

Citi Global Technology Conference

Company Participants

- Colette M. Kress, Executive VP & CFO

Other Participants

- Atif Malik, VP and Semiconductor Capital Equipment and Specialty Semiconductor Analyst, Citigroup Inc, Research Division
- Unidentified Participant, Analyst, Unknown

Presentation

Atif Malik {BIO 15866921 <GO>}

Atif Malik. I am part of the Citi's Semiconductor and Semiconductor Equipment team. It's my pleasure to welcome Colette Kress, CFO NVIDIA, to our keynote fireside chat. Also a warm welcome to Simona and Shawn Simmons in the IR team.

I have about 48 questions, I'm going to go with them first. And then I'll give you some time for questions at the end.

Questions And Answers

Q - Atif Malik {BIO 15866921 <GO>}

Colette, NVIDIA has gone through an amazing transformation from a PC hardware company five years ago to become a leader in AI platform computing. Some investors still don't quite get your platform approach to various end markets. Maybe you can help us understand how -- what's a building block, how do you layer software on it to address various end markets like gaming, training, inferencing and auto?

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

Thank you. I think that's a good place to start about how we have differentiated our sales, how we've begun this era of AI and how we're taken part in it. Under our Datacenter business is where a significant part of our AI work is. And so when we talk about our approach in terms of a platform business, it actually has to stem back all the way to 10 years ago. 10 years ago, when we initially had our GPUs and made a decision to actually take our CUDA developmental language and make it available on every single one of our GPUs. At that time, people couldn't understand the need for that overall compute language, how would we be able to get it in the hands of many. And here we are 10 years later. So over those 10 years, we've been able to train, teach, instruct many people from research, higher education and folks that are

now currently out in the enterprise, those that are in some of our key hyperscales of the use and how to program on a GPU. Those were some of the initial building blocks that we used to what has now formed in terms of a very important AI business. The era of using deep learning and deep learning techniques for AI stemmed with research using an overall GPU. What they were able to find over that period of time was you could get to near superhuman capabilities by programming a GPU to where software writes software using deep neural nets that are very similar to where and how a brain is organized. So that began some of the very first pieces of deep learning and deep learning training in terms of what we see today, where we've expanded tremendously on top of that and that initial platform of the GPU and with CUDA. We work with many different specific libraries, deep neural net libraries and components that help people write what they need for AI. Then lastly, we think about the frameworks, the frameworks that we support across the AI universe. There are many open source frameworks. And we're agnostic to OSs or frameworks. But really looking to democratize AI across with the overall platform work that we do. Right now, we probably have more software developers at NVIDIA than we do hardware developers building out this platform where we have a leverage platform all the way down at the hardware level. And we're able to go industry by industry with each of the software levels. So that's what we mean when we refer to our platform. Our platform encompasses more than just a GPU chip. It complete -- it is really a full stack that has been enabling the AI markets that we see today.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. Great. And I'm going to start off with the Datacenter segment and then move on to Gaming and other segments. Matt Wood, Director of Deep Learning at Amazon, recently commented that the goal of AI at AWS is to allow any developer with any level of skill to build intelligence into their business and applications. Google and Microsoft, among others, also offer cloud-based AI systems for customers to build their own AI architectures. How are your products being employed to help cloud service providers achieve this?

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

Sure. So over the last 18 months, we've seen a very large growth of using GPU computing in the cloud. When we initially started, there was a lot of discussion with the hyperscales as they were using this for their internal applications. But what they found was there is a tremendous demand for GPU computing for the cloud as well. They're essentially building for the demand that they see. This overall GPU computing expands quite a broad list of types of work that people are doing. With the overall GPU instances that are now available from Amazon to Microsoft to Google to many of the other hyperscales across the world, they are doing all forms of computing and accelerated computing. They're using this as an ability to get started where they may continue to hold their overall clusters and their workloads continuously in the cloud or, though, it may move them to their overall labs and build them out there. But some of the things that are occurring in the cloud are what are occurring overall in our overall Datacenter business. These are things such as AI. You have researchers that are opening up instances that they are able to use all different types of frameworks and start working with applications. Key applications that you are seeing are things such as video encoding, things with natural language processing, voice translation are very common types of things as well as image

