WEBVTT Kind: captions Language: en What if the climate cooled, tensions thawed and the sky was a clear blue? What if power outages were a thing of the past and our businesses were future ready? What if our digital footprints were no more dangerous than our physical ones and the only limits to a better world were the limits of our own imagination? What if this weren't just a pipe dream, but a possibility, even a promise? Because while prosperity is an ambition, not a guarantee, progress awaits and technology is the most powerful tool humanity has

With technology, we can build a digital blueprint for a better world

Where AI enabled smart grids accelerate the energy transition and the products we buy exceed our increasing expectations

Where electrified transportation is not only sustainable, but also efficient, consistent, resilient

Where buildings self optimize, healthcare is personalized and the next big idea is just one leap away

This is what's possible when data combines with advanced technologies to reveal industrial insights

And those insights enable us to decarbonize our communities

It's the promise of software defined machines that adapt to ever changing conditions and give us ever better goods

Robots that pick and pack with human like precision and co pilots who understand and advise so humans are free to do the work that only humans can do

It's the power of industrial AI fundamentally transforming the way we commute, consume, create, play, work

It is the impact of Siemens, our ecosystem of partners, our customers together using the best of digital innovation to create a better real world today and for every day that follows

This is technology to transform the everyday for everyone

Please welcome to the stage Peter Curta

Well, good afternoon

It's great to be here at CES with you this year

Last year we were at CS to talk about the industrial metaverse, about the three building blocks, what it takes to build it

We talked about physics based digital twins, software defined automation and we spoke about AI

Now this year we are here because we know that on everybody's mind is

Is AI overhyped? And we'll show you today that the answer to that very question is absolutely not

Why? Because AI is going to create real impact across all the industries that we at Siemens serve today

We have a lot of news to share with you in the next few 40 minutes

So we're going to start and talk about announcing five new AI powered products that will help our customers to solve real world problems

We're going to talk about a very exciting partnership with Jet Zero to completely reimagine air travel

And we're going to talk about collaborations with our ecosystem partners to scale our impact

So incremental change, iterative Innovation is a natural human inclination

But in the face of an environmental crisis, of geopolitical instability and shortage of skilled labor, we don't need steps, we need leaps

And at Siemens, we are giving our customers the confidence to take those leaps by fundamentally transform the way how industry operates

And the way we gonna do that is through industrial AI

So what is so special about industrial AI? Well, if your regular AI gets the tone of your email wrong, that's one thing

But think about it, if the AI gets the programming of a machine wrong, or a medical diagnosis wrong, or even the management of an energy grid wrong, the consequences can be outright catastrophic

So therefore, industrial AI needs to be safe, it needs to be reliable, and it needs to be trustworthy

And as you all know, AI needs data, a lot of data

And turns out, as you probably have read that for training these large language models, we are about to run out of data to train them

But in the industrial world, it's a very different thing

Not sure if you know, but there are 17 billion smart devices out there, twice the population we have on this planet

And that number is going to grow by almost 20% every year

And these devices, they're going to generate an enormous amount of data, a rapidly increasing amount of data about the products we use and about the world that we live in

This is a huge data treasure

Except 80% today is not used

It's valuable data, wasted

But with industrial AI, we can turn this data into impact and we can turn it into real value

That's why we are absolutely convinced that industrial AI is going to be the game changer going forward

In fact, today already we have more than 30 AI powered applications with real world impact

And let me give you a few examples

Take buildings

As you all know, we spend 90% of our time in buildings

And with industrial AI, we're making these buildings more efficient, we make them more comfortable and we make them better for the planet

But how? Well, as just one example, we take our AI powered offerings to manage cooling systems and thereby we reduce energy use and carbon emissions by 30%

Or take energy grids

You probably know that the demand for electricity is expected to double in the coming years, while the share at the same time of variable renewable energy sources like wind and solar is rising too

And for grid operators, that means a significant challenge

But with industrial AI, we can help them to increase grid capacity by 30% and manage that fluctuating nature of those energy sources

Without AI, this energy transition could not happen

And then lastly, take factories and there's a lot of Talk about factories

Because there's an enormous amount of shortage of skilled labor

The people with the expertise to program or maintain the machines on the shop floor, they are leaving the workforce

Since 2019, the average factory worker's level of experience has dropped from 20 years down to three years

