UBS Global TMT Virtual Conference

Company Participants

- Colette M. Kress, Executive VP & CFO
- Simona Jankowski, VP of IR
- Timothy Michael Arcuri, MD and Head of Semiconductors & Semiconductor Equipment

Presentation

Timothy Michael Arcuri {BIO 3824613 <GO>}

Good morning. Hi. This is Tim Arcuri. I'm a Semiconductor analyst here at UBS.

We are very happy to -- in our next session, to have NVIDIA. With NVIDIA, very happy to have Colette Kress, who's the CFO. Hoping we can be back in New York next year. There's nothing better than New York during the holidays. So -- in more normal times, anyway.

So thank you, Colette. Thank you for being here.

Colette M. Kress {BIO 18297352 <GO>}

Absolutely. Thank you, so much, Tim, for putting this together.

Timothy Michael Arcuri {BIO 3824613 <GO>}

I guess first, I wanted to turn it over to Simona. She's going to read a statement .Then I'll start asking some questions.

Simona Jankowski {BIO 7131672 <GO>}

As a reminder, this presentation contains forward-looking statements and investors are advised to read our reports filed with the SEC for information related to risks and uncertainties facing our business.

Timothy Michael Arcuri {BIO 3824613 <GO>}

Thank you, Simona. Thanks.

Questions And Answers

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

So first I wanted to ask some earnings follow-ups, Colette. I guess the first one I wanted to zero in on was gaming.

Obviously you had a very strong quarter, up 37% Q-on-Q and also year-over-year, far better than even a normal seasonal mid- to high 20s with your new product launches. But it sounds like it could have been even better as you left some revenue on the table due to some supply constraints.

Can you talk a little more about this? Is this primarily wafer supply? And do you think that you will have filled the channel to where you would see actual demand levels by the end of fiscal Q4? Or will this take into fiscal Q1?

A - Colette M. Kress {BIO 18297352 <GO>}

Yes. Tim, thanks so much for the question. So first, let me start off with the audience and help them understand what we've launched within our Q3 time period. This is an opportunity for us to launch our Ampere architecture, our RTX 30 Series, that we launched for the overall gaming community. The RTX 30 Series launched with overwhelming demand. The gaming reached record levels across our desktop, our laptops and our consoles.

Ray tracing has essentially become the new standards for the games. We're seeing big blockbusters come to the market this season to support RTX, including Fortnite, Cyberpunk, Call of Duty, Watch Dogs, so some really great games coming up this season. We are also in a major start of an upgrade cycle for our already 200 million-plus installed base of overall gamers. Gaming, as you know, has gone beyond gamers as we see gaming as a sport, gaming as an art, game for social as also for overall broadcasting as a professional. It's an important time as gaming as an entertainment sport continues to be solidified.

Now as we prepare for this holiday season, we also just announced our newest offering from our RTX 30 Series. We announced the RTX 3060 Ti just priced under $400. This RTX 3060 Ti is again faster than the previous generations, RTX 2080 SUPER and also -- which also had a higher price at that time. So keep in mind, this adds to our already shipping 3090s, 3080s and 3070s. But yes, within the quarter, we did have overwhelming demand. Therefore, we do have some supply challenges.

Our overall supply continues to be worked each and every day throughout this quarter. We hope to see improvements as we move forward. But we do expect it to take a couple of months for us to stabilize the overall supply versus the demand. Now what we're seeing in terms of supply, some of it can be associated with the overall wafers. But we also have a global surge of compute worldwide. So what this has driven is challenges in terms of substrates as well as different components. So again we feel confident in terms of our guidance for the quarter. We will continue to work on supply through the quarter during this great time of the demand that we see right now for our gaming GPUs.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

I guess the next question would be how do you think about the impact that this has on fiscal Q1? You have a couple of cross-currents. You have the channel fill, which is going to start to help -- or that will help you in fiscal Q1. But you also are comping against a 14-week quarter in fiscal Q4. Typically, fiscal Q1 is down somewhere 8% to 10% seasonally.

But is it sort of right to probably think about something better than that because of the channel fill? Or do you think that the extra week will sort of more than offset the fact or the loss of the extra week will sort of more than offset the fact that you have to fill the channel?

