

IR Fireside Chat Series Data & AI

Company Participants

- Brett Iversen, Vice President of Investor Relations
- Eric Boyd, Corporate Vice President of Azure AI Platform
- Jessica Hawk, Corporate Vice President of Data & AI Product Marketing

Presentation

Brett Iversen {BIO 22252603 <GO>}

Welcome, everyone. I'm Brett Iversen, Vice President of Investor Relations. This is the eighth in our series of quarterly videos focusing on strategic areas that are top of mind for our investors. Today's discussion will cover data and AI, including our view of the growth opportunity, our differentiated offerings, and how customers are already using our solutions today. We've brought together two of our key leaders to answer your most frequently asked questions.

We have Jessica Hawk, who leads data and AI product marketing, and Eric Boyd, who leads Azure AI product development efforts.

As always, we'd welcome any feedback on specific topics, the format, or other suggestions you might have after you view the video. Please reach out to our Investor Relations team directly with any feedback. With that, let's kick things off.

Questions And Answers

A - Brett Iversen {BIO 22252603 <GO>}

Thank you, both for being here. Jessica, maybe you can lead us out with a little bit of framing on how do we -- when you talk about data and AI together, how would you help our audience think of those two concepts together and why we think that's important?

A - Jessica Hawk {BIO 20774986 <GO>}

Sure.

So, I think you've probably heard me say "Data truly is the lifeblood of AI." And so, AI is, without question, having just an amazing moment right now in the marketplace.

It's truly a call back to "how is your data organized?" It is a complete get-your-data-house-in-order moment as customers get really excited about what these AI capabilities can do for them.

We -- there's some just horror stats out there about data, data growth, data sprawl, data lakes everywhere.

The most recent one I've seen is that we're projecting 181 zettabytes of data by 2025, which is a ginormous amount of data swirling around the ecosystem.

So for sure, just in terms of getting ready and organized to take advantage of the moment, it is a complete call to action to accelerate your digital transformation journey.

And so, last year, we announced the Microsoft Intelligent Data Platform in anticipation of these opportunities that we were bringing because we know that customers need to get the data organized to take advantage.

So that's a -- think of it as the way we describe the full breadth of the data offerings in Azure that organize around operational databases, which are the data estate systems that have been supporting apps for decades --

A - Brett Iversen {BIO 22252603 <GO>}

Right.

A - Jessica Hawk {BIO 20774986 <GO>}

-- analytics capability to make sense of all the data without impacting the performance of the applications that are running on the operational data stores.

Then the governance that's required, especially with the ginormous growth of data in the -- in our customers' environments, to ensure that the right people are seeing the right data at the right time.

So, we organize the business at Microsoft as a data and AI unit, because truly, these two things have to go hand in hand.

A - Brett Iversen {BIO 22252603 <GO>}

Yes.

Our phones have been ringing nonstop with some of the announcements lately as well. Eric, we'll bring you in as well. And also, thank you both for spending the time today.

One of the questions we ask in all of these sessions, given our financial investor audience, how would you think about the growth opportunity?

How would you help frame that for folks watching?

A - Eric Boyd {BIO 20815367 <GO>}

Yes. I mean Jessica sort of alluded to it with the technical term ginormous. Honestly, when we think about it, this is really the most significant, transformational technology breakthrough in our lifetimes, which this -- that's saying something, right?

A - Brett Iversen {BIO 22252603 <GO>}

Yes.

A - Eric Boyd {BIO 20815367 <GO>}

I mean we've lived through mobile. We've lived through the Internet. Like, the world has changed dramatically, and we really feel like we're poised to see that happen again with this transformation in AI.

We really feel like Microsoft is super well-positioned for this as well. I mean we have the foundational infrastructure, everything from Azure to our developer tools with Azure Machine Learning and our Cognitive Services, all the way up to our SaaS offerings all across the company from Office to GitHub to everything that we offer.

And so, it really positions us in a really, very strong way.

So, we're really excited about the opportunities that we have here.

We also see these as additive opportunities as well. These are new things that people are coming to us for. If you go and tell a company, "I can make your developers 55% more productive by using GitHub Copilot," that's something they want to go after. It saves them money, drives their productivity.

So, these are really additive scenarios to the work that Microsoft already does across the board.

A - Brett Iversen {BIO 22252603 <GO>}

Yes. Ginormous works in their Excel models as well.