Three years

And American manufacturing executives, they have unsurprisingly seen a corresponding downturn in output

Industrial productivity down 10%, product recalls up 33% and workplace fatalities up 9%

So imagine you are a new employee and it's your second week

You're working the graveyard shift on a Sunday morning in a factory and suddenly the machine in front of you, it breaks down and the line stands still

You look around, there's no colleague to call and there's no manager to address

That is exactly the perfect place where industrial AI and technology can help

So specifically, Siemens has developed together with Microsoft, the Siemens Industrial Co Pilot

The Siemens Industrial Copilot functions pretty much like a human colleague

It's a smart, experienced human colleague, except it's available 247 and it helps you set up your machine, to program it and to troubleshoot it

Already more than a hundred companies are using the Siemens Industrial Copilot, which is the first gen AI powered assistant designed specifically for an industrial environment because it is safe, reliable and it is trustworthy

So it enables workers to make these better decisions, smarter decisions

And we want to scale this technology because we want to ensure that all customers can have access to the Industrial Copilot wherever they want to have it

Today they can run it

The Siemens Industrial Copilot in the cloud

This is where we started

But we know that many industrial companies don't want to have their sensitive data to leave the safety of their factory

So we made the copilot available on premise 2

And now I'm very pleased to share our first product announcement of the day

That is, we are bringing the Industrial Copilot down to the industrial edge

So by bringing it to that shop floor, it means that the device sits right beside our customer machines

And with the Copilot on the edge, the data processed right there on the factory floor

And thanks to our partnership with Nvidia, we bring high performance compute with GPUs down to the shop floor

And that means that our customer sensitive data is always secure, latency is much, much lower and the costs are lower too

So these are just a very few examples of the many we could show and share with you today of how we are using industrial AI to make real world impact

So yes, AI is a lot More than just hype

And you get even greater value if you combine industrial AI with other technologies such as digital twins

And therefore, I want to bring out one of our customers who is doing exactly that

So please everyone welcome the co founder and the CEO of JetZero, Tom O'Leary

Hey, Tom

How are you, Peter? I'm great

How do you feel? Fantastic

So happy to be here

We are too, because I have to say, we talked about we want to take leaps and not steps

And that's exactly what you're doing

Actually at Jet Zero, you are fundamentally changing the way we think about air travel

So that's why we're very thrilled to have you here

And maybe you can tell us a little bit about this airplane that we see in the back, because not sure about you, but the airplane I came looks very different to the one that we're looking here

Yeah, absolutely

So happy to share this with you

Really

When you look at this airplane, the shape is the new technology

So, you know, it's brand new

From tip to tail, though, from the avionics to the engines

We're using really existing systems

And that's so we can speed its entry into market

Because really why we want to bring this to the market is the shape allows us to address everything that the market demands, what our customers demand at the airlines

Right

And that is with a blended wing, you can have an incredible step change, a jump in efficiency

That's what our airlines need most

They know that this shape allows us to change everything for the better, whether it be better performance, better comfort, and they need us to do that seamlessly within the infrastructure and the environment that they operate planes in today

So this plane is just what the doctor ordered

Looks terrific

Now I would think that to build something like this, I mean, it's still

I mean, you're about to build it

You need a lot of technology, cutting edge technology

And you choose Siemens as your technology partner

So share with us why that is

Yeah, this is an incredible challenge

It's an incredibly big and bold challenge to bring a new commercial plane to market

Right

So we needed the best and of course we wanted to partner

We have to build this new shape at high rate because the demand is going to be high

And so we wanted to partner with the global leader in manufacturing technology, but it goes so much further than that

Right? Because it's about the technology, the design, and also the technology to make those designs real, from the twin into manufacturing for automation

So Siemens offers us the power of a fully integrated platform

It can't be understated how important that is for a company like Jet Zero to realize this bold vision

So we need to gain insights, we need to look at full scale production before we ever put a shovel into the ground and build that first factory

So together we're going to create a roadmap that's going to lead us from engineering design all the way to full rate production

Which is exactly the challenge we always look at as a technology company

And that's why we are very glad to announce today that Jet Zero and Siemens, we're coming together and we've signed an agreement on the technology that will revolutionize the future of air travel

Absolutely

So we are very happy about that and maybe we talk about that very future because your blended wing aircraft is due to debut already by 2030