A - Colette M. Kress {BIO 18297352 <GO>}

Yes. So right now, our channel inventory is low as it relates to our overall GPUs for gaming out there. We're still in that very early part of ramping our RTX 30 Series. That will continue as we move forward. Now keep in mind, we only provide an outlook one quarter at a time. That is correct. Typically, our business is seasonally weaker in Q1. But additionally, in Q1, we will have a 13-week quarter versus a 14-week quarter in Q4. But we do expect the RTX 30 series for the both desktop, our growth in terms of notebook workstation and cloud gaming to ramp to extend well into Q1.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. Okay. Then I wanted to ask you about gross margin. It was very strong last quarter and the guidance is quite strong, too. It sort of implies somewhere in the low 60%, it seems like, for gaming. That's kind of back to crypto levels.

And I guess the question that I keep getting is, is this sustainable? Or is this sort of maybe a bit inflated to some degree that gaming margins because you've really begun shipping into the high end of the stack with these new products? So as you ship these lower-priced products that the gaming gross margins come back down into the high 50s, can you talk about that?

A - Colette M. Kress {BIO 18297352 <GO>}

Sure. Let me start with it is correct that mix is likely our largest driver that we have that influences our gross margin. This can be a mix both within the market platform or this can be a mix overall at the overall company level. As we move from Q2 to Q3 for what we had announced in terms of gross margin, you will see that our gaming had quite a strong sequential increase and thus influenced our overall gross margins. Our Q3 gross margins for overall gaming were up year-over-year. We will continue to be ramping the RTX 30 Series and looking to improve our gross margins as we go forward.

But what we see going into Q3 to Q4, we have also announced that we do expect to have an increase in gaming revenue between Q3 and Q4. So gaming will be a meaningful percentage of our overall revenue as a whole. So we'll continue to look at what we are overall driving into the market with our RTX cards. But we have given

overall guidance for our gross margin. We'll continue to look at mix to see how it plays out on the gross margin.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. Okay. Then in data center, I got some investors looking at the up mid-single digits ex the Mellanox decline due to that Chinese customer. They're sort of looking at up mid-singles and saying, "Well this is the third straight quarter of up mid-single digits, which is pretty good. But shouldn't it be better, given the launch of Ampere and the A100 ramp?"

So I guess from my perspective, I kind of look at the guidance and it's still quite a bit better than your peers. But can you sort of tackle that question or concern that investors have that, "Hi, maybe guidance could be even better given that you're ramping Ampere"?

A - Colette M. Kress {BIO 18297352 <GO>}

When we look at our computing products in the data center, that's correct, we expect them to grow mid-single digits as we move into the Fourth Quarter as that AI adoption, the overall ramping of A100 definitely continues. Hyperscale business remains strong. We expect hyperscales to grow quarter-over-quarter, particularly in the overall compute products as that A100 continues to ramp.

We will see great momentum in inference. We have both the A100 and the T4 for overall inferencing. But correct, our overall networking line will decline meaningful quarter-over-quarter as that sales to that China OEM in Q3 will not recur in Q4. However we still expect networking to be up more than 30% year-over-year. So a little bit of the timing shift as we move from Q4 to Q3. But overall, H2 is quite strong.

So stepping back, we are still in the early ramp of our Ampere architecture for data center, an overall architecture that we believe will be with us for several years. We also know that AI and accelerated computing is in the tops of minds of both hyperscales and to enterprises during this period of time. We are well positioned. We have a tremendous portfolio of platforms, systems and software to serve this market. So we're very pleased with the progress we have so far and the continuation that we see going forward.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

I guess maybe to that point, could it be a little different this time in terms of a little more elongated ramp for Ampere because the cloud still has to support these V100 instances? So you get sort of a rapid shift over to Ampere for hyperscalers, but the installed base sort of holds you back a little bit or make your growth for Ampere a little more ratable than it was for Volta. Is that a fair sort of way to think about this cycle versus the Volta cycle?

A - Colette M. Kress {BIO 18297352 <GO>}

So when you think about our A100 platform, it is a monumental leap in terms of performance over the prior overall architecture, an ability to really tackle some of the hardest problems that are now in front of us for overall AI workloads and acceleration. Over the last couple of years, the emergence of conversational AI and recommenders have really broadened and expanded the overall sizes of the training workload. But also just the overall training models have continued to advance over this period of time.

So A100 is an important solution both for hyperscales' availability in terms of the cloud so that researchers as well as enterprises and verticals can get access to that A100. The A100 is also quite uniquely positioned because it is an overall platform and system that enables training and inferencing within the same platform, speeding up the overall deployment and the overall choice that hyperscales and cloud and enterprises have to choose when determining what platform to use for their overall workloads.

