# Citi Global Technology Conference

# **Company Participants**

- Colette Kress, EVP, CFO
- Sean Vocke, Analyst

# **Other Participants**

Unidentified Participant, Analyst, Unknown

### **Presentation**

#### Sean Vocke

For those of you who haven't met me, I'm Sean Vocke [ph], one of the semiconductor analysts here at Citi. And next up, it's my great pleasure to announce NVIDIA. Here with NVIDIA is their CFO, Miss Colette Kress. And I think, Colette, you've been here about two years now, in NVIDIA. So I guess, happy second year anniversary with NVIDIA.

## **Colette Kress** {BIO 18297352 <GO>}

It's coming up at the end of the month, yes.

### Sean Vocke

And I guess, for those of you who haven't followed NVIDIA for a long time, it's a drastically different Company than the NVIDIA of yesterday, right? So historically when we thought NVIDIA, you think of a company that sells GPUs to the Dells and HPs of the world. Whereas now, they're getting into automotive, they're into the data center, they're into enterprise, cloud, HPC.

So with us here today is Colette. She's going to kind of walk us through that transformation from a -- I guess, a PC component company, into an overall solutions company. And maybe you can start by talking about what your progress is like on that trajectory. And what stage you're in, and where you see that going.

# **Colette Kress** {BIO 18297352 <GO>}

Sure. So thank you for having me. NVIDIA has definitely worked on transforming away from that single PC platform. And our concentration has really been on key four market platforms in order to take that same GPU technology. But do a platform effect across those four markets.

Those four markets are gaming, enterprise, high-performance computing and cloud. And automotive. Following just our Second Quarter results, our gaming and our gaming PC revenue couldn't be stronger, growing more than 50% year on year, as the market for PC gaming is quite vibrant out there, with the excitement of new games, the overall NVIDIA Maxwell architecture, as well as the excitement coming around the corner for 4K monitors, DX12. And a lot of the virtual reality excitement that's out there.

Our second market for the enterprise and virtualization again takes that same overall technology. And leverages that for the enterprise where, again, graphics -- in design and building, rendering is very, very key.

We've also created the technology for virtualization using GRID, which puts your actual GPU in the data center, allowing concurrency of that GPU in a streaming environment for applications.

Our third market, high-performance computing and cloud, focused on the data center; focus on parallel computing; and focusing clearly on accelerating the data center for the future. And that would be our Tesla brand -- the same architecture. But really using a different component, versus the visual computing; but using the overall computing capabilities for that overall platform.

Then our last market, the exciting mobile automotive market. And we are currently providing infotainment systems to many of the cars that you see on the road. There's 8 million different cars right now with NVIDIA's technology on that center dashboard, or the center console. And the visual computing.

But we are also building work in terms of ADAS for the future and assisted driving for the future with an overall DRIVE platform that pulls together both that computing capabilities of the GPU, with that visual computing, together for future self-driving cars.

And so, those are our four different markets. We've been working on this transformation for several years, both on the investment. But the overall unification of the investment profile on this same type of architecture. But for four different markets.

The key for our market approach, is approaching it with a software -- a solutions approach. And really surrounding the overall ecosystems of each one of those markets that we approach, to develop the hold on the market that we have in so many of these key parts.

As we move forward, we'll continue to concentrate on these four key markets. But what we've even saw in the first 2 quarters of the fiscal year -- our overall revenue growth for the Company for those first 2 quarters is about 4% to 5%.

But if you actually just pull out those growth platforms and our focus, that growth rate is nearly 25%. So our concentration on these markets is working, as we've really decoupled ourselves from what you saw of the underlying PC market, which hasn't been a growth market for several quarters. And really concentrating on building up these businesses as we go forward.

## **Questions And Answers**

#### A - Sean Vocke

All right. Thanks for that very good introduction there. I guess, why don't we start with the largest opportunity for you guys, which is gaming. Can you maybe just help us understand how big the gaming business is for you guys today. And what are your expectations there, as far as long-term growth?

## **A - Colette Kress** {BIO 18297352 <GO>}

Yes. The gaming business for us is about half of our overall business -- more than \$2 billion, concentrated on PC gaming. We have also a very strong attraction of gamers all across the world. It is not concentrated in actually any one geography.

We have a very strong representation in the US, in the European market, as well as in the Asia Pacific and even China. Our overall China business represents a good percentage of the overall gaming market as well. And has been a strong hold for PC gaming for some time.