So that sounds rather ambitious

Yeah, 2030 is right around the corner really from developing manufacturing and so forth

It's coming soon

So the only way for us to get there and collapse the timeframe is with industrial AI

I mean this is so, so critical

It's going to help us get there

You know, ultimately we're engineering a product for our, our customers, the airlines, and that will improve their performance

Industrial AI is going to do the same for us

That's, that's what we as customers to Siemens look for

So Siemens is already providing us all the fundamentals that we use today for, for design tools, digital twin, digital thread, all the way through to building a factory of the future

It is the backbone for us

But our vision is that Siemens will be a partner to show us how AI is going to inform and really even just accelerate everything that we're doing from the design all the way through to the manufacturing

What we like a lot about what you're doing is that you want to create the world's first aircraft that is fully digital, meaning from digital design to digital production to digital maintenance

And maybe you can talk us through about also starting with design, what that really means for you

This is a great big challenge, right

Because we're entering a very mature space

Right

So this digital twin is a strategic competitive advantage for us to be able to begin with the end in mind and effectively create a simulation virtually

We can de risk the manufacturing process kind of what you showed there and we'll see more

It's going to let us validate our approach and scale our processes long before we take these planes to the skies and before we break ground in a factory

This is an incredible, it's basically a leap forward right off the starting block when you're building something from scratch

So thrilled about it

So you spoke about that very digital twin and we have to think about that

You actually can also immerse yourself in there so that you can start to design, collaborate, explore that product with many people around the globe

Yeah, this is so important for us as a distributed company

We started the company in Covid, we had no facilities, everybody was distributed globally

So this is so critical to what we do

So then last year at ces, we showed a groundbreaking new product that can enable exactly this kind of immersiveness, which is the Sony head mounted display for immersive engineering

And the great news also today is that very device, while pre showed last year, it's now available for purchase

And this mixed reality headset, it enables the next generation of 3D content creation

It's built on a Qualcomm Snapdragon XR2 Gen 2 platform, which gives us the compute that we need to make it seamless

It has two 1.3-inch OLED micro displays with 4K resolution, which means it pretty much matches the precision of the human eye

And, and with the two precise finger controllers, it's very intuitively to manipulate and to design these 3D models

There's four tracking sensors to detract the spatial information

And the haptics are amazing because they really feel incredibly natural in that very mixed reality experience

And I only can invite you to test it because the headsets are very comfortable that you can wear them also for extended use

And these headsets were originally developed by Sony for their own engineers, engineers who used our Siemens software at the time and still do, to design the Sony products

But the Sony folks, they got so excited about that that they found the immersive experience so beneficial

They partnered with us so that we also can offer it to our customers

So customers now like Jet Zero and Tom

Therefore, the question is, how would you envision to use such a device as the son head mounted this plane, we

Just can't wait to get our hands on it and utilize it for effectively everything

I mean, that's really the plan for us

So maintenance, manufacturing, inspections, and we want to accelerate that

On the way here, I stayed on the tarmac for an extra two hours because they had to make a small minor repair

And then it was really the paperwork that we were waiting for

So we're looking for a world of maintenance where these type of devices can be huge

But really productivity improves in the design process when engineers can engage at human scale and collaborate globally

So where colleagues can access the Information and the designs from anywhere in the world and collaborate from any of the world

The speed and insight that this provides us, it's going to have an extraordinary influence on how we design the airplane and how we mature the, the whole design process

That's great

So that's all about the design process, but we also talk about the factory

So how are we going to build that? So I understand that that blended wing aircraft that we built at a factory right here in the United States

Any, any, any news to share where that is, that factory? We can't share that just yet, but we have been going through a rigorous process

It's going to be here in the United States

The Air Force is one of our customers

That was, that was something that they were particularly keen on, is making sure that we were building our factory here in the United States

But it's going to be a fantastic state of the art facility that we're relying heavily on Siemens expertise to help us build

Great

End of the first quarter

End of the first quarter

All right, within the first quarter we'll announce the state where we're putting the factory

Now for us, that very factory is very exciting because we also want to bring our customers, customers there and to show them how hardware software is really working together and can create additional value

So tell us a bit about that factory, Tom, if you would

Well, I mean really the impact for the environment for this plane is going to be significant

