so important. It's so important that you keep the product fresh. So in terms of product life cycles, how long they are, I don't foresee a major shift there. That will probably stay the same plus-minus.

But once you have bought one of those vehicles and many of the Mercedes turns into classics, to hold on to them, some of them appreciate more than the stock market if you buy the right one. And the great news is that product will be even more valuable because those engineers -- those engineering angels in the background, they are providing more content for you as you go along. But don't worry, we will always have imagination for reinventing what luxury in the automobile space is supposed to look like. So stay tuned.

Yasmine Blair

Jensen, in terms of sustainability, do you picture yourself cruising around California in a 20-year-old car with the most modern technology on the inside available?

Jensen Huang {BIO 1782546 <GO>}

This is a great advantage of Mercedes-Benz. Mercedes-Benz has classic timeless designs. One of the things that you see is, is the Mercedes-Benz customer base are updating to the newest Mercedes-Benz all the time. They want the latest style. They want the latest design. However, yesterday's Mercedes-Benz is a beautiful Mercedes-Benz for hundreds of millions of other customers who aspire for that.

And so, I think one of the things that's really fantastic is with this new type of architecture and this new way of providing products and capabilities and applications to customers, the long tail -- the long tail of customers that are able to enjoy Mercedes-Benz will still continue to be able to get the latest capabilities and software, the latest enjoyment, the latest refreshes and Mercedes-Benz, of course will be able to benefit from that larger and growing and growing installed base. And so

this is a great advantage for Mercedes-Benz in my opinion, because of their beautiful design that are cutting edge, at the same time is timeless.

Yasmine Blair

That is agreed upon. Thank you, gentlemen. I'm afraid that's all the time we do have left for today. But to all of our reviewers, please do feel free to approach the media contacts at either company to get any questions answered that might remain open. Again, our time is, of course, limited.

And once again, Mercedes-Benz and NVIDIA have just announced an upcoming co-operation. The next generation of Mercedes-Benz vehicles will be equipped with the NVIDIA AGX Orin platform. An AV and AI system that will be upgradable and updatable throughout the entire lifespan of the vehicle. So some very big news here today.

Thank you so much, Ola, and Jensen. Thanks for joining us.

Ola Kallenius

Thank you.

Jensen Huang {BIO 1782546 <GO>}

Thanks, guys.

Yasmine Blair

Thank you to all of our viewers. See you soon.

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