

# NVIDIA Corp Annual Shareholders Meeting

## Company Participants

- Jensen Hsun Huang, Co
- Simona Stefan Kiritsov Jankowski, VP of IR
- Timothy S. Teter, Executive VP, General Counsel & Secretary
- Unidentified Speaker, Unknown

## Presentation

### Operator

Good day. Welcome to NVIDIA's 2018 Annual Meeting of Stockholders.

I would now like to turn the conference over to Simona Jankowski. Please go ahead.

### **Simona Stefan Kiritsov Jankowski** {BIO 7131672 <GO>}

Good morning. Welcome to NVIDIA's 2018 Annual Meeting of Stockholders. I'm Simona Jankowski, Vice President of Investor Relations. We're excited once again to host a fully virtual Annual Meeting this year. Other members of NVIDIA's management who are present with me today are Jensen Huang, President, Chief Executive Officer and Director; Colette Kress, Executive Vice President and Chief Financial Officer; and Tim Teter, Executive Vice President, General Counsel and Secretary.

I would also like to introduce the outside members of our Board of Directors who are in attendance: Rob Burgess, Tench Coxe, Persis Drell, Jim Gaither, Dawn Hudson, Harvey Jones, Mike McCaffery, Mark Perry, Brooke Seawell and Mark Stevens. Finally, I would like to introduce Wayne Hedden from PricewaterhouseCoopers, our independent registered public accounting firm.

After the formal portion of the meeting, Jensen will provide an update on our business. And then there will be time for questions.

I would now like to turn the meeting over to Jensen.

### **Jensen Hsun Huang** {BIO 1782546 <GO>}

Thanks, Simona. Good morning. Welcome to our 2018 Stockholders' Meeting. The meeting will now officially come to order. I will serve as Chairman. And Tim Teter will serve as the Secretary and conduct the procedural portion of the meeting.

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**Timothy S. Teter** {BIO 3936302 <GO>}

Thanks, Jensen. First, a few housekeeping items. We have opened the online portal for stockholders to ask questions during the meeting. If you have a question, please enter it into the portal. And we will do our best to answer it at the end of the business update and the time permitted. You can also vote your shares online until the polls close.

During the course of this meeting, we may make forward-looking statements based on current expectations. These forward-looking statements are subject to a number of significant risks and uncertainties. And our actual results may differ materially. For a discussion of factors that could affect our future financial results and business, please refer to the report we may file from time to time with the Securities and Exchange Commission, including our Form 10-K. All of our statements are made as of May 16, 2018, based on information available to us as of today. And except as required by law, we assume no obligation to update any such statements.

We will first address the matters described in the company's proxy statement dated April 6, 2018. We will then complete the balloting process. An announcement will be made regarding the voting results. And then the official portion of the meeting will be adjourned. Jensen will provide a brief business update. And then we will answer questions received through our online stockholder forum as well as questions submitted online during the meeting.

I have a complete list of the stockholders of record of NVIDIA's common stock on the March 22, 2018, record date for this meeting. I also have an affidavit from Broadridge certifying that they commenced the mailing of the relevant proxy materials on April 6, 2018. I'm appointing Chris Woods of American Election Services, LLC to act as the Inspector of Elections at this meeting. He will tally the final votes when balloting on all matters is completed. Chris has taken the customary oath of office. And we will file this oath with the records of the meeting.

Our bylaws provide that the presence in person or by proxy of a majority of the shares entitled to vote at the meeting will constitute a quorum. There were approximately 607 million shares outstanding on the record date. And Chris has informed me that proxies have been received for approximately 503 million shares or approximately 83% of the shares outstanding, which constitutes a quorum for today's meeting.

Each share of common stock is entitled to one vote. If you are eligible to vote and have not submitted your proxy or you want to change your vote, please do so and vote online now. You do not need to vote if you've already sent in your signed proxy or voted online or by telephone. Your votes will be counted automatically. The time is 10:35 a.m.. And the polls are currently open for voting.

There are 5 items of business: First, the election of Rob Burgess, Tench Coxe, Persis Drell, James Gaither, Jensen Huang, Dawn Hudson, Harvey Jones, Mike McCaffery,

Mark Perry, Brooke Seawell and Mark Stevens to serve as directors until our 2019 Annual Meeting.

Second, the approval of the compensation of our executive officers, as disclosed in our 2018 proxy statement.

Third, the ratification of PwC as our independent registered public accounting firm for fiscal year ending January 27, 2019.

Fourth, amending and restating our 2007 Equity Incentive Plan.

Fifth, amending and restating our 2012 employee stock purchase plan.

As the company has not received notice from any of its stockholders of any other matter to be considered at this meeting, no other proposals will be addressed. If you have not voted and intend to vote, please do so online now as the polls will close momentarily.

Proxies, votes or any changes or revocations submitted after the closing of the polls will not be accepted.