But what we'll be able to do is use automation and digital tools to adapt quickly to the changing demands

I mean, this is going to be a next gen factory

So interconnectivity to the production line is key really

We're just looking forward to being so much more agile because of the software and the hardware that are tied together

This kind of digitally native design through to manufacturing that we're doing is just simply not available through legacy systems

It's a step forward

So that's a great advantage that we look forward to being the beneficiaries of

That's great

And exactly that's what we want to do

So we want to bring many of our customers there so that they can see and then believe really what is actually possible to bring all of this together

And since you've been a Tesla, you know pretty well of how important that is to scale up and already think about in the very early design process about the design for manufacturing

Absolutely

We're just, you know, lather, rinse, repeat

We're deploying those same sorts of principles as we work on jet Zero

That's great

So may I shift gears to sustainability? So Jet zero, obviously is all about zero, I would imagine, on carbon

And we know that aviation is a contributor to greenhouse gas emissions

And the blended wing aircraft actually has, I guess, a lot of advantages to get us there

Yeah

This is a much more pragmatic approach to how we get to zero carbon emissions, or net zero, which our name implies

Right

That that's the ultimate goal

And we feel that goal is inevitable

It's a matter of, you know, what, what kind of time horizon

But the question is, what's the first move forward? Right

And so we can get to a 50% improvement by lowering fuel burn by 50% with this design, and then that's going to enable us to move to more sustainable fuels

But really, all those solutions that get us all the way to net zero and then absolute zero, those all come at a premium

So the first thing you do is lower that burden

So this design is really the first way to do that

That's fantastic

So we are convinced this is the right way of going

So you have a clear vision of where the shape of air travel is going to go, and we have a clear vision of where that technology is needed, where that is going to go

And together, obviously, we can realize that very vision

Agreed

We're so happy to be partnered with Siemens on this

Again

For us, it's so important to be partnered with the global leader in manufacturing technology

And we're just grateful for your time and interest in helping us do what we need to do to achieve our vision

Thank you, Tom

For us at Siemens, it really is a big pleasure

It's very exciting to revolutionize the way we all travel on these aircrafts every day

And it's have been exciting and a privilege to have you here

Great

Thank you

Thank you, Tom

Now you just heard about how Jet Zero is going to use Siemens technologies to transform air travel

And these technologies are available on Siemens Xcelerator, which is our open digital business platform

And in many ways, the world runs on Siemens Xcelerator because every carmaker, including all the leading global EV manufacturers, they use it

All the top 12 global aerospace and defense companies use Siemens accelerator and as do 100% of uncrewed spaceflight

Eight of the top 10 consumer companies and eight of the top 10 battery suppliers are Siemens customers

And as a matter of fact, when you leave here, you might hear from Samsung or you may go to Panasonic's keynote

So what happens? These are Siemens customers

In fact, every single customer company that is delivering a CAS keynote here is either our customer or our partner

And that's why we love that the biggest companies are actually using Siemens Xcelerator to achieve their goals

But what about the smaller ones? And this is where we also have news to share because like with Jet Zero, we want to bring that also to startups

Today we launch our Siemens for Startups program because we want our technologies, our expertise in our ecosystem to be accessible to companies of every size

Through this program, early stage startups, they get access to essential Siemens offerings and accelerator at a significantly reduced price

So 90% off in the first year, 80% in the second and 70% in the third and occasionally even more

And our partner AWS, they will also give program participants another $5,000 in AWS credit for cloud computing

So with that, everything about the Siemens startup program is designed to help the startups scale

And startups like the ones you are able to see at our booths and there you're going to find companies like Arc Boats, they are out there to electrify the marine industry or Spinover, which is a Finnish startup that turns wood pulp and waste into sustainable textiles

Bayard Water, which lowers the cost and carbon footprint of clean water and desert control, good stuff which is making arid land fertile

So founders, they can apply there for the Siemens for Startup program right now and you can learn more about it if you go over to our booth in Eureka Park

So the world's biggest companies, they are using Siemens technologies and now the world's smallest companies are also going to use our technologies

And just recently the Nvidia CEO Jensen Huang, he said, well Siemens actually has become the operating system for industry

And to tell you more about how we are enabling our customer success and to share some more very exciting announcements, I'm very pleased to welcome my colleague Tony Hemmelgarn