When we think about the future and when people think about sizing overall PC gaming, it's kind of interesting because there's no perfect understanding on how big this can be. Because that underlying platform is nothing more than the GPU that we provide. But we provide it with a set of tools, a set of drivers, a set of software, that connects directly with the overall software that's coming onto the market, the actual games that hit the market, to where people keep coming back and buying those overall GPUs.

When we look -- there's outside resources that have looked at this, all the way through 2018 as a growth market. Probably -- and can be thought of as near double-digit type of growth.

How fast will we grow over that period of time? Our continued innovation, our continued work with the developers in the gaming market, would probably be key for that. But we're very excited for the growth.

#### A - Sean Vocke

Okay. Thanks. And when you look at the gaming business, what do you see are the biggest drivers for that business? Is it macro? Is it new game launches, like the Call of Dutys -- the Metal Gears? And is it -- new hardware out there, right? Like, a Skylake refresh, for example.

### **A - Colette Kress** {BIO 18297352 <GO>}

Well there is no confusion that games actually drive the gaming market. The games have continued to advance themselves over the last several generations -- high-caliber, high-production-value games continue to come out.

Even in this last quarter, probably two key games drove a significant amount of the gaming time that was leveraged on these overall gaming platforms. We see this gaming volume continue, probably getting ready for the holiday season. So that's very important. But not to underestimate the power of the underlying platform and the hardware.

That hardware is put together with key features through Gameworks that we've worked with those software developers to enable. Hard things such as water; fire; hair movement -- these types of things. And features which allow games to look realistic, as though the game is real, is very important for the underlying gamer. So our work with that. And the innovation, is very key in producing those.

So time and time, our gamer population comes back because they know that our innovation is going to be just right on for this -- those upcoming games and the things that are being developed in the market.

### A - Sean Vocke

Sure. And do you have a sense for how large the gamer market is today. And what percentage of that is PC versus non-PC gaming?

### **A - Colette Kress** {BIO 18297352 <GO>}

Gaming on a PC is probably the largest overall platform in the gaming market. Gaming occurs on every single different platform, though. And everybody could in some form be using overall gaming. So it stems from a PC. It stems from a console. Tablets; phones; a lot of mobility in terms of a need [ph].

But those high-caliber, strong gaming platforms found in PC, is one of the popular. And you'll even find people doing gaming on PC platforms as well as consoles. But the PC has continued to be the higher echelon of overall gaming performance.

#### A - Sean Vocke

Right. Then when we look at the PC gaming base, it largely concentrated in the US? Is it Asia? Is it Europe? Maybe talk a little bit about --

## **A - Colette Kress** {BIO 18297352 <GO>}

Yes. The great thing is, it's all over the world. In the US, we have the love of working on multiple different platforms. So you have PC gamers and console gamers, a lot.

In our Asia-Pacific and China, China is very in love with the overall PC platform for their gaming experience. And the Europeans have -- also have a very strong hold on a lot of the higher-end PC gaming as well.

So what we've seen so far in the last several quarters, is strength across all of those different markets, each growing quite nicely around the world.

#### A - Sean Vocke

Okay. Thanks. And when you look at your graphics business, how much of your success there do you attribute to, I guess, your own solutions versus share gains against your competition?

## A - Colette Kress (BIO 18297352 <GO>)

It is true that we are in a duopoly for a discrete GPU. Our gamers have been a set of gamers that continue and consistently come back to the overall gaming population.

So on a discrete GPU, a percentage of that market -- we're now looking at a market share of close to 80% or more. That is driven by our platform, our platform for gaming. And our platform for even a regular PC general OEM.

But the overall gamers have been with us for a long time. There have been some small gains from AMD. But that is not the lion's share of what is driving our overall growth. The overall value of what we deliver in our platform. And continuing to maintain strong ASPs over that period of time. And getting gamers to continue to upgrade to a higher-performer GPU, has been some of the main drivers of our overall gaming revenue.

Our overall gamers across the world continue to expand. Gaming takes place if there is strong broadband capabilities. There are still many parts in the world where broadband is still coming to life. So you see gamers wanting to master what is also available in some other sister countries.

So we get an expansion of people entering into PC gaming. We get our gamers to continue to upgrade to higher versions. And really maintaining that value in the ASPs, has been driving the majority of our overall revenue growth.