A - Eric Boyd {BIO 20815367 <GO>}

It's a -- yes.

A - Brett Iversen {BIO 22252603 <GO>}

They're excited about it. Jessica, back to you. In terms of data and AI and its relevance with the broader Microsoft Cloud vision, how would you help people think of all of that together and where we're differentiated?

A - Jessica Hawk {BIO 20774986 <GO>}

Sure. Well in the halls, you'll often hear me saying, "It's really an all-boats-rise moment."

A - Brett Iversen {BIO 22252603 <GO>}

Yes.

A - Jessica Hawk {BIO 20774986 <GO>}

And what I mean by that is, if you think about the Microsoft Cloud, we have our first-party offerings, so things like Teams and Outlook and GitHub.

The neat thing about what we're doing is we are taking all of the work that Eric's team is engineering, and we're infusing it into those first-party products from the get-go.

So, what does that mean?

It means that our testing cycles, our engagement loops between our engineering teams, our internal engineering teams are our largest and probably most challenging customer --

A - Brett Iversen {BIO 22252603 <GO>}

That's right. Yes.

A - Jessica Hawk {BIO 20774986 <GO>}

-- when you think about it.

But what an incredible opportunity from a software development life cycle perspective, because Eric's team is getting this continuous cycle of improvement and feedback and scale. The scale that these platforms operate at are second to none.

So, we take that same incredible throughput and feedback loop, and then we put that into our third-party offerings, so all boats rise.

Our customers are getting tremendous AI-driven capabilities through our first-party products. That same technology is now available in Azure as a third-party service.

And what we're seeing is, imaginations are starting to open up now. People are starting to really understand, this is unique. This is the biggest innovation in our lifetime. They're seeing it and experiencing it and benefiting from it in their first-party solutions that they're using from Microsoft. And now they can go build their own internal or customer-facing applications using our Azure services. It's truly an all-boats-rise moment for our customers.

A - Brett Iversen {BIO 22252603 <GO>}

Yes. I have to think it's super comforting for our customers to hear we're using all of the same tech that we're wanting them to embrace as well. Moving back to you, Eric, on the, I think Jessica mentioned, Azure AI platform. Maybe you could give us a few more details to help people that aren't as close to it as the two of you.

A - Eric Boyd {BIO 20815367 <GO>}

Yes, no, absolutely.

So, for us, it has always started with research.

So, we've been benefited by having Microsoft Research as a part of Microsoft for something like the last 30 years.

We've been first to human parity in a whole number of fields in AI.

What we then work to do is, how do we bring that work that's happened in the lab and makes a lovely research paper.

We need to now make that work for our enterprises. It needs to be at scale for all of the things that our customers need to do.

And so, Jessica alluded to the benefit that we have, we're really privileged as a company to have so many different businesses that we can partner with and learn, how is this stuff really working and how is it impacting businesses in a positive way?

And we then bring that into our products and make that available through Azure AI.

And so, all of this is built on the strong foundation of Azure, being able to have access to thousands of GPUs and computers and being able to pull them together.

Then we provide developer tools. Azure Machine Learning is a layer that developers can build and train and manage the full operational lifecycle, MLOps, of their models.

Then, in the next layer up, we provide a suite of cognitive services, and so in areas like vision, in language, in speech recognition, and of course, our partnership with OpenAI shows up there. These are models that we've built, that we make available, that customers can just go and call directly on their own.

Then, at the top level, we have Applied AI Services, where we look at the most common patterns that we see on these cognitive services, and then we package them.

So, Form Recognizer makes it really easy to take this invoice and get it into that database over there by using our vision services, our optical character recognition, and things like that.

And so, putting that whole package together for developers, but then we also use all of the breadth that we have across Microsoft.

So, it'll show up in developer platform where we'll make AI available, show up in the Power Platform where all these AI models are available. It shows up in Office.

So, all throughout our suite of products, we're bringing AI to our customers, leveraging this foundation that we have on Azure AI.

A - Brett Iversen {BIO 22252603 <GO>}

Yes. I think that breadth of offering, and I'll probably come back to that in a little bit.

A - Eric Boyd {BIO 20815367 <GO>}

Yes.

A - Brett Iversen {BIO 22252603 <GO>}

But again another area that's really kind of excited, maybe even caught our investors by surprise at how quickly we have so many different things out in market versus conceptually years out.