Thanks Peter

So Peter referenced this operating system for the industry

I'm excited to be here today because I get to talk to you about how we're strengthening and expanding the technologies that are part of Siemens xcelerator

So we're not just throwing a bunch of tech together, we're doing this to help build out this physics based digital twin that Peter referenced

And over the next few minutes hopefully I can better explain what we mean by this physics based digital twin and what it really means to our customers

It's very valuable to be able to link that digital world to the real world

And the closer you can make that relationship, the more valuable it is for our customers because they need factories that can respond to really real time conditions

They want processes that can self optimize in the moment

They need answers to very, very complex questions

And some argue that the way to deal with all this complexity is to reduce the complexity, but that's not realistic

Products are becoming more complex

The manufacturing processes for them are more complex, as you just heard in what's going on with some of the technology that's available today

So we think differently

We think we can have our customers use complexity as a competitive advantage

Use complexity as a competitive advantage

What do we mean by that? If you've got all this complexity, you need to be able to make decisions very quickly and with confidence

If you get enough digital representation, that real linkage to the digital, if you can get that close enough, you can move really, really quick and go through that complexity

You know, we just heard about Jet Zero talking about what they're doing in aviation

And it makes me think about the Wright brothers

Theirs was not a step, it was a leap, a leap of faith

Can you imagine you're standing on the edge of that hill and you're about to do that first flight

Is this aircraft going to hold together structurally? Is the engine going to keep running? What if it's a windy day? What's that wind going to do to the effects of the airflow across the wings of that plane? I wonder the Wright brothers, what their experience would have been if they could have used some of the technology we're talking about today

So today, for example, we're introducing a new copilot specifically for designers

This is one of many copilots that we're doing with Microsoft

Microsoft brings the platform, we bring the industrial data

It's a very powerful combination to be able to bring those worlds together

We gather critical customer knowledge, as Peter referenced

We keep it private to that customer, but we use all of the data, the knowledge of that customer, along with our industry knowledge, to be able to help our customers

So when the Wright brothers were designing, they had many risks to think about, many questions

I wonder if the copilot could have helped

For example, let's say we've got a part on the plane

We want to reduce the weight of that part for the flight that we're doing

But I got to know it's strong enough

Could it hold a thousand newtons? Could it withstand 1000 newtons of pressure or force on this part? So to give you an example of what we mean by that, we've got a copilot, we've got a part here, and I simply ask the question Look, I want to do analytics on this part

The Copilot software looks at the part, does a little bit of analytics and says, okay, well based on what we see, you've got four holes

I assume those holes are where you're going to fasten or hold the part

And the green is where the load will be applied, that force that we spoke about

The software then runs an analysis on it and you can see it comes back and it shows me it's not really that stressful

In fact, you've got a part that's probably too safe, meaning it's too heavy

So what do we do? We say, well, the software says, do you want to optimize it? And again, all I do is say, yes, optimize the part

So it optimizes and then it comes back with a different shape, software design shape that says, you know what, I made it a lot lighter, but it's just as strong

So think about, these are the kind of decisions you can make in the virtual world to move faster with a lot less cost to be able to do these types of things

Another example in the automotive industry, for example, the Copilot can help you with trade off decisions because we've got this physics based digital twin

In this case, the designer wants to reduce weight as well on this vehicle, but also not risk the structural integrity of the vehicle

So I asked the question, hey, what are the materials used in this thing? It shows me

And then I said, well, you know, what are there alternative materials I could use? And by the way, while you're doing that, could you tell me which ones are more sustainable and how I do that? And again, we're leveraging all of the knowledge of the company and the individuals to be able to bring that and to be able to make these, answer these kind of questions

Another example, I'm a designer and even if I had an advanced user, I still can't know everything about every domain

So I might just ask simple questions or I need to have a refresher

I don't know all of the things I need to know

In this case, I'm asking questions about structural and styling

What do I need to know about doing the styling and the structure of this vehicle? And so really what we're doing is bringing all this knowledge together to be able to do that

And while these chatbots are quite interesting, there's a lot more to it that we're bringing to this

For example, when you think about what we're doing with industrial AI, industrial data and industrial use cases