### A - Sean Vocke

Sure. And can you remind us what your ASPs have done over the last year or two?

## **A - Colette Kress** {BIO 18297352 <GO>}

Our ASPs, remarkably, have grown over that period of time. So our average ASPs for our gaming GPUs continues to go upward. We'll still concentrate on that to be our focus. Our focus of -- not on price. But our focus on delivering value in terms of the platform and what we can do.

#### A - Sean Vocke

Then obviously there's been a lot of press and a lot of coverage around virtual reality. Maybe talk about what you guys are doing in virtual reality, what are your efforts. And maybe how that helps or doesn't help your own GPU business.

## **A - Colette Kress** {BIO 18297352 <GO>}

Yes. So the excitement about virtual reality, of that next-gen, where does PC gaming go next for a complete immersion into that gaming experience -- so, a lot of key vendors coming out in the holiday season or post the holiday season in the beginning of 2016, with headsets that can take advantage of this virtual reality world.

But they key part of that is not the headsets. But what they need in the infrastructure to influence that overall experience. Many of those vendors have come out with recommendations of what type of GPU you -- will be necessary to take advantage of that virtual reality experience. They are looking to promote our three top GPUs to take advantage of virtual reality. It promotes a better experience in that virtual reality experience. And we're just very pleased that our actual GPUs are being called out as a key infrastructure component.

### A - Sean Vocke

Then how do you see the virtual reality market, I guess, playing out over the next year or two. Obviously it's still very nascent right now. And do you guys seeing that being a more -- a bigger percentage of your revenue as we look out into next year and maybe 2017?

## **A - Colette Kress** {BIO 18297352 <GO>}

I do believe this is the next wave of the gaming market. How fast it grows; how big it will get -- I think we're going to still have to see some of these vendors really come to market. And the acceptance of that being the right use and form that they've pulled together.

So it will continue to advance. And we'll -- I'm sure we'll see generations forward that will [ph] advance us. So I think it's just a little bit early to say how big that overall size it is. But I can definitely attest that it will be a good portion of our high-end gaming.

#### A - Sean Vocke

Okay. Thanks. And I guess, with that, I'll switch a little bit and maybe ask the million-dollar question -- I guess the reason some of these folks are in the room today. Maybe get your thoughts on the PC OEM business.

I mean, for you guys it's obviously not what it used to be -- a little bit soft in the Second Quarter and then -- I just want to get your thoughts on how you see the rest of the year playing out. We've heard mixed commentary here at the conference so far. So interested in seeing your take on the PC OEM business today.

### **A - Colette Kress** {BIO 18297352 <GO>}

Yes. The PC OEM business -- what we refer to that is just a general-purpose GPU. And a general-purpose PC and/or notebook. That's where we are generally selling as a component inside of the PC or in the notebook. Just as little as two years ago, towards the end of fiscal year 2013, this business probably represented in the mid 20% of our overall Company, overall size revenue. So it was a material percentage of that.

Just finishing this last quarter, our PC OEM general-purpose business is now almost at single digits, as a percentage of our revenue. It's just -- and we've continued -- been able to grow the top line as we've concentrated on the markets. It's something that we're going to focus on. It is going to be something that we are going to continue to provide GPUs for -- build and design them in.

But we do understand it's going to go through its waves of pockets of stabilization and what we saw definitely at the end of Q2, not-so-strong growth, or an actual decline year over year. But having been able to move to a platform approach has allowed us to just de-emphasize that piece as our business.

#### A - Sean Vocke

Okay. Thanks. And I guess I want to switch gears a little bit and focus on enterprise. Another segment for you guys. Obviously it's become bigger and bigger as a percentage of overall revenue. I think if you look at -- enterprise is a little bit soft in the first half.

Maybe talk a little bit about, why was it a little bit soft in the first half? Whether it's Quadro; whether it's Tesla. And maybe, what are your expectations as we move to the -- I guess, to the latter part of the year?

## **A - Colette Kress** {BIO 18297352 <GO>}

Sure. So let's focus on the Quadro business. The Quadro business is our product design for enterprise workstations. This is where probably key parts of the macro conditions that we had seen in the first half of the year, play out on the capital buying cycle, of a lot of capital in the enterprise.