categorization and detection. Initially, with just that from an AI, you also have high-performance computing in the cloud. This is, again, the roots of our business and where it started. But you are also seeing them taking advantage of not having the clusters in an on-premise but in a cloud environment. We also enabled what we refer to as our GRID platform, which allows you to either have workstations or PCs in the cloud, applications that are very graphic-intensive running down to your overall monitor or such. Those are also common things that we're also seeing with the cloud providers. We've opened this up to researchers now with the cloud availability. We've opened it up to enterprises. So IT organizations to just higher education now have the capability and the access to GPU computing. They are pulling those instances worldwide. We're seeing a vast increase in terms of these instances and what we're doing. And you can see that in our Datacenter results.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. Hyperscale public cloud takes the efficiencies of server virtualization to new levels. With these high levels of efficiency, public cloud is likely to push the forces of demand elasticity higher and be an important driver of workload growth in the future. Volta clearly is a computing beast. How should we think about the balance in performance and cost improvements versus workload growth and its impact on the Datacenter growth longer term?

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

Sure. So when we think back of the era of virtualization and the virtualization of many of the data centers, it was a time to really improve the overall utilization of the data centers, which, back then, probably had about 10% to 20% overall utilization. And we've massively improved that. But it was a little bit of a different type of compute at that time. At that time, you were experiencing a significant amount of web servers, web applications and so really the overall compute was really just providing for an overall web application, not necessarily the compute that we're seeing today. Right now, the workloads that we are experiencing for AI need a significant amount of computing calculations. So when we are at a time where the slowdown of Moore's Law is right in front of us, it is now even more important that we find means to improve the overall capability and the overall compute that can be taking place into the data center. Therefore, the need for these higher-end workloads, the need for the higher-end performance that we have such as Volta. Volta is probably the highest-performing processor that is out there. We launched it back in May. And we're now in full production in terms of Volta. The trade-off in terms of the performance and the cost, the overall performance improvement that you have from Volta just from our past architecture is more of a 10x overall improvement. So when you think about that versus a non-GPU server or a standard CPU server, you can essentially get one server with approximately 4 GPUs, which would take the place of more than 100 servers that did not. So immediately there is also a TCO advantage or a cost improvement in terms of the overall infrastructure that they can see for the workloads. Additionally, they can complete the work tremendously faster. And we can do these higher-end types of calculations that are necessary with our AI workloads.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. NVIDIA has talked about a \$30 billion data center opportunity with inference at \$15 billion, training at \$11 billion and high-performance computing at \$4 billion by 2020 at its analyst event this year. My understanding is that training is all GPUs or majority GPUs today. How is your new Volta inference card doing versus some of the other architectures that are being talked about in the market, whether it's an ASIC approach or whether it's a DLU or different acronyms that are used for these (inaudible) chips?

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

Sure. So we've broken down our market for data center into many of the different types of workloads. Yes, from a deep-learning training perspective, the use of Volta and its performance as well as many of our other types of platforms such as P100 or even our Kepler products have done very, very nicely in training. Most of the training, you are correct, is done on GPUs today. It's necessary just because of the size of the data load that is necessary and the overall performance that an overall GPU can provide in that overall parallel processing. That is a big part of our overall TAM as we go forward. But you did mention inferencing and our view in terms of inferencing. Inferencing is an area that has not been done traditionally with GPUs. It has generally been a CPU market or some other types of form (facs), custom ASICs or FPGAs. Very common in terms of very simple types of problem-solving. But those that need to be run quite often. What we're seeing now in the inference market is a much, much more types of complex inferencing that needs to be done. The way you should think about it is the complexity of the type of the data. You are seeing the voice translation that takes a significant amount of compute to do even that one simple type of inferencing, even if it is on the edge of something to do. We are not here to believe that a GPU is for all types of inferencing because there is going to be simple inferencing that we're not necessary for. But the more complex types of calculations we do believe that a GPU is well served. Now we're still in the early stages of Volta in terms of a rollout. We have introduced Volta with a Tensor Core that allows the multiprecision, which is (barely) necessary for inferencing. But we also have specific inferencing cards in our Pascal lineup, P40 and P4, which are also doing very well and exciting customers in terms of the response that they can get with the data sets that they're doing.