Now Volta absolutely is still within the cloud and very, very important for the overall training workloads that they've already created. It will continue. But keep in mind, the expanding and growing overall AI, the complexity, the amounts of different industries and use cases, you will still see an important piece of using A100, installing A100 into those cloud instances as well.

We saw a great uptick, very fast, of cloud instances across our major overall hyperscales. That speed of adoption was really about our unique platform system that we put that enabled them to create these cloud instances quite fast. So we're excited about the ramp so far. And again we'll see this move forward in the next couple of quarters as well.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

So maybe just moving past earnings now a little bit and looking at a little bit bigger picture here. So with Bitcoin where it's at, I am getting some questions about whether there's any opportunity or benefit for you there with these new cards. I know that a lot of the mining has shifted over to ASICs and it's hard for you to really know how much of these cards are being used for mining.

But how can you -- how do you think about that? You've gotten much, I think smarter about the demand side for Bitcoin, I think. But how do you see whether or not any cards are being used for Bitcoin and what impact that, that might be having on demand for these new cards?

A - Colette M. Kress {BIO 18297352 <GO>}

Sure. Thanks for the question. So Bitcoin mining, remember, is down almost entirely with ASICs, okay? We understand that miners are interested in using GPUs for mining other currencies, such as ethereum. Recently, we had heard rumors from our channel partners about the increasing interest. There are a lot of factors that influence mining interest. So we're looking into this with our overall channel partners.

I want to make sure that we understand, we've spent some quality time in terms of getting a better understanding of our overall supply within the channel and continuing to work many angles to have a good understanding of the volumes and where those volumes are in the world. Still not a perfect overall process, but we continue, you're right, to get better and better. But it doesn't necessarily help us understand the use of the overall cards that are in the overall market.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

So given your discussion with those channel partners, Colette, do you think just from hearing them, do you think that there is any component of demand right now being driven by crypto?

A - Colette M. Kress {BIO 18297352 <GO>}

Again right now, we're just sharing overall rumors about that increased interest. We need to look into this with our overall channel partners at this time.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. Okay. Got it. Maybe moving on now to data center, if we move beyond the near term, sort of how does your planning team think about the growth rate for the business? Just over the past three years, you grew 50% in fiscal '19. That was obviously calendar '18. Then you didn't grow in fiscal '20, then you're back to growing about 60% this year.

I guess Wall Street would look at that and say "Okay well, it's maybe a 30% normalized CAGR business." Of course at some point, you sort of hit the law of large numbers. But you still have a ton of headroom to grow there. So how do you think about what the right long-term CAGR is of that business? Because it's been sort of all over the map for the last three years?

A - Colette M. Kress {BIO 18297352 <GO>}

Yes. So our overall data center business right now is firing on all cylinders, both with the overall A100 ramp, our inferencing is also in full throttle. The overall Mellanox growth has been great to see both before the overall acquisition and the continuation after we acquired them. We expect the overall A100 to gain further adoption. It has great overall cloud adoption at this time with areas such as GCP, overall Azure and will likely expand into other vertical industries, particularly with what we've released within this last quarter with DGX and our server OEMs.

Now we're well positioned for the future within data center. Our full stack of end-to-end accelerated solutions really optimizes across both compute networking and also with storage, enabling the most powerful and scalable data center solutions that are out there. This includes areas such as our NVLink or NVSwitch, our Magnum IO and InfiniBand. This full stack of incorporating silicon, systems and software to support this growing diversity in applications and workloads is very key to our overall strategic story.

Now we offer this in many different types of computing platforms. We offer right now HGX, DGX, DGX on SuperPODs as well as completing inferencing cards as well as also GPU boards. So we support each and every overall CPU that's overall in the industry as well with an overall platform. We couldn't be more pleased with what we've built from both a systems from an overall performance perspective and also the keys in terms of the programmability, the software, the SDKs that we have to advance this overall market.

We're in the early stages. We're in the early stages of AI and accelerated computing. So our growth has been great both sequentially as well as overall year-over-year. We don't have an outlook past the quarter that we had just guided. We'll have to see how things go. But again we feel we are just well positioned for the future at this time.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. Got it, Colette. You had mentioned the lines blurring now between training and inference now with Ampere. We sort of used to talk about those two separately and you used to give us some sense of what the relative size was of inference within data center. But the ROI now for the customer is huge. You can offer both of those in the same instance. But also you still have T4 shipping. And demand for that is very strong, too.