One follow-up to one of the things you mentioned, so OpenAI partnership, again our Investor Relations team, we get tons of questions on this.

Some of which we answer, some of which we don't.

But in terms of the importance of it and how we think about it, what can you help share there?

A - Eric Boyd {BIO 20815367 <GO>}

Yes. I mean it's been a really transformational partnership for us as a company.

We see these large language models as being foundational to driving this transformational change that we see really happening across the industry.

We realized early on that OpenAI had the same vision that we did for how you could continue to grow and scale and make these models way more powerful by continuing to train.

So that really formed the bedrock of our partnership.

And so, from there, we just see tremendous advantage. I mean we've renewed our partnership.

We announced multiple years and multiple billion dollars, really to accelerate this work going forward everything from the work that we do on supercomputers.

So, we learn tremendous amounts about how to build the right infrastructure, which we then make available to other customers through our Azure platform, as well as make these services available.

We really get a first-mover advantage by being able to bring these to customers all across our industries as well as throughout our internal products, and so tremendous momentum there.

Then, of course, as a part of that, we're the exclusive cloud partner for OpenAI.

So just really strong benefits for both companies in this partnership, and we're really excited to see where we go with that going forward.

A - Brett Iversen {BIO 22252603 <GO>}

Yes. Whilst --

A - Jessica Hawk {BIO 20774986 <GO>}

And if I could just add onto that --

A - Brett Iversen {BIO 22252603 <GO>}

Yes, please.

A - Jessica Hawk {BIO 20774986 <GO>}

-- for a second. I mentioned in the beginning when we were talking about what happened in late fall, early winter. There's this interesting moment, and we have this in other examples, mobile would be one that I would mention as well, where technology breaks through into the consumer mindset. And Eric and I's children go to school together.

I would argue they might be some of the most popular kids in that middle school right now. Because their parents are somewhat associated with that amazing thing that was launched on the Internet last year.

When I talk about customer imagination getting sparked, I think it used to be that technology tended to follow what consumer demand was creating.

So, an example, pick your favorite app. It used to be, when companies would write business requirement documents to go build something, back in the day it was, you

would build everything you were going to do for the web presence, and then maybe you'd get too mobile. It was almost always like the last part of the Word Document.

Then consumer apps started to come out, and demand -- user experience demand went from just out in the consumer experience to, "I want the same amazing capability and delightful experience in my -- what I do at my office too."

A - Brett Iversen {BIO 22252603 <GO>}

Sure.

A - Jessica Hawk {BIO 20774986 <GO>}

And so, with the introduction of ChatGPT out in a consumer-facing way that's what I mean by imagination getting sparked.

I think that the bar for excellence is much higher, and there's going to be less patience with waiting for those types of delightful experiences.

So, what we're seeing is, our customers are maybe unlike with cloud when cloud first came out and there was some cloud adversity or concern, we're in the opposite position, where I think people recognize there's huge value if you can create those same delightful customer experiences with your commercial applications that people are getting accustomed to on the consumer side.

And we're seeing it already. There's articles and news stories being written. My favorite one is from a CNN article where they were citing that it's a real estate agency, and the agents are saying, "I will not do my job now without ChatGPT." That kind of speed, when you think about how fast that happened, they went out in December, and that news article was written in January, I think we're going to just see this massive lean-in and desire to innovate together, which is a, for technology, it's a wonderful opportunity for all of us.

A - Eric Boyd {BIO 20815367 <GO>}

Yes, the energy from customers has been, honestly, like nothing I've seen on any product anywhere, I mean --

A - Brett Iversen {BIO 22252603 <GO>}

Across the board. Yes, right.

A - Eric Boyd {BIO 20815367 <GO>}

It's just really amazing.

A - Brett Iversen {BIO 22252603 <GO>}

Yes, it's -- on that, I know that we're in the right space when I'm not just getting questions from co-workers or friends that are also in tech companies and other

places.

But my girls are coming home from school and asking me questions about it and talking about how they're using it with their friends. My mom's asking questions about it.

A - Eric Boyd {BIO 20815367 <GO>}

Exactly.

A - Brett Iversen {BIO 22252603 <GO>}

So you can see the --

A - Eric Boyd {BIO 20815367 <GO>}

The full span.

A - Brett Iversen {BIO 22252603 <GO>}

Totally. Like, and everyone has very specific case studies that are valuable to them that really resonate, which is a great spot to be in.