So for Example, we think about AI in kind of three ways

First is analyze

I'm just going to help you do your task

You're a new employee, you don't know exactly how to do these things

I bring all the knowledge of the company to help you, to run you through

That's analyze

I can optimize, make recommendations about how I should work the design trade off

Maybe I make a trade off between sustainability and the cost that's associated with that sustainability

Effort that I have then finally is generate, you know, what I describe what I want, let the software build it for me and see what it comes back with

So AI needs the data to be able to do this

And Siemens has a very unique advantage in that our software brings a lot of data through our applications that we do to be able to design, build, whatever

But also we run many of the factories in the world with our automation capabilities

So all of that data is what we bring together to be able to solve some of these very difficult problems

And again, for AI to be effective, you need a physics based digital twin

And while I believe we do this better than anybody in the world, you're never really finished bringing those worlds closer together

And what do I mean by this comprehensive digital twin or physics based digital twin? Think about some of the parts we've discussed

You've got a plane, you've got the headset, just simple examples, things you deal with every day

If you're a digital twin can only do the mechanical design and can't do anything with electrical

You really don't have a digital twin, do you? And then you've got to think about software and then you've got to think about the manufacturing engineering, the manufacturing planning of the factory that's going to do it

And then you've got to run the factory

If you take any of those pieces out, you really don't have a digital twin

So you can't make those decisions fast, you can't go in confidence, and you can't leverage complexity as a competitive advantage

That's what we bring to our customers

And so when we started building this out, we said, well, what other things could we do? We've been a leader in computer aided simulation for over a decade, but we recently announced an agreement to expand on this with Altair Engineering

Altair provides capabilities for simulation

It's a $10 billion acquisition, the largest acquisition we've ever done in the history of Siemens

And what they bring to us is, you saw earlier when I took that part, I said, make it lighter, make sure I Keep the strength there

Altair then helps us understand other things that happen in the real world

For example, if I drop my phone, what happens? How can I simulate that? I can simulate a crash of a vehicle and know exactly how the vehicle's going to respond

These are the things that they bring to us

So no other company can provide as much valuable data and insight to their customers through a digital twin as Siemens

It's the reason so many people select us for our software and our solutions that we have today

I'm also excited about to talk about a partnership we have with IBM and Accenture

What we're doing here is creating a design and verification environment for software defined vehicles

More and more products, software is in that software defined vehicle is a term used by very much today in the automotive business

And what happens here is when you're developing a product that has software and hardware together, they develop at different paces

The problem is you need to have a relationship between those two things because they are related

You've got to understand that linkage that's there as you go forward

Consider, for example, the Sony headset

When we're building this thing, we build it for work in an office environment

But now we're thinking, well, what if we go into the factory? Well, the sound in the headset is going to have to be amplified because the factory's noisier now

You need more power

Is the integrated circuit going to be able to handle that? Right

So you've got to think about those things

You've got to think about electromagnetic interference in the factory

You don't want to discover or find that problem after you've started fabrication of an integrated circuit onto a wafer

If you find it at that point, it's extremely expensive

We want to make sure we can do that up front as you do the design process

And as more and more companies are developing their own integrated circuits, particularly even in automotive today, they want to do this all up front

We call it shift left

Find the problems early so you can make sure that you're not doing it late in the design and manufacturing process

So what we've done with Accenture, with IBM is we've defined a framework that allows our customers, a cloud based solution to be able to do this, to move quickly

Because we find we've built a way to do end to end traceability

You make a change in the hardware software, we can trace the two back together and show exactly how you make those decisions

We're helping our automotive companies get the software right faster and get it out with better quality

Again, it's an enabling factor

That's not just a step, but a leap when you think about where we're taking that with our customers

And by the way, you can see some of this at our booth and see some of the demos at our booths here at CES and what we're doing with this technology

Peter spoke about startup companies

And I suppose if you think about it, the Wright brothers were the ultimate startup company, right? Not a lot of capital, gotta be agile, gotta move fairly quickly

And so what we're doing is to help startup companies, we're introducing a product called Design Center

What we do at Design center is we take our authoring capabilities

We have a tool called NX for solid modeling

We've got Solid Edge

We've got other types of tools that we use that are cloud based and so forth that allow our customers to be able to grow with us and their data grows with them as we go forward

What do I mean by that? Oftentimes a startup company will select a piece of software and it works really well as the startup