So can you talk about whether A100 sort of begins to cannibalize T4 and how you've tried to capture this sort of in terms of pricing and maybe how much headroom you have? I think people don't probably appreciate how much pricing leverage that you have here, certainly with Ampere and the ROI that it has for the customer. So can you talk about how you price Ampere and not with numbers but just how you think about it and whether or not that's going to cannibalize T4, you think?

A - Colette M. Kress {BIO 18297352 <GO>}

Sure. In such a short amount of period of time, just a couple of years, we have reached for hundreds of customers are using NVIDIA's platform for overall inferencing. For example, in Q3, we had record T4 revenue and shipments. Yes, it is correct that the A100 platform is designed for both training and inferencing, which has been successful in providing those options for those car customers as they are in that buying stage to determine the long-term use of platform and knowing that the ability to toggle back and forth between training and overall inferencing is there.

Furthermore, we also extended our lead with MLPerf benchmarking results for inference. Just this last round, the A100 beat the CPU by 30x versus only 6x last year against ResNet-50. Also, A100 outperformed the CPU by, gosh, over 200x on recommendatory [ph] benchmarking as well. Again recommendators [ph] are just such an important part of overall inferencing workloads right now. Our TensoRT is now in its seventh generation and already has more than 1 million, probably 1.3 million downloads at this time.

So when we study the installed base of the GPU infrastructure in the cloud, what we can see across the seven largest public clouds, that we are seeing inference capacity

exceeding overall CPU capacity. So a great outcome in such a short amount of period of time. We look at A100 as continuing both the adoption of using GPUs for inferencing but also giving them more flexibility of how they think about building out their accelerated platforms. So we'll continue with our overall T4. A100 is just again a great performance for the expanding workloads, the size of the models and the complexity of inferencing that we'll see in the years to come.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. So you don't see A100, at least to this point, cannibalizing demand for T4?

A - Colette M. Kress {BIO 18297352 <GO>}

It's not engineered in that manner. It is really to help them with the complexity of the types of workloads. T4 is a great overall card as well. The T4 easily slots in to server OEMs, standard over OEM configurations as well. So both of them are really important for this market. We'll see both of them be choices for our overall customers when they think about their types of inferencing demand.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. Maybe we can double-click a little bit just on technology. I don't want to get too deep. But something that I think is not getting a lot of focus are some of what you're doing with the ARM architecture. You have the new BlueField DPU that's obviously ARM-based SmartNIC. You've been porting over your software stacks to the ARM ISA. I guess given the claims of the new ARM Neoverse cores and how competitive they are with x86, there seems to be a lot of stuff you can do. Maybe even you can displace x86 as the host CPU for DGX. Or maybe you could do gaming on ARM-based PCs.

I guess the big question here is, to some degree, you're still sort of tied to a CPU, which is x86 today. But there seems to be a lot of ways for you to capture that currently x86 revenue going forward. Can you just talk more broadly about ARM and sort of how you leverage ARM today and what sort of opportunities that it opens up for you?

A - Colette M. Kress {BIO 18297352 <GO>}

Sure. So let me first kind of set the stage in terms of what we're doing with our data center platforms. Our data center platforms and systems surely run the accelerated computing and AI workloads that are out there. But what we are also seeing is the emergence of how modern data centers are being built. Modern data centers continue to move toward disaggregating the CPU, the GPU and the DPU. Our new DPU, better known as our data processing unit, will allow us to rearchitect these overall modern data centers. Our DPUs are also included with our DOCA software. So we look at it as an opportunity to expand our TAM, probably about $10 billion, for the overall DPU and inclusion in terms of in our data center offerings.

VMware's decision, for example, to port its ESXi to our DPU is a major catalyst for adoption as well. This is a key area for the data centers that are working on data security, data encryption as it gets ready for that overall compute cycle. The DPU is

just well positioned to attract that need. So the interest is high. We continue to be working with major overall hyperscales and sampling of all major OEMs. This will likely be a bigger play in the overall years to come.

But you're correct, it is incorporating an overall ARM configuration in there. We couldn't be more pleased as it is part of our newest overall launch of products together, NVIDIA and Mellanox, one of our very first launches. So great work together in terms of building out this. It shows just both the flexibility that we have of supporting each and every type of infrastructures that are out there, each and every type of overall CPU that is out there. We'll continue to be about as agnostic as possible in supporting accelerated computing as we go forward.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. And maybe that dovetails into Arm. I guess from your perspective as the CFO, can you talk about what you think Arm would do for the company and for the financials going forward if you sort of think about how much of a game-changer it is and what it would allow you to do, just from a CFO seat?