So on that, it was a good segue then, Jessica. We've had -- as a very senior marketing leader, you must have been excited about the steady drumbeat we've continued to have in terms of rolling out services. What would you share?

I mean there's -- it's hard to pick favorites but what are some of the things that have been resonating --

A - Jessica Hawk {BIO 20774986 <GO>}

Sure.

A - Brett Iversen {BIO 22252603 <GO>}

-- that you'd share with our audience?

A - Jessica Hawk {BIO 20774986 <GO>}

Well I think one of my personal favorites is GitHub Copilot.

It's not just because I used to write software.

But really, it's because I think we should be very grounded in the experience or the journey that we're all going through together, which is, this is a true technological advancement, and I think folks are waiting a bit to see how it plays out in terms of what's going to happen with the developer experience, for example.

When we announced GitHub Copilot at Ignite, we were really excited about the capability.

As a person who used to debug software all the time, I am not interested in doing that. I never was. It was exciting to see some of that automation, but I think people had reasonable questions about where this is all headed.

So fast forward six months, and it's pretty exciting when the GitHub Copilot productivity stats, Eric mentioned it, 55% more productive. That's incredible.

A - Brett Iversen {BIO 22252603 <GO>}

Right.

A - Jessica Hawk {BIO 20774986 <GO>}

But the one that really gets me is the excitement that the developers feel over their job satisfaction. There's -- I think it's something over 74%. They feel more than 70% more empowered to do the work that really matters.

That's what we're going for. This is truly a technology that's going to innovate for productivity's sake.

When you have people who are more excited to get to their desk every day to do their jobs as a result of some technology innovation, like, that's where we're all benefiting.

So that one jumps out at me.

Viva Sales is pretty exciting. I used to run a sales team. Certainly, it is similar to debugging in the software world. If you're a seller, CRM updates are pretty much the very last thing that you ever want to do.

Yet, sales leaders and marketing, everyone's always, "Get your CRM updates in there." And so just seeing that some of that sort of repetitive work, again same concept. Like, take the part out of the work that people truly don't enjoy and give them more time to do what they do enjoy.

So, Viva Sales is another one that really jumps out at me as pretty exciting.

I think it's just like increasing developer capacity, which is a concern for pretty much every customer that we talk to.

A - Brett Iversen {BIO 22252603 <GO>}

Right. They're getting out.

A - Jessica Hawk {BIO 20774986 <GO>}

I think sales managers and sellers are feeling the same type of pressure.

So, I think we're going to see a similar cycle of adoption with Viva Sales.

A - Brett Iversen {BIO 22252603 <GO>}

Yes. I was in the U.S. subsidiary of Microsoft a few jobs ago, and my sales friends would definitely agree with you that CRM updates is not what they would consider the most valuable portion of their day so if we can help simplify that. Eric, similar to what we do with the platform, maybe -- this is to both of you, maybe if you have a few more details on Azure OpenAI services.

Then, Jessica, you could help breathe life into it from a customer perspective with some examples and things that we're seeing people do.

A - Eric Boyd {BIO 20815367 <GO>}

Yes, sure.

So, the Azure OpenAI Service really is to provide our customers with access to all of the latest models that we've partnered with OpenAI to create.

So, obviously, GPT-3 and 3.5 were sort of the first versions that people could sort of get their hands on to experience the power of these large language models.

Then Codex, which powers the Copilot experience, DALL-E 2, which is a visual image generation one which has seen a tremendous amount of uptake, and then, of course, the amazing amount of interest we've seen around ChatGPT.

And so being able to get direct access to that model, really for use within their customers and for -- within all the different things they want to do for their applications.

We've worked at Microsoft really hard at sort of developing that through all of our different applications as well. I mean Jessica touched on that really powerful cycle that we have of being able to work with our first-party customers and really learn, where is this working, and how do we need to change the way these offerings are set up, and how do we need to really tune these models to work best?

And so, through that, we're able to offer just much better services on the other end to our third-party customers, having proven them at scale, having proven out the use cases with them and really made them work great.

A - Jessica Hawk {BIO 20774986 <GO>}

Yes. And I'd say in terms of customer adoption, we have over 1,000 customers who are using the service.

If I were to try to pick a couple that jump out at me, CarMax is a great example that I love to talk about, especially, again because it's a story of truly empowering an editorial team where they took all of their user reviews.