The business has been relatively steady for many years. And it is in a slightly non-growth position right now as a lot of the challenges with FX rates around the world, forcing some challenges on capital purchasing, probably slowed the business down.

We just finished our SIGGRAPH, where we announced a couple new graphic cards under our Maxwell architecture. And for [ph] design for that market in the second half of the year. So we're pretty excited with what we have coming out.

Secondly, our overall Tesla business. Now, our Tesla business is a different business, focused on the data center and focused on high-performance computing as well as

overall accelerated computing. And some of our key highlights -- workload for deep learning, for example.

Our overall high-performance computing -- overall channel for high-performance computing is still strong; is still a growing market.

Where you're seeing tremendous growth in terms of deep learning, we finished fiscal year 2015 a year ago with 50% growth in our overall data center business, largely due to key projects in deep learning, associated with Internet service providers, leveraging GPUs to train overall applications for key workloads such as image detection, voice recognition, video coding. And also voice translation. So very, very important workload. And very project-oriented.

So it's not anything to be questioning in terms of where there's growth. It's just really project spend in there. Because there is tremendous excitement still stemming from deep learning every day, from research and new workloads that are forming.

#### A - Sean Vocke

True. So let's dig a little bit deeper in Tesla. I think it was \$300 million or so -- it's getting close to \$300 million or so this year.

## A - Colette Kress (BIO 18297352 <GO>)

Uh-huh.

#### A - Sean Vocke

And I think you've talked about being ultimately a \$1 billion business. Maybe talk about, what are the key drivers to get you there? And I think you mentioned deep learning. And what are some of those drivers that will get you to that \$1 billion mark?

## **A - Colette Kress** {BIO 18297352 <GO>}

Yes. So we're talking about a very installed base in the data center, of services, which -- several of them are currently accelerated -- accelerating using GPUs -- the next wave of workloads for the data center and their expansion. And the need of acceleration.

The overall needs in the data center for speed, compute, to complete the work of the future, is going to be truly backed by the overall need for acceleration.

The overall Tesla GPU can be leveraged both for its overall performance and its ease for programmability. It programs in terms of -- on the CUDA development language, which is taught in so many high-end universities in more than 500 different places around the world. So those freshly coming out of university research are going into the business, knowing how easy it is to program on the GPUs.

So we're seeing more and more that need to speed up the key workloads that are in the data center. And we think this will continue to advance. How fast and how soon will it get to be \$1 billion? I think that's a little hard to define. But that is the next wave, is the speed of the data center.

#### A - Sean Vocke

Sure. And maybe -- can you assess, I guess, the competitive landscape out there in terms of GPU acceleration vis a vis an FPGA solution or even, like, Xeon Phi, for example? Where does the GPU sit relative to an FPGA in terms of acceleration. And what are, kind of, the workloads that you'd be really good at, in that situation [ph] space?

## A - Colette Kress (BIO 18297352 <GO>)

Yes. So it's always the case that you can solve the problem multiple ways. You can solve acceleration in many different form factors. FPGAs have been around for many different years, focusing on a very simplistic type of programming that may be necessary for the data center. You get a -- maybe a lower power. But a lower performance, particularly with an FPGA, versus what you're going to see from a GPU.

You're also going to see an environment of a lot of challenges, with reprogramming an FPGA for the data center. The GPU is so simplistic in terms of its ability to change an algorithm on the fly; reset the overall workload; and off and going and running. It is, in a software environment, very friendly to those types of programmers.

So we really haven't seen acceleration for some of these very challenging, high-performing workloads in the data center, with the need of overall FPGAs yet. They do leverage the GPUs quite consistently in that. But again, there's just different ways to solve the problem. But we're very excited about what we have coming forward.

#### A - Sean Vocke

Sure. And I think one of the things that gets lost among the investment community is, this is something you guys have been working on for many years now. Whereas I feel like the FPGA guys have only recently been, I guess, making that push in there. Is that correct?

## **A - Colette Kress** {BIO 18297352 <GO>}

I think FPGAs have been around for quite a while. I think the recent consolidation has put a lot more attention to it, on that. But it is -- it will be interesting to see how the market changes with that awareness now.

#### A - Sean Vocke

All right. Do we have any questions from the audience right now? Okay. Let's move on to automotive. I think -- sorry, one back here.

# **Q** - Unidentified Participant

I had one about the virtual reality. What kind of ASPs do you think you could get? I guess they recommended the three different GPUs, right? What sort of --?