Q - Atif Malik {BIO 15866921 <GO>}

Great. On your earnings call, you talked about shipping systems to more than 300 unique customers with 1,000-plus in the pipeline. Can just give us some color on what and who some of those customers' end markets are in terms of whether its training or inferencing or enterprises? Any type of commentary on those 1,000-plus customers?

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

Sure. So we've talked about our hyperscales and our cloud service providers. Sometimes those are the same, sometimes those are different. Some of our hyperscales are purchasing for their internal applications and essentially every hyperscale, large hyperscale on the planet is definitely one of our customers. Additionally, the cloud service providers are also a key part of that. But then that now moves into very important industries that may be using the GPUs in a cloud

environment internally on their premises. We see places such as oil and gas, manufacturing, you see financial services. You see automotive to be some of those key areas and types of customers that are looking at that. We've looked at also our AI supercomputers, our DGXs. Our DGXs are opportunity for enterprises to immediately get started with a full soup-to-nuts supercomputer available for AI that is a container version that can just be plugged in. So we are seeing some of the same types of industries, also healthcare as well as our hyperscales purchases those DGXs and the expansion. So we'll continue both to focus on the enablement of the cloud, which allows them first access and that may move to on-premise and move into areas where you see large datasets, whether that be high retail, financial services, what you see in terms of ERPs. And you see our connections with IBM and SAP on those prime examples of where we see the proliferation of our data center.

Q - Atif Malik {BIO 15866921 <GO>}

All right. I know Citi (isn't) looking into investing in Chatbox and some of those applications. Edge computing is an emerging paradigm which uses local computing to enable analytics at the source of the data rather than relying on cloud computing to relate data from IoT devices. Is this an attractive market for NVIDIA? How do you plan to be successful in this market without a major presence in smartphones?

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

So when you think about edge computing, it is an important area of inferencing and really some learning that will take place. But there are certain parts that we will be. Not necessarily an area that we would look out in terms of an IoT or a smartphone. But really thinking about very important areas that exist. One of those would be thinking about our smart cities and seeing our work in terms of the surveillance that is going on. Many of our overall cameras that we see today are one by one and not necessarily connected well, connected well that you can extract a significant amount of intelligence from them. We see this as a very important edge area and a significant amount of investment that is going on around the world to improve that. Manufacturing, robotics are also a very -- also a key area of edge computing, as they think about how they add that intelligence into those robotics as those robots may be out in the world and not necessarily centered back in terms of the data center. So we'll look industry by industry in terms of where we can best benefit. And I think there are tremendous opportunities at the high-level edge that we can participate in.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. Then July quarter was the transition quarter for the company as you guys were volume ramping Volta. What are your expectations for the Datacenter sales in the back half of this year?

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

So our Second Quarter was an important quarter for us. At the very beginning of the quarter, we announced Volta at our GTC. We dazzled many with the excitement over the performance improvement over Pascal. And I think most of expectations were it would take us some time to actually get into full production. Within Q2, we got to full production of Volta. We shipped a material amount of Volta within the quarter and

some of that you will see rolling out in our cloud service providers or with our hyperscales soon. So when we think about the back half, we know we're now available at full production. We know we have a full line-up of different data center products and we're ready to move that. We only guide 1 quarter out and we guide at our total level. But we do believe our Datacenter business is probably one of our fastest-growing businesses that we have.

Q - Atif Malik {BIO 15866921 <GO>}

Great. Moving on to the Gaming segment. Gaming end market drivers are easy to understand. But overall opportunity is a bit difficult to model. If I have to break down the Gaming drivers into 3 buckets, you have new cards for superior titles, faster frames, then you also have an accelerating eSports adoption, which grows the volume and then you have a new category, which is GPUs for cryptocurrency mining. Just focusing on the Gaming part, with respect to the core Gaming, you have -- you launched Pascal last year. It has been a very successful launch. Typically, you refresh your platform every two years or so. How has the Pascal launch gone so far this year and in which innings we are in terms of the upgrade to Pascal platform?