A - Colette M. Kress {BIO 18297352 <GO>}

Yes. So the Arm acquisition, we're extremely excited about. We were pleased to be asked to think about the purchase of Arm from overall SoftBank. We believe together that this creates an important computing company for the age of AI as we go forward. So first, just to understand what are the underlying thoughts about what we can do together with overall Arm. It gives us the opportunity of combining what we have here at NVIDIA in terms of a leading AI computing platform and merging that with overall Arm's vast CPU ecosystem, an ecosystem that they have built over 30 years and tackled so many different problems with an amazing energy-efficient GPU for so many different types of devices.

This allows us to also expand IP licensing portfolio that Arm has with NVIDIA's technology to those large end markets, large markets, including mobile and overall PCs, so essentially licensing NVIDIA's technology through their overall ecosystem. Then we also have the ability to infuse investment, infuse our overall ecosystem expertise into Arm's current work that they are doing in terms of a server CPU road map and speed up that pace that we believe will definitely be able to benefit both Arm and the overall customers. It will allow us to accelerate the work that they are doing to provide the CPUs for data center for edge AI as well as many overall IoT opportunities.

It also expands the world of developers. As you know, so much of our computing platform lies in the hands of the developers that develop on our platform. We have about 2 million different developers. We now get to merge with developers at Arm of over 15 million. So that's a great universe jointly thinking about the computing platforms going forward.

Now from a financial perspective, of course we're expecting accretiveness both on our non-GAAP gross margins, we're expecting accretiveness of our non-GAAP EPS as well as on closing. This is a great overall software licensing asset to add to our

continued complex revenue models that we have today. So we couldn't be more excited. But we're going to wait as we're going through the overall regulatory process that we do think from the overall signing to closing will probably take about 18 months.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Sometimes I get the question from investors when we're talking about Arm, I mean there's a lot of different aspects to this deal that I think makes tons of sense. But the part about you licensing through their channel, I do get the question about, "Well why would NVIDIA have to buy Arm to do that? Couldn't NVIDIA just open up the IP and start to license it on their own"? Can you just talk about that?

A - Colette M. Kress {BIO 18297352 <GO>}

Sure. That is one piece of our overall goals of the acquisition is to really think about providing more to the existing customers, giving them more of an opportunity to access some of the best overall GPU technology. Nothing changed from what they're already receiving but again adding more to that overall possibility. Now that's just one piece of that.

Could there be a way from an overall partnership? Sure. But thinking about the other types of investments that we know they need in order to advance what they're doing in the data center, the data center is so complex in terms of how it has evolved over the last decade. And really helping them understand our knowledge and our expertise of what we've both understood in the data center, we believe, will accelerate on to the work that they are doing.

That's not something that we can do just as a partnership. I believe inserting both our investment, our expertise can go hand-in-hand in terms of the work that they could do. There is, of course a great partnership that we think will continue. We will continue during this regulatory time in terms of that partnership. But we are very excited to be joined together with them in the future.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. Maybe we can move on a little bit. I mean from a big picture, the company, more than almost any other in tech, I think has figured out how to integrate hardware and software and create a very powerful ecosystem. I covered Apple for many, many years. And really, the most applicable example seems to be Apple really, to me, anyway.

And I think a major step in that direction is your deal with Mercedes. It seems like the back-end revenue opportunity in that deal is bigger even than the initial hardware sale. Can you sort of talk about that and how the Mercedes deal sort of catapults you and really cements this hardware-software integration story?

A - Colette M. Kress {BIO 18297352 <GO>}

Yes. A really great opportunity for us. Mercedes has chosen NVIDIA for its autonomous vehicles. Mercedes will launch a software-defined intelligent vehicles, using all of our end-to-end NVIDIA technologies. So starting in 2024, every next-generation Mercedes-Benz vehicle will include this software that will allow a fully powerful computer system software and applications that we build, differentiating them in this market from the traditional vehicles that we have seen. These vehicles will, one, become high performance but also be updatable with its overall computing devices that it has.

Mercedes vehicles will incorporate our DRIVE AGX Orin high-performance, energy-efficient overall platform that will use with inside the cars and will be using AI. We'll make it possible to update this platform through the life of the vehicle. So centralizing and unifying all that computing in the car will make it easier for the updating and the advancement of those overall software features. But the great thing about this deal is not only is it a platform hardware sale for us with Mercedes, we also have the ability to benefit from that software and those software upgrades.