So, if you think about the last time you tried to go pick a restaurant for dinner --

A - Brett Iversen {BIO 22252603 <GO>}

Yes.

A - Jessica Hawk {BIO 20774986 <GO>}

-- the stars aren't really getting it done anymore. People are reading through, or at least I am --

A - Brett Iversen {BIO 22252603 <GO>}

Yes.

A - Jessica Hawk {BIO 20774986 <GO>}

-- to understand more about this restaurant. CarMax has a similar situation when you think about the service they're offering. It's, "I'm going to buy a car, and I want to go look at the user reviews on the car beyond the specifications that they had already coded into the platform." And so, user reviews are becoming a very good signal for buyers, but they have a small editorial team.

The last thing that that editorial team wants to do is read through user reviews to try to summarize what those reviews are saying.

And so, because they had already gone through the digital transformation process of getting their data up and running into Azure, they were able to apply the Azure OpenAI Service, which their senior development lead described as a comically easy thing to do, and I'll get back to that in a second, to then go learn from the sentiment in the user reviews, and you might say "Well we've had that for a while," but then go generate findings from that so that the editorial team could focus on creating the most engaging experience for somebody coming to try to learn about the cars.

They estimated that it would've taken them 11 years to do what they did in just a few days and weeks --

A - Brett Iversen {BIO 22252603 <GO>}

It's amazing.

A - Jessica Hawk {BIO 20774986 <GO>}

-- using the OpenAI Service, and so -- and the team is doing their best work.

So CarMax is one example. There's a global Austrian construction company called STRABAG, very similar situation. They were already getting the need for digital transformation.

So, they had taken their data estate and done the work of centralizing it up into Azure.

So similarly, they were able to take the Azure OpenAI Service and use it. They trained it on just a few months' worth of data, which that's a small sample. They went and looked at risk for their projects and were able to score Azure OpenAI's ability to go find that risk.

It was effective in 80% of the cases.

So, if you're thinking about companies looking at risk, projects, are they on time?

Are they on budget?

Are there considerations about what's happening at the job site that might put this project at the top of the list that's worthy of a phone call to see how things are going?

They have the ability now to get in the driver's seat, not find out after the problem has occurred, but actually start to seek signal earlier.

It's because they're using a service that can run across so much data that is beyond our ability to keep a developer coding for all the possible different inputs.

That's what we mean when we talk about generative AI that it's able to learn and create new experiences that which it's just impossible to keep up with from a software developer perspective.

So, they're in a position now where they can go find that risk ahead of time, which is job number one for companies like that.

Then, I said I would come back to it. I think this is a -- it's a rallying cry for our customers who have maybe been looking at digital transformation and getting the data house in order. The other part of my portfolio, I've got all the databases.

There's -- customers are trying to make it a priority. There's no question that there's massive capability and advantage that comes from getting your data house in order.

But sometimes it's hard to find justification, particularly in accounts where the system is there, and it's been working.

A - Brett Iversen {BIO 22252603 <GO>}

Right.

A - Jessica Hawk {BIO 20774986 <GO>}

So why now?

And I would say that this moment, as, again people are starting to internalize what it can do from a true business impact level, I mean the web experience with ChatGPT is fun. Nobody's knocking it. I've used it a ton. I had it help me with some naming things recently.

But these scenarios I just described with CarMax and STRABAG, they're real, true, hard-hitting problems in the enterprise that they're now saying, "Okay now I have a real business case for doing that migration."

And so, we've been saying, "Migrate to innovate." And I think we're seeing a different level of conversation with our customers right now, about their excitement to accelerate their data transformations.

A - Brett Iversen {BIO 22252603 <GO>}

Yes. I love all these productivity themes that both of you have mentioned. I even -- but even the creativity side.

One of our analysts called me soon after they were able to start playing with some of the early models, and it was a visualization. He was like, "Brett, this isn't just finding a visual that is closest to what I'm describing. This is creating and authoring brand new content." And we were supposed to have an hour-long call on a whole bunch of topics, and we spent it all on that one topic because he was so excited.

But well, I don't think you've given risk, and this topic is so big, it's always important as we're talking about AI and kind of what we're doing now on our path forward to touch on the responsible AI portion as well, because I know people want to hear how we think about that, et cetera.

A - Jessica Hawk {BIO 20774986 <GO>}

Sure.

A - Brett Iversen {BIO 22252603 <GO>}

Maybe you can help us with that piece as well.