## **A - Colette Kress** {BIO 18297352 <GO>}

So they are recommending our retail ASPs for those GPUs. It's starting with our GPU 970, 980 and 980 Ti [ph]. Those overall retail prices for the end-to-end card, not for the chip component of them, will retail probably close to \$300 or more apiece.

#### A - Sean Vocke

Okay. Let's talk automotive a little bit. Another area you guys are all very excited about. You've put a lot of investment and time into this business. And when I look at last year, I think it was about \$180 million.

And you guys have talked about getting to, I guess -- going from 8 million cars to 25 million cars over time. Maybe talk about over what time you see that growing from 8 million to 25 million cars for your Tegra business.

## A - Colette Kress {BIO 18297352 <GO>}

Yes. So just in this last quarter our automotive business is about \$80 million a quarter, in terms of where it's running right now. It grew probably close to 80% this last quarter, nearly almost doubling for the first half of the fiscal year. We have 8 million different cars on the road today with NVIDIA technology in the infotainment center.

The 25 million new cars that will hit the road, is really focusing on our pipeline of design wins that we've already completed. So moving forward, it's just the timing effect in terms of when those cars will hit the road and work through its manufacturing cycle.

But we're all ready for those 25 million cars. We continue to work on new design wins. As the infotainment systems move from some of the original high-end cars into several of the mainstream lines, you'll find us in Audi, BMWs, Teslas, Volkswagens, Golfs, Hondas. So really kind of moving toward a broad range of different cars, as that becomes a key main feature for selling.

But as we work forward, that pipeline will continue to be advanced as we think about driver assist and selling our overall DRIVE platform. We announced in Q2 the availability of our DRIVE platform for over 50 different OEM manufacturers, tier ones and researchers in the industry, for them to take it, work with it, move their overall software algorithms -- us work together on that -- and we'll come soon with our next steps in terms of our DRIVE.

#### A - Sean Vocke

Sure. So I think you talked about ADAS. We had a company here yesterday called Mobileye, talking about them having about 80% of the ADAS market today. Maybe

talk about how your solution is different from, say -- not just a solution guy, like a Mobileye. But maybe an embedded solution from a TI or, say, an Intel or Freescale.

## **A - Colette Kress** {BIO 18297352 <GO>}

Yes. I think this is another situation where everybody's approaching the opportunity in a different manner. So we've approached it, looking at an overall compute platform for the car -- one that can be complementary to many of those other type of providers that may be out there. It's able to incorporate a plug-and-play with a -- all the different types of cameras, sensors, or other type of information that will be feeding to a collective data source.

We're taking our learnings in terms of in the data center, with very complex data structured. And coming up with solutions for overall ADAS through software algorithms.

So when I look at how we are different than the competitor, we look at it as a complete computer platform that may be necessary -- that you'll want all of that function together, looking at it in a place where a car manufacturer will want a single form of software and be able to manage that software that, is going to be our key differentiating piece than some of those other providers.

#### A - Sean Vocke

Okay. Then maybe talk a little bit about how many Tegras do you see per vehicle now. And do you see that dollar content growing over the next year or two?

## A - Colette Kress (BIO 18297352 <GO>)

Yes. So right now, we have several cars on the road, where there's as many as four different type of processors in the car, through front infotainment systems as well as rear-seat entertainment as well.

As we move forward, the key component of our growth is producing the value through software and software algorithms, really hoping for a business model where that value is appreciated, where the overall ASPs can continue to grow in there.

So I think the business model is really about building a software that can be leveraged across many different types of manufacturers; produce increased ASPs; may or may not be multiple Tegras within their. That's for the auto manufacturer to define. But we can do either way.

#### A - Sean Vocke

Okay. Do we have any other questions right now? All right. Let's talk about your model. And if you look at your profitability, your margins are now -- I think gross margins are over 55%; operating margins over 20%. Maybe talk about how your margins and profitability have been able to expand so much over the last couple of years.

### **A - Colette Kress** {BIO 18297352 <GO>}

With our focus on the four key markets and focused on a platform position, it really allowed us to separate from just being a component underneath some other type of OEM. It allowed us to establish the price points to establish the business model that we wanted, that we can continue to come back and produce the value, because we understood that overall customer.