So as overall Mercedes sells the software packages at the initial sale of the car to the consumer, we will split that overall software with NVIDIA and Mercedes. Truly transformational in terms of how the car industry is moving to adopt these high-end types of platforms and knowing that this software long term will continue to go even after the car has been purchased by the customer. So we're excited. We know that a lot of others will likely look at this unique model and think about this unique model in terms of how they will bring autonomous vehicles to the market.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

We have about five minutes left. I would be remiss if I didn't ask you about health care because that was a big part of the Analyst Day. You had a separate breakout for that. Obviously given what's going on with the global pandemic, there's a huge opportunity for vaccine development, things like that. Here, we are doing a virtual conference. We can't even leave our houses in California as of today.

So obviously that's going to have huge implications in the government funding for drug development and therapeutics and treatments and things like that. So can you talk about sort of what you're doing there and especially how you're leveraging Clara and maybe how big that opportunity could be over time?

A - Colette M. Kress {BIO 18297352 <GO>}

Yes. So thanks for the question. Health care is an important market opportunity for us. Yes, it's a large opportunity, where AI and our expertise can really help because there's a vast amount of data and needed solutions for this industry. Outside of this large market opportunity though, we believe the global pandemic has put more focus on finding medical solutions faster. So first, let me step back and clarify what is Clara.

Clara is our health care application framework for AI-powered images, genomics and other development and deployment of smart centers. Clara also includes a full stack of GPU-accelerated libraries, essentially SDKs and reference applications that the

developers in the industry use. We celebrated our leadership with MLPerf for medical imaging and inferencing. We're also helping radiologists label data in less time with AI. We are expanding Clara to digital pathology.

As we recently announced the availability of the Clara AGX developer kit for the future, this is defining software in many of these overall defined instruments. We've also developed and released COVID-19 pretrained models, AI-assisted training and development tools. So we put Clara for COVID essentially on a quick start. We added a VM for every enterprise to try and ready for our overall EGX platform. Health care is important to us. It's an important maybe for market opportunity, but I think more importantly, to be a key participant in something that is so important to the society worldwide. We're happy to help in this area.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it. Then I guess maybe just a last piece, Colette. We have like maybe two-or-some minutes left. You talked about the $100 billion TAM at the Analyst Day. Of course we all know the AI and machine learning piece. But I was surprised at the $30 billion enterprise piece. You sort of talk about that as industries and really as they adopt AI. Can you sort of click on that really quickly and maybe talk about how big that is today and sort of what sort of penetration you see in some of these large enterprise markets? Colette, are you there?

A - Colette M. Kress {BIO 18297352 <GO>}

So I think it actually muted me by accident. I'm back. Okay. Yes, at our Analyst Day earlier this year, we announced a new data center TAM, a new data center of TAM that by 2024, we probably see an opportunity in front of us of $100 billion. A lot of things have been included and the overall added.

So the first thing was we added both our Mellanox opportunity. We also added our AI adds. So when you break down that $100 billion opportunity, we see about $10 billion still stemming from the high-performance computing. That's an important area for NVIDIA but also important for Mellanox of many years together working on those important platforms. The overall AI hyperscale opportunity is probably about $45 billion as a component of the total.

And our overall AI edge, edge computing, autonomous devices, autonomous areas outside of the data centers are -- is about a $15 billion opportunity. But yes, we believe our overall AI enterprise is about a $30 billion opportunity. Even today we're seeing a strong showing of -- as we've moved both through Volta and now through our A100, this is giving a great opportunities for AI to be a focus area of the enterprises and the industries.

What we have done to fuel that adoption is continue with the overall software development, both the system software, the SDKs and other key libraries and components to help each and every industry focus on bringing AI to their work. You've seen us talk about so many great customers over this period of time from retail, our discussion that we just had on health care. You'll see manufacturing. You will see many different areas focus on AI for their workloads.

In this last Q3, we are seeing a great representative, nearly 50% of our revenue is focused on enterprises and industries. This is a top area for enterprises even through this difficult time that we were all facing. AI and accelerated computing is the future and a key area where they're investing.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Got it, Colette. Well we've run out of time.

But thank you for the time. It was great. Thank you very much.

A - Colette M. Kress {BIO 18297352 <GO>}

Thank you, Tim. Great to see you.

A - Timothy Michael Arcuri {BIO 3824613 <GO>}

Okay. Bye.