The time is 10:36 a.m.. And the polls are now closed.

The preliminary report of the Inspector of Elections covering the proposals presented at this meeting is as follows: First, the proposal to elect the 11 nominees on the ballot as directors of NVIDIA is carried.

Second, the proposal to approve the compensation of NVIDIA's executive officers as disclosed in NVIDIA's 2018 proxy statement is carried.

Third, the proposal to ratify PwC as NVIDIA's independent registered public accounting firm for the fiscal year ending January 27, 2019, is carried.

Fourth, the proposal to amend and restate NVIDIA's 2007 Equity Incentive Plan is carried.

And fifth, the proposal to amend and restate NVIDIA's 2012 employee stock purchase plan is carried.

A full tally of the votes will be published in a Form 8-K, which we expect to file with the SEC within 4 business days.

That concludes the formal portion of today's Annual Meeting. And I declare the business portion of the 2018 Annual Meeting of Stockholders adjourned. Thank you

very much.

With that, let me hand this meeting back over to Jensen for a brief business update, after which we will answer stockholder questions. Please note that given our time constraints, we may not be able to address all questions.

## **Jensen Hsun Huang** {BIO 1782546 <GO>}

Thanks, Tim. 25 years ago, we set out to solve the problem of 3D graphics for video games because we believed it would be one of the great computing challenges and be a driving force of the computer industry. It was an insight that has propelled us to become the leader in computing technology today. For 2 decades, we pushed to make the GPU better and better to satisfy gamers' appetite for realism, compounded by a market that grew to become the largest entertainment industry in the world.

We made another great decision a decade later. We would make the GPU programmable so that it would be an infinite palette for video effects and be able to simulate the dynamic physics in the virtual game worlds.

With CUDA programming model, we invented a new supercharged form of computing. NVIDIA GPU computing was born. Since then, we continuously widened the aperture of our vision to bring GPU computing to new fields, medical imaging, weather simulation, molecular dynamics, biology. GPU computing now accelerates practically every field of science. Last year, the Nobel Prizes in both chemistry and physics were made possible by our work.

Then one day, the GPU was applied to an algorithm called deep learning, sparking the Big Bang of artificial intelligence, that will allow us to solve the unsolvable. Computers can now write software that no human could write. We're contributing by building the most advanced computing platform for AI so that every company in the world can infuse intelligence into what they do.

With GPU computing, we've accelerated AI by 500x in just five years. And we're not slowing down. Our latest-generation Volta has reinvented the GPU. Volta is the first Tensor Core GPU, a new breed of GPUs designed to turbo charge AI. NVIDIA GPU computing has achieved escape velocity at just the right time. As Moore's Law comes to an end, at a time when developers need more computing power than ever, GPU computing gives them the rocket ship they need.

The success of our GPU computing model is clear in the numbers. In fiscal 2018, revenue was up 41% to reach a record \$9.71 billion. Gross margins expanded 110 basis points to 59.9%. Earnings per diluted share were \$4.82, up 88%. And we returned \$1.25 billion to shareholders through dividends and stock repurchases.

We continued our fast pace of growth in the First Quarter of fiscal 2019 with growth in each of our businesses. Revenue reached a record \$3.21 billion, up 66% from a year ago. Gaming revenue grew \$1.72 billion to 1 point -- gaming revenue grew to

\$1.72 billion, up 68% from a year ago. Design and visualization for enterprises grew to \$251 million, up 22% year-over-year. Our data center business grew to a record \$701 million, up 71% from a year ago. The automotive business grew to \$145 million, up 4% year-over-year. We're doing great with our DRIVE autonomous vehicle computers. Over 370 companies, ranging from OEMs to car system makers, start-ups, robot taxi services, are developing autonomous vehicles on our platform. We expect product ramps to start in late 2019 and beyond.

About 6 weeks ago, we held our 10th Annual GTC Conference, ground 0 for GPU computing movement. We announced new products for new markets. First, we reinvented computer graphics yet again. Combining ray tracing and deep learning, NVIDIA RTX makes possible real-time film-quality graphics for the first time. What the film studios currently do in large-render forms can finally be done with NVIDIA RTX GPUs.

We announced new hardware and software that can save big money for data centers. Just one of our new DGX-2 systems can replace hundreds of traditional servers. And with our fourth-generation TensorRT deep learning auto compiler, Internet companies can offload the image and speech recognition, language translation, recommendation workloads to our GPUs and get a big boost in data center throughput.

In auto, we demonstrated a simulation platform, where autonomous cars can be tested safely in virtual reality.

And in health care, we announced a medical imaging supercomputer to modernize the millions of medical imaging devices in use today with AI.