A - Jessica Hawk {BIO 20774986 <GO>}

Well I'd start with what you just said there, which is, there's an education journey --

A - Brett Iversen {BIO 22252603 <GO>}

Yes.

A - Jessica Hawk {BIO 20774986 <GO>}

-- that we're all on, right?

What -- why is this moment with these large language models, we're using the term generative now, what does that mean?

How is it different from what we had with neural network capabilities back in 2017?

So, I do think this is an opportunity for us to live our mission where we're truly empowering our customers. There's a lot of education to be doing.

We've been working very, very diligently on building out responsible-use frameworks as an organization for many years now.

So, starting in 2017, we started to invest in a focused part of our -- both our legal team and our engineering teams to build out our principles.

We -- that's a -- it's a huge issue so you have to start with principles.

So, we developed our six principles.

Then our engineering team has basically been customer zero for how you put those principles into practice.

But what's really interesting and where I get excited in terms of trying to help our customers, because I think there is a desire to jump into the pool. There's also a recognition that this needs to be done very carefully, as with any technology, once it comes into an organization, despite the best of intentions, there's plenty of CIOs who could validate this, I'm sure. Things tend to take a life of their own, and so I think similar to how customers think about data governance, they're thinking about responsible AI governance.

So, we did something that I think is somewhat unusual for us.

We took all of the learning that we developed between our engineering and our legal team that's really focused on helping think through these issues, and we made that experience and the standard with which we operate against those principles available to the market.

So last June, we put the Responsible AI Standard out for customers to learn from, to adopt.

We always say, "This is a journey we're all on together." And so, we're trying to help recognize that the principles are great. Customers then want to say, "Okay but when I get fingers to keyboard, how do I think about doing this?" And so put putting that standard, think of it as a playbook, out there for folks to learn from, and then, of course, we continue to just infuse AI capability through tools and into our products directly.

So our company, customers, leaders, who I think need to meet the demand and the excitement from the C-suite, from the board, from investors, with an understanding that they have an ability to go execute against the opportunity and do it in a responsible way we're constantly infusing that directly into the products and have continued to put out a bunch of dashboards and toolsets that customers can use to just go inspect how are we doing against the principles?

Is the model being used the way it needs to be used?

Is there transparency in how the technology is creating insights or generating new content?

Transparency tends to be particularly important in this space, just to give them a way to go and seek signal and make sure that things are being used the way that they would want to be.

A - Brett Iversen {BIO 22252603 <GO>}

Got it. Given the size of the opportunity and the excitement around that in the finance world, at least, is, well, how much is it going to cost?

A - Eric Boyd {BIO 20815367 <GO>}

That's right.

A - Brett Iversen {BIO 22252603 <GO>}

And so like, specifically, kind of the capital spend over time that we think will be needed to scale this vision the way that we think it will scale.

So, no math specific needed, Eric, but how would you help us -- if I could adopt you into the finance group for a minute to help us think about this, what would you share with our audience?

A - Eric Boyd {BIO 20815367 <GO>}

I was a math major, so I can do some math.

A - Brett Iversen {BIO 22252603 <GO>}

I have no doubt.

A - Eric Boyd {BIO 20815367 <GO>}

Yes. I mean obviously, these models are very large and use a lot of data, and so there's a lot of compute used in them.

So, we certainly see that as a trend that we will see.

But that said, we also -- we use this, the compute fabric that we have, ours -- all of our GPUs, we use for all of the different use cases we have all across the company.

So, by having sort of this common fabric, we really get economies of scale.

A - Brett Iversen {BIO 22252603 <GO>}

Right.

A - Eric Boyd {BIO 20815367 <GO>}

And so, we're able to use the same sets of GPUs for Bing as we use for Office, as we use for a lot of our internal training, and all of those workloads really sharing that common fabric.

So, we see a lot of benefits coming from that.

Additionally, these models are going to get cheaper over time. We're already seeing that. I mean from sort of the first versions that we get of a model to sort of where we get them in production, we're able to dramatically reduce the cost that it takes to serve.

We do a lot of different work on it. Everything from looking at the individual kernels of code that are running on each individual piece of hardware and optimizing that to thinking about how I can use multiple GPUs and machines to sort of pipeline and stage things together and a lot of optimization techniques.

And I -- with so much focus and interest on this, we're just going to see more. We're going to see more optimization really coming around that, that's really going to drive this benefit to it.