So when you think about our growth platforms, our Tesla business, our GRID business, our enterprise business. And most of our overall gaming, high-end, is also better than the Company average gross margins.

Which just really shows that, with these platforms that we have, our opportunity going forward is not only good to the top line. But can really pay off in terms of our gross margins as well. So that's where our overall concentration has been.

When we focus on our operating margin, our focus has been on a leveraged single technology platform. The Maxwell architecture stems all the way from the GPU to the SOC. And leveraging the same technology, all engineers working on the exact same technology. But learning four different markets to put that in, has been very helpful for us to manage our overall investment portfolio, concentrating on the four but finding the efficiencies that we need across there.

That's really also allowed us to play out in growth in both operating profit, net income and EPS as we've really played out that strategy. So we're going to continue to focus on that as we go forward, because I think it's very important that we balance. But think about those investments for those markets going forward.

#### A - Sean Vocke

Okay. So Icera. I want to touch on that briefly. I think -- obviously you made that decision to exit mobile. Maybe talk a little bit about what went in that decision to, I guess, decide to -- you don't need that technology.

And maybe talk about what kind of impact that has on your model going forward. I mean, there's some puts and takes there, obviously, with your growth vectors like enterprise. How does that play out with Icera winding down?

### A - Colette Kress {BIO 18297352 <GO>}

Yes. So as we focused on the markets and looked at our investment to modem, we felt we could address the need for connectivity potentially with an outside partner and not necessarily having to build it ourselves. It was a tough decision. It was an important part of our overall business.

But after much discussion and needs of our businesses for investments, we decided it was the best for us to either wind down or sell the operations. So we ended up choosing to wind it down in the Second Quarter. And we're still working through that in the last couple quarters of this fiscal year to do.

But it allows us to really hone in and focus on areas that will truly drive our growth --key areas such as deep learning. That focus also takes deep learning to the automotive and key areas such as virtualization as well; and, of course, gaming, being such a big part of our business, is really the focus of our investment.

#### A - Sean Vocke

Sure. Then, as I look out into 2017, obviously this has been a lot of concerns on some of this licensing business that may or may not roll off. Maybe talk a little bit about your thoughts on the licensing business. And how do you respond to those concerns?

# **A - Colette Kress** {BIO 18297352 <GO>}

Yes. So our main piece of our licensing business is with our cross-license with Intel. That Intel cross-license will take us from a revenue standpoint through the First Quarter of fiscal year 2018 as we will earn out the revenue associated with that.

So there is a lot of questions in terms of, what is that; when will that get renewed; will it get renewed, in those types of pieces. But keep in mind, it's really under our overall umbrella of our full IP strategy as we work through our patent litigation against Samsung and Qualcomm in the ITC core.

So we are currently waiting for the first part of that, which will be a ruling from the judge in the first part of October. And that will likely progress to a ruling from the Commission in the end of January, beginning of February.

So I think it is more of holistic view to look at our overall IP strategy. We're considering our licensing revenue as a part of that IP strategy. I think all eyes are on our ITC case -- the next steps either side will take. And how this will play out.

### A - Sean Vocke

Sure. Then, as far as legal expenses go, I think it took a step up this year. Maybe talk about where your thoughts are next year for litigation expenses and legal expenses.

# **A - Colette Kress** {BIO 18297352 <GO>}

Yes. We don't have an outlook at this time for fiscal year 2017. For fiscal year 2016 it is an increase as we focus on such an important part of our business, in defending the IP in our more than 7,000 different patents that we do have.

Our range of expenses for this year is about \$70 million to \$90 million so far for the fiscal year. But that incorporates multiple components of both the offense side of the ITC. But also our structure on the defense side that we have to do as well. As we go into fiscal year 2017, we'll just have to see the direction of where this goes. We're just waiting right now for the courts.

#### A - Sean Vocke

Sure. And -- oh, sorry. (inaudible).

## **Q** - Unidentified Participant

I mean, on the Intel part, are you expecting to have another IP deal with them, or are you focusing more on Samsung, Qualcomm, with Intel deal being a perpetual deal that's ending? Or, is that something you hope to --?

## **A - Colette Kress** {BIO 18297352 <GO>}

I think we -- I think our focus is on IP as a whole. And many of the different players out in the market that leverage and use our overall IP. The Qualcomm and Samsung cases are very important in the mobile space and the mobile architectures, that the monetization of that IP is not seen. And that's where we're focused.