These are really exciting times. The advent of AI allows computers to solve previously unsolvable problems. It's creating new opportunities like no time before. The computing model we pioneered nearly 15 years ago has positioned us to make great contributions in many -- in great many industries and fields of science. We're thrilled to be inventing the future. We can't do this without the support of all of our stakeholders. Thank you.

**Simona Stefan Kiritsov Jankowski** {BIO 7131672 <GO>}

Thanks, Jensen. We'll now move to the Q&A. First, we'll address all questions and comments that have come through our soft order form. And then we'll answer any questions that come through the virtual meeting portal. We created the form so that our stockholders would have the opportunity to ask us questions prior to the meeting, allowing for more effective communication.

## Questions And Answers

**A - Jensen Hsun Huang** {BIO 1782546 <GO>}

I will read out loud each question or comment as submitted, except removing personal details. In some cases, we have received multiple questions asking about the same or similar topics. So we can group these questions together to avoid repetition.

The first question, is there diversity within the Board of Directors?

A diverse board is important to us. And we strive to enhance diversity. 2 of the 3 most recent additions to our board are women. We strive to maintain an appropriate balance of diversity, tenure and skills on the board. We select directors based on their unique skills, professional experience, perspectives and backgrounds, which enable them to effectively support and oversee NVIDIA's complex business.

Second question. Why does the company have so many directors? Does the company get its money's worth? And why does NVIDIA require such a large Board of Directors?

This isn't larger than most boards. NVIDIA's business is global and complex. We need to have a lot of skills represented on our board to ensure that the company receives the appropriate level of oversight and governance as our business continues to evolve. Each director has been nominated to the board because of their individual and collective competencies in areas such as management, operations, industry, finance, academia, emerging technologies and marketing. And although we do not have a target board size, the size of our 11-member board is comparable to other companies in the S&P 500.

Third question. In my view, the board has too many venture capitalists sitting around the board table. There needs to be an accountant who is currently in practice as well as some hardware industry executives who are also currently working in the sector. It might also be a good idea to have an HR professional at the table. Either expand the board or replace some of the venture capitalists with others who have the expertise I've identified that is currently missing from this board.

We believe the D.C. directors focus on R&D -- research and development and have broad influence in promoting innovation. They're experienced with trends in the tech industry and the developments of new models. These skills are important to us and have played a significant role in positioning NVIDIA for the future. Several of our D.C. directors are former operating executives, financial experts and former lawyers and significant shareholders of NVIDIA, which aligns them with our shareholders. With respect to adding a practicing accountant, current hardware industry executive or HR professionals to the board, the Nominating and Corporate Governance Committee will discuss your recommendations. We do have a number of directors who are financial experts and former Chief Financial Officers, current and former hardware industry executives as well as current and former leaders with experience in HR matters. So we feel the board has the appropriate level of expertise to address the company's needs at this time.

Where do the new directors see the company 10 years from now? And are they excited as the regular stockholders are about the future?

Our board believes NVIDIA is well positioned for the future with significant growth opportunities in all of our major market platforms. At the heart of our opportunity is the incredible growth of computing demand for AI, just as traditional computing has slowed. The GPU computing approach that we have pioneered is ideal for filling this vacuum. And our invention of the Tensor Core GPU has further enhanced our strong position to power the AI era.

The next question. Is there a 5-year or more strategic plan road map available for review?

Yes. We discussed our long-term strategies and business opportunities in detail at our Investor Day in late March. You can view the presentation on our Investor Relations website.

Next question. How long do you expect Bitcoin miners to keep using NVIDIA chips? And will they keep finding new ways to use them? You have instructed retailers to not sell to them. Is the only way to tell someone is using them for Bitcoin is buying multiple GPUs at once?

Our GPUs are not used to mine Bitcoin. Other cryptocurrencies, like ethereum, are mined using GPUs. We have specific GPUs for cryptocurrency mining that cannot be used for gaming.

Can you further explain your relationship with cryptocurrency ethereum in terms of how, if any, it affects your bottom line and your business?

Ethereum and crypto mining is a recent GPU application. It is a bonus in our business. But volatile. It's not really a factor in our core business. We have great growth drivers without crypto. Gaming, data center and AI and self-driving cars are great businesses.

What is the business vision to move beyond crypto demand and going into edge computing, AI processing engines and the IoT space?

Cryptocurrency is a small piece of our business today. 3% of our Q2 revenue guidance. Our strategy for edge computing is Jetson, a tiny computer for autonomous machines, like manufacturing and inspection robots.

As more start-up companies are -- another question. As more start-up companies are building chips dedicated to machine learning at the different market segments, what is NVIDIA's strategy in keeping differentiation -- differentiating itself against the competition? What are the risks or the impact from having the big top vendors

acquiring such start-ups and building their own customized hardware for their clouds?