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

Yes. So definitely there are many different drivers that have been fueling the overall gaming market and the PC gaming market. But there has been a definite evolution over the last five years of PC gaming. A gaming market that was highly focused on gamer to game and being a great gamer. And I'm not saying that's not still a piece of it. But you've added a new part of it, which is the overall social platform that comes with it. eSports has now allowed others to visibly watch others game and it's not necessarily just about being there to watch the actual game. But if there is a lot of social pieces about just being there with your friends, not necessarily being the top player. But definitely one of the players with the top gear is probably what is key. But keep in mind, probably one of the key things about gaming which is true is games drive gaming. And there is a great continued portfolio of great games with game developers that we work with for months on end before they launch that enables us to really grow this industry going forward. So when we think about our Pascal, our Pascal products came out about a year ago and have done tremendously well, both from overall sales but also from an upgrade standpoint from those gamers that have been with us for some time. We're probably tracking a little bit faster than prior generations in terms of there. But we think we are set up very nicely for the holiday season that is right around the corner. In terms of our full lineup now, Pascal, for the overall gamers, it is still the best platform out there both from a review standpoint, a user standpoint. And we think we are very well positioned.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. And can you talk about the units of these key dynamics between the desktop and the thin/light notebook market?

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

Yes. So when you think about what we're seeing right now in terms of a trend of gaming is the overall mobility of gaming. Gamers like to game everywhere, whether

that be in the backseat of the car, whether that be taken to the friend's house, whether that be in the family room, wherever they want to game in a lot of different places. But they also do love the ability of their thin and light, their thin and light notebook. So what they don't want to give up is the high-performance and they still want thin and light. So what we did is we came out with Max-Q, which enables essentially the same numeric performance that you would get in terms of a desktop on a 1080 into a notebook version as well. That enabled tremendous, now, more mobility with about that exact same performance that you would see in terms of a custom desktop. Don't get me wrong, the custom desktops still come with all its paraphernalia around it in terms of its multiple screens and things like that. But now these high end mobile laptops for gaming are a very big trend. And we're very pleased with the wide reception both in the OEM industry in terms of the gamers.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. And now since the AMD bigger cards are finally out, how are GTX 10-Series cards fending off competition?

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

Well we haven't exactly seen the cards. I think they are mostly still in reference architectures. It's been long seeded in terms of coming. I think we're still very, very well positioned with the cards that we have. They are looked at in terms of extremely best-of-breed, strong performance and very well aligned to the actual games in introducing a great experience to them. So we feel very confident with our overall fan base, our overall installed base that they will continue to buy NVIDIA.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. And what are your views on longer term cryptocurrency mining demand? And what steps has NVIDIA taken to avoid cannibalization of core gaming market from these cards?

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

Cryptocurrency has been a very interesting market dynamics over the last couple of years. I think you'll remember two years ago, when the Bitcoin mining market came, it was probably one of the shortest-lived cryptocurrency time periods because that moved to the overall compute moving to custom ASICs. That wasn't a market that we particularly paid any attention to or were even a participant in terms of that. But the newest cryptocurrency market took quite a leap ahead in our Second Quarter that we just finished to where we had planned cryptocurrency cards that would be available to miners and exclusively for miners. So what we mean by that is we did not enable the capabilities for graphics with those cards. You'll see those cards in our OEM business not in our overall gaming business. And those were available throughout most of Q2. But there was very, very strong demand for mining as the overall price of Ethereum, one of the most popular cryptocurrencies, was very, very high. And so what you had seen in some of those shortages is there was a possibility in terms of some of the gaming cards that they might have bought as well. But we covered most of cryptocurrency with our cryptocards that we had developed and that was probably about \$150 million in our quarter. So our statement that we have

made is, although it peaked a lot in Q2 and has come down and we'll probably see a residual amount in our Q3 or Q4 as we move forward, cryptocurrency is here to stay. The markets the world is demanding wants to see cryptocurrency. This one may have served its time or may go on for a little bit longer. It's too tough to tell. But we'll probably see cryptocurrency moving forward. I think we have the ability, given the breadth of GPUs that we already build, to develop GPUs exclusively for cryptocurrency with little to no additional investment. We're able to serve that market quite effectively. And we will serve that market effectively. The only problem, the market doesn't have a TAM. The market has market dynamics, it just doesn't have a TAM yet. We are not sure where this will seed. So it will probably continue to be quite volatile.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. And switching to auto. A company has announced strong partnerships with major carmakers this year. How is NVIDIA's self-driving platform approach different from competitors like Intel Mobileye?