And then as you start growing and expanding, you need more

And oftentimes what happens then is you've got a major revolution you go through

You've got to migrate data

You got all kinds of things you have to deal with

We wanted to make sure that we don't have that with our customers

So with companies like Jet, Zero can start quite small and as they grow, really what we have is zero interruption of the data

The data can move back and forth through that entire process and make sure that we guarantee that it's an evolution rather than a revolution in the way you deal with the software

It also works for large companies with their supply chains to be able to integrate because they could be very small companies

You want to make sure the data you produce in those companies is compatible with the larger companies all the way through

Design center is the way we will solve that problem

By the way, every one of those Sony headsets that we ship to our customer will have these design capabilities included with the headset as we go forward

We're also here today to talk about our Team Center Digital Reality Viewer

We bring the digital twin

Again, we bring the digital twin to the process

Nvidia makes it look photorealistic

I'll show you some examples of how we think about that

If you think about 3D modeling over the years, really you interacted with models that were kind of in basic colors

When you think about how you view the product or view what's going on with the colors in this case

So, for example, an automobile, if I want to see it in a photorealistic mode, in the past, you would go to a special room called a cave, and the cave would have these projection screens on the walls, the ceilings, everything else

And you could say, well, look, I want to see what the sun looks like hitting a body panel or whatever

But it was a very expensive process because you had to go to this room to do it

And by then you're limited

Only a few people got to go

We looked at it and we said, why are we not making this available to everyone all the time? That's the work we've done with Nvidia to be able to give it and provide the access to this anywhere

And you can see the digital twin, a real model

Every nut, bolt, screw of the thing is modeled

You know exactly how it's going to go together

And then Nvidia helps us put it in the background and makes it look, you know, photorealistic as you go forward

So we've talked about this digital twin, the physics behind it, the idea of how we bring it all together, how we leverage AI on top of this, Peter's going to take the next step and shall we bring all these pieces together to really start making decisions a lot faster with our customers? Thank you so much

Thank you

So when we add industrial AI to the technologies that Tony just talked about, like the most comprehensive digital twin, we're actually able to accelerate our path to, yes, the industrial metaverse

And that means that you not only get the experience to get into your factory in a digital world, optimizing it for the real world just a thousand times faster, you also get the opportunity to ask questions along the way

So let's come back to our factory example, our factory worker

Let's assume you're the plant manager and you are taking over in the morning and you actually want to know what happened there last night? And was actually everything properly corrected? And these plan managers now, they are able to get these answers and insights in real time

And the only reason why that is possible is all because of the industrial AI that works in the background of this

And at Siemens, we are the leader in industrial AI

And let me give you the three reasons why we think so

For one, Tony spoke about that we have access to data, and not just any data, but specifically to very relevant data

Every third machine today in the world that is on the shop floor can be connected through Siemens controls, and we manage more design data than anyone else out there

In the world with our lifecycle management software

So we have access to design and automation data like no one else

Second, it's not just about the data, actually you have to have deep industrial know how to make that very data useful because you have to understand the pain points and the use cases of every single industry that we serve, like the cooling systems in the buildings I referenced earlier

And today we serve more than 25 industries from automotive, aerospace, to pharma, semiconductor, oil and gas utilities, you name it

So we bring that deep understanding of what really drives our customers

And then lastly, let me emphasize, AI is not new

We have built industrial AI already for decades and today we have more than 1,500 AI experts and we have a patent portfolio of more than 3,000 AI patents spanning everything from

generative AI to neural networks to machine learning to blends of it again all coming together

And we see how this technology has the potential to change the world for the better

And that's why we are uniquely equipped to deliver that piece in the industrial world

So today you heard about Jet Zero and why Jet Zero chose Siemens as its technology partner

Because we are the only company that can deliver the full set of technologies all the way from engineering to production that they need to transform air travel

Thank you Tom for that

And you heard a lot about new technologies that we're going to introduce this year

Technologies such as the ones that you saw like the Siemens Industrial Copilot now also being available on the industrial edge

You saw the Sony Head mounted display for Immersive engineering, the NXX Design Copilot Design center for Small and Large and Team Center Digital Reality Viewer

So all of these technologies enable companies big and small to make those leaps that we need those leaps to become more competitive, more sustainable and more resilient

And that is technology that transform the everyday for everyone

Thank you.