But it -- but I believe that many different players, whether they be mobile or non-mobile, are really focused on that outcome of that case, to really discuss in terms of licensing. So I think we'll just have to wait and see on that part.

## **Q** - Unidentified Participant

Then, in auto, most of your -- all your wins are for the infotainment -- is it -- are you basically rendering the graphical pictures of the -- is it basically a -- purely a graphics kind of a business?

## A - Colette Kress {BIO 18297352 <GO>}

For the infotainment system, it takes the best benefits of that GPU. And putting together something that looks nearly real, or materials that may look real. But it's also about that center entertainment console as well. And putting that all together in a very user-friendly way to actually visualize that while you're overall driving.

We work on the software content with the OEM manufacturers and the tier one to customize that throughout all of the different cars that we put that in.

# **Q** - Unidentified Participant

I'm sorry. Maybe I [ph] didn't understand. So you're saying the IP legal case has come to a head between October and the March -- January timeframe? Can you just go over that again?

# **A - Colette Kress** {BIO 18297352 <GO>}

Yes. The hearing took place at the end of June and, as we enter in the first part of October, the first week of October, we are expected to hear from the judge on that ruling. Most likely after that single judge ruling, it will move to the Commission in the January/February timeframe, for them to also make a ruling on the case.

#### A - Sean Vocke

Before we finish up, I wanted to touch on the GRID business real quick. Maybe talk about your efforts of GPU virtualization -- how large is it today; how large do you think it could be? And I think that when I look to last week, I think there was GRID 2.0 announced at VMworld. Maybe talk a little bit about that as well.

## **A - Colette Kress** {BIO 18297352 <GO>}

Yes. So our GRID position, again, is our virtualized GPU in a cloud environment. It can be leveraged for a couple of key things. In the enterprise, it really enables a lot of the VDI environments.

One of the challenges with the VDI environments is the user interface -- the user experience, as they want a very clean-streamed application. And if it's very visual-intensive that's really challenging. We created the technology in the market to create that virtualization capability of the GPU back in the data center.

Our GRID 2.0 that we announced was the ability to improve the overall performance, improve the concurrency of the GPU in the data center, essentially doubling it, depending on the workload. And depending on that experience.

Another key component of GRID is using it for streaming gaming. You'll see a lot of streaming gaming out there being used where GPUs are being used, back in the data center, to prove out that.

So our GRID 2.0 was in connection with VMware at VMworld as well, as they have been a key component for us in terms of their software and virtualization and our capabilities in terms of improving that end user experience.

At the end of fiscal year 2015 we did reach our goal of being in the \$10 millions on our GRID business. And we're continuing to grow that with additional use cases, trials and projects. It's an enterprise sale. It is in combination with the IT groups and the business unit groups to put together. So we're excited about those opportunities but do understand there's a lot of work to do to get those closed.

#### A - Sean Vocke

Sure. And I guess we have time for maybe one more. And I'll ask you about -- one of, I guess, the stronger points of your business is the capital allocation. I think you're well over 100% the last couple of years, in terms of returning free cash. And now you're -- I think it's over about \$3 billion in net cash.

What are your long-term plans for cash? How much do you need to run the business? And are you potentially looking at getting involved in the M&A party out there?

# **A - Colette Kress** {BIO 18297352 <GO>}

So our capital return program is a key component of our shareholder value. We reinitiated our capital return program in our fiscal year 2013 at the end of fiscal year 2013. And we've continued since then. And even this year we plan to return more than \$800 million to shareholders through dividends and stock repurchases.

So it's here to stay. It is something that's key and important. Over the last couple of years it has been over 100% as we have balanced our needs for cash, our availability of US cash, as well as our program for a good amount of free cash flows to be returned. That's going to be our focus going forward.

We're going to balance out the cost of returning that cash to shareholders, focus on the investment in the overall business, because that will be our first priority.

We will continue to look at M&A. We haven't been a large M&A -- a big company buying [ph] large catalogs of companies. But we -- again, we still focus on that for key components of our platform approach.

#### A - Sean Vocke

Sure. I think that's all the time we have for today, unfortunately. But I guess Colette will be here for a couple of minutes if you have any follow-ups.

## **A - Colette Kress** {BIO 18297352 <GO>}

Thank you. Excellent.

#### A - Sean Vocke

Thank you very much, Colette.

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