The world has recognized that CPU scaling has slowed and that deep learning workload will overwhelm their data centers. There are many types of networks. Building a programmable and fast accelerator stack, like NVIDIA Tensor Core GPU, is hard and expensive. And we're moving fast. ASIC's fixed-function accelerator may be fine for an appliance. But for the high-capital and operating cost of a data center, it puts a large premium on flexibility and overall throughput. How much of the workload we accelerate and by how much we accelerate is amplified by the cost of the data center.

Next question. How do you anticipate competitors in China?

The answer is we are a global company. And we do business all over the world, including China. AI is the future of computing and will be a very large market. We expect competitors from many places. We have to continue to move at the speed of light to stay ahead.

Do you see any stock splits in the horizon? And will there be stock splits soon?

Although we've had stock splits in the past, we do not have any plans for stock splits at this time.

Another question. Are the fonts printed in the proxy material intentionally small and poorly formed to discriminate against certain people? If not, please direct the appropriate parties to avoid fine print and make possible easily, legible and visible. Thanks.

The text of our printed proxy statement is in at least 8-point type, as required by the Securities Exchange Act. Still, we strive to state in plain language and improve the readability of our proxy materials.

Next question. Why is customer interaction on social media so poor? No response to questions. No response to the -- on the GeForce Experience either.

We have 150-plus social channels globally to ensure that there are topic-relevant channels for our more than 22 million followers. While there's a steady flow of new content, keeping up with conversations across this is a challenge. There's room for us to improve here. And our teams are in the process of revamping our social responsive strategies so that we can be more engaged.

Next question. Why not hire a public relations individual, like myself, to constantly submit positive press about NVIDIA governance, state-of-the-art progress, competition and immediately counteract negative, misleading press releases affecting the value of NVIDIA stock and the image -- and image in the tech sector?



Thanks for your suggestion. We do have a seasoned team of PR professionals for each of our businesses in major countries where we operate. These individuals maintain relationships with media and various other types of external influencers with the goal of both furthering and defending our brand, our products and our objectives in the marketplace.

Next question. Hi, I know this sounds crazy. I love your company and all its innovations. But I would like to know if you ever intend on expanding your online clothing with more choices and maybe add a leather jacket, like CEOs, with company logo on the back. Hi. nothing else to comment on. Keep up the great work.

Thanks -- thank you for your feedback. Our CEO also likes the leather jacket that his family picked out for him very much.

Onto next question. Uber has recently stated that it will restart its self-driving car testing in the coming months. When will NVIDIA restart its self-driving car testing?

We have suspended our self-driving car testing so that we could learn as much as we can from the recent incidents. And we exercise the greatest care and the greatest possible caution in the testing of our self-driving cars. Since suspending, we've been doing testing on private roads and in virtual reality simulators. We expect to resume our public road testing in the near future.

Is NVIDIA currently being bottlenecked in terms of fulfilling demand by the production limits of TSMC? Additionally, is NVIDIA concerned with the slowing pace of process node shrinking?

TSMC's process technology is unquestionably world-class today. I don't -- we benchmark process technology constantly and continuously. And I can say with great certainty that TSMC's process is leading in just about every possible respects. And they're an excellent supplier for us. They're very responsive to our demand and our - - the scale of our business, which is growing, as all of you know. And with respect to process node slowing, it is true that Moore's Law has slowed. And some would argue that Moore's Law has even stopped. And that's the reason why NVIDIA's GPU computing approach has found so much adoption in the last several years. Our method of accelerating computing is radically different than the traditional methods used by CPUs. And as a result, we're able to accelerate specialized applications even without transistors continuing to become cheaper and faster. Our approach relies on parallel processing instead of sequential processing. And I think that, in the coming years, as Moore's Law has slowed, our approach is going to get more and more traction. It's one of the reasons why we're growing so fast.

When will GeForce Experience exit the beta phase? Also, can you share with us the expected pricing structure of the product at launch?

I think the question is actually related to GeForce NOW. GeForce NOW -- because GeForce Experience is -- has been out of beta for many years. Just first of all,

GeForce Experience, as you know, is a cloud application and service that allows us to optimize the gaming PCs for each one of the configurations -- many configurations and the applications that the gamer plays. And by automatically tuning and optimizing the computer for each one of the games, we essentially turn what is otherwise a very diverse set of configurations of PCs into a coherent gaming platform for developers as well as for gamers. And GeForce Experience also has all kinds of applications that allows you to take photographs of your best moments and sharing your heroic moments with your friends using -- by capturing the videos. And so all kinds of great features that go along with GeForce Experience. I think your question is related to GeForce NOW, which is a cloud streaming, game streaming platform that we've been working on for quite some time. GeForce NOW is essentially a game platform in the cloud. It's a super gaming PC that is sitting far away from you in the cloud but has the ability to process the game and stream the game to you so quickly that it appears if your -- the device that you have or the computer that you have isn't -- is a powerful gaming platform. The technology is really hard to solve. The performance matters. Lots of virtualization technology is