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

So we're probably one of the key platform providers for automotive that talked about autonomous driving and its need for AI, that this was really an AI problem. And we began this in the early days, really discussing about this and now that is really coming to fruition with many of our partners that we're working with. We have longstanding partnerships both with the OEM manufacturers, with the Tier 1s, with many of the startups. We're probably working with more than 225 different types of car manufacturers. I think it's important to note that we look at it as a full supercomputer solution, a customizable, configurable in terms of which and how they want to think about it. And most of our work with them has been focused on what configuration and the overall dynamics of the software that they want to incorporate. So jointly, we are often in development with them. And development both at the Tier 1s, with the OEMs and with many of the startups as well. So our platform is being well-recognized. But we're still in the early stages of this. As you know, though, we are in the Tesla Motors' cars that are currently on the road with their autopilot. We've also announced partnerships with Audi that we'll have something towards probably the end of the year or the beginning of this year -- next year for zFAS and then later in probably 2020, 2021 in terms of the Level 3. We expect most car companies to be focused on Level 3 -- near Level 3 for that 2020, 2021 time frame. That's why you start to see the partnerships now. These are long design cycles. There's a significant amount of development work to both master the safety part of it and master exactly what we're doing to help them in terms of delivery. Now how that compares to many others out in the market? Given its AI needs, that overall performance is very key with the underlying processor. We will see what types of combinations Intel and Mobileye will put together. But that was obviously something that a smart camera wasn't going to be able to do it and they looked for the overall compute. So we'll see how that comes together and how it compares to our overall AI solutions in terms of what we're seeing. There's other people focused in the markets that may have microprocessors and those may be available for Level 2 or for connectivity. But again, most car companies really have focused on the significant amount of compute that is necessary and are looking for higher level types of compute to do that.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. Can you map us the ASP progression as you go from Tesla Autopilot opportunity this year to a driverless taxi by 2020? How does it impact your ASPs?

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

Sure. So let's -- so if you think through, right now, what we have in our automotive business. Although we announce a lot of the partnerships for the future, currently, most of our automotive revenue that we have today is focused on our infotainment business. Our infotainment business is 8 to 10 years' worth of long-term engagements that we've had for premium infotainment systems. Those have ranged in terms of average ASPs of about \$50 to \$100 each. And as we probably move to the Level 3 types of things, our hopes is that something that would probably double in terms of overall ASPs for infotainment to Level 3. It's still early to say what the expectations are for Level 4 or even from a Level 5 in a robo-taxi, a taxi that is essentially within a defined community, a defined area that is very, very well mapped and, essentially, is completely driverless without even a steering wheel. Those are probably going to be pretty important supercomputing deliveries there. So you're easily going to probably see something in the \$1,000 or more as we go forward. But I think it's still early to see where that will land out.

Q - Atif Malik {BIO 15866921 <GO>}

Okay. Let me see if there are any questions in the audience or I'll keep going. If you have question, raise your hand. Over here.

Q - Unidentified Participant

What is the M&A plan to your growth strategy?

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

I'm sorry.

Q - Unidentified Participant

M&A plan to your growth strategy?

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

So we have been a company that has built what we have today primarily from organic. We have focused singularly on a GPU. And a GPU that has been well-developed, well-designed for the key markets that we're going after. We have chosen those markets carefully from gaming, ProVis, data center and automotive, because, one, we thought they were large markets; two, we thought there were hard problems to solve in there that a GPU would be best engineered to do. So our M&A has mainly been focused on small, medium types of teams that we have bought, early-stage types of businesses that can be well influencing on some of the businesses that we've already established. I think that is consistent with what we may see going forward. As much as we want to think about something to bolt with more

AI power, there is not a lot of large AI out there to do. So we will continue probably in the range of small and medium to do going forward.

Q - Unidentified Participant

You guys are doing a lot of things so well. You're growing revenues over 50%-ish, earnings over 30%-ish. You have a terrific balance sheet. You are returning capital to shareholders as a more mature company might do. Could you walk us through maybe a big picture rendition in terms of how you allocate capital, talk the Jensen Huang plan five years ago, for these introductions today? What might have been the total cost for the Volta? What stages did you take it in? And how are you planning for the future for your end markets?