So, I think we'll see a lot of benefit from that.

The other interesting thing to think about as you think about sort of this, the cost associated with it. AI has gravity to it.

So being able to really have these models, and then they need to run on data, the closer you can sort of bring that data to the model, the speed of light is a factor.

We just can't -- we can't go faster.

So how close can you get things really brings benefit to customers?

And so, if you're looking for the fastest way to sort of serve these models, the fastest inferencing speed and all those things, bringing everything together is going to be a big benefit.

So again we see a lot of potential with that in the work that we're doing.

A - Brett Iversen {BIO 22252603 <GO>}

Yes. I'm sure it's only additive to customer conversations we're already having. It's just one more compelling reason.

A - Eric Boyd {BIO 20815367 <GO>}

Absolutely.

A - Brett Iversen {BIO 22252603 <GO>}

Yes.

A - Eric Boyd {BIO 20815367 <GO>}

I mean Jessica sort of alluded to it, right, like, customers that are on the fence of, "Should I get my data estate in order?"

Should I figure out how do I do my digital transformation?"

A - Brett Iversen {BIO 22252603 <GO>}

Right.

A - Eric Boyd {BIO 20815367 <GO>}

"Is it finally time?" There's so much interest, and everyone is sort of moving in this direction.

So the people who are the laggards are starting to worry about, "Boy, we might become the laggards." And so how do they really jump on this wave and really accelerate the work that they've been doing?

A - Brett Iversen {BIO 22252603 <GO>}

One -- before I close this out, one last question maybe for both of you. Yes, just final thoughts and/or kind of what do you think about in terms of what's next?

Like, what would you -- where would you leave our audience in terms of closing thoughts on this topic?

A - Eric Boyd {BIO 20815367 <GO>}

Yes. I mean, I opened with, I think this is one of the most significant technological transformations in our lifetimes.

So, the other exciting part with that is we're literally at the starting line. I mean we've figured out some of the things that we can do, but we're constantly learning and iterating with our internal teams, with our customers, and sort of starting to see where all of this can go.

And I mean Jessica touched on the use cases. They're, like, all over the map in terms of the things customers are doing in every single industry that we see.

So, there's just so much more to come in this.

We haven't reached diminishing returns in any of the things we're starting to see as we continue to build these models and make them larger and really prove them out.

So, there's just so much opportunity just right in front of us that I think these next few years are going to be really exciting and fun to just sort of see where they go.

A - Brett Iversen {BIO 22252603 <GO>}

Yes.

A - Jessica Hawk {BIO 20774986 <GO>}

Yes. I would just add, I was on the phone with one of our large GSI partners this morning. I would say it's a "where do you want to go with your imagination" moment.

It's been a real rallying cry for those partners who are taking those customer calls just like we are around, "Get that the opportunity is here. It's amazing that the technology is here. I can't believe how quickly you guys pulled all this together. It's available for us to go build on now too. Help us think through, where do we get started?"

So, there's a lot of ideation workshops going on.

I love that it's a -- I've been around technology for a couple decades now. It's a total business-and-IT-together moment, which is, I think personally pretty satisfying for folks that work in this. Lots of conversation around, "We see the opportunity. The use cases are really quite broad. Let's get excited and focused on, where do we want to start.

Then let's just go."

So, a lot of our partners are getting super engaged in the conversation in terms of helping customers continue with their digital transformation and then prioritize, where do we start with all the opportunity?

So, I think us continuing to support our partners as they build up those practices is pretty exciting.

Then I would say for sure, it's, again supporting customers on their journey with regards to responsible AI.

So, you'll see lots coming around more support that we can provide our customers directly on that.

Then, finally, we're going to continue to infuse all of Eric's team's goodness into the rest of our first-party offerings, so you can be watching for that as well.

A - Brett Iversen {BIO 22252603 <GO>}

Yes. When the space is as big as it is, it totally makes sense to me that partners are like, "Hi, we're really excited, but help us know where to start," because there's so many places you could start.

Well, I know you both are incredibly busy, given how much this space is on fire.

So, thank you for both your time today as well as your insights. I appreciate it.

And we thank everyone for watching. We're excited, as you've heard, about the data and AI opportunity ahead, our position in this market where we feel like we're in a leadership moment, which is really exciting, and the value customers are already seeing with our solutions. We're glad we had some time to talk to you about it today so thank you.

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