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

Well okay. So a lot of different questions in there. So the allocation of capital. The Number 1 focus is going to always be on focusing in terms of the investment back into the business. And probably our key area of focus is always going to be in the engineering standpoint. We stand by some of the most innovative products that are out there. And we have taken some pretty extreme risks to build some of the greatest products that we have today. So nothing is going to change there. That investment largely comes from people, largely comes from hiring overall engineering. Sure, we need to support them with the tools that they need to do the jobs. But we spend a significant amount combing the world looking for the best engineers. And most of those best engineers are doing their lifework at NVIDIA. And so we have probably the strongest population of GPU engineers everywhere in there. So that's going to be our first piece. We have to think about all the surrounding facilities, infrastructure that they need, which we have built out as well. The products that you use or our data center or our gamers use, we also use at the company. So we practice that data center work as well (as) internally. And we have some of the largest configurations of our work even in terms of internally. So that's going to be a key use in terms of our capital. We will continue to look at our suppliers and our vendors that help us in terms of manufacturing that to both be the best-of-breed and taking something such as a Volta to overall market. Probably a very big feat, one of the largest processors out there. But we successfully brought that to market. So after we do that, there is that opportunity for investments, investments in our partners, investments in startups, investments in terms of M&A. And those we can interchangeably do, those that are on the platform and how do we help them grow their businesses, how do we use our partner community to also help grow our business. And then what we can do in terms of small M&A. After we finish that piece, we'll look in terms of what we have available for capital return. Our capital return program is a long-term program, it's not a short-term overall program. We had various peaks of that where we were returning more than 100% of our cash flow, as we worked on still building some of our products. But we felt it was important to reward our shareholders for being with us during that time. And we returned that cash back to shareholders. So we still have a dividend, we still increase the dividend at a reasonable rate. And we still buy back our shares in opportunistic times to do so. So I think those are our key areas of how we think about our return. And even through the use of that overall capital, yes, we've continued to improve our margins. The margin is not just focused on a gross margin perspective but focused on an operating margin perspective. And that's going to be, probably, the key metric that

we think about going forward. Operating margin is more aligned to a platform business, where we make investments in OpEx, make the investments in the software that you see on the revenue and not necessarily at the gross margin on that cost. And I think, we've done really well on that and that's going to continue to be our focus.

Q - Unidentified Participant

Can you explain what makes your Pascal and gaming chips so differentiated for professional gaming, what we call, I guess, eSports? What would be broadcast?

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

And so when you think about -- the question was regarding our Pascal high-end, whether it be you could take that to gaming or you can take that to overall workstations, what is -- what is core to us in terms of our platforms. Yes. There is, bar none, some of the best-performing chips in terms of just raw stats in terms of performance. But we don't look at that as being the only thing that keeps our gamers coming back and/or designers in terms of on our workstations. It's really about the work that we are doing with the overall ecosystem behind. We are working with game developers every single day in terms of helping their games that they want to bring to market, well optimized on Pascal and bringing to life some of the great features that they want to bring in their games. We've spent months and months in terms of that prework so that game works flawlessly and at the day that the gamer buys the Pascal, downloads the overall drivers, they're up and running in a really short amount of period of time. That is the expectation and/or the promise to each of those gamers that it works seamlessly. You can add that same piece in terms of the workstations and the applications that are both forward compatible and backwards compatible. All of the top design firms know that NVIDIA will continue to optimize so that works overall seamlessly. So working that ecosystem and not just the actual chip has enabled ours to continue to be best-of-breed in terms of the market.

Q - Atif Malik {BIO 15866921 <GO>}

With that, we're almost out of time. Colette, thanks for coming to the Citi conference.

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

Thank you.

This transcript may not be 100 percent accurate and may contain misspellings and other inaccuracies. This transcript is provided "as is", without express or implied warranties of any kind. Bloomberg retains all rights to this transcript and provides it solely for your personal, non-commercial use. Bloomberg, its suppliers and third-party agents shall have no liability for errors in this transcript or for lost profits, losses, or direct, indirect, incidental, consequential, special or punitive damages in connection with the furnishing, performance or use of such transcript. Neither the information nor any opinion expressed in this transcript constitutes a solicitation of

the purchase or sale of securities or commodities. Any opinion expressed in the transcript does not necessarily reflect the views of Bloomberg LP. © COPYRIGHT 2024, BLOOMBERG LP. All rights reserved. Any reproduction, redistribution or retransmission is expressly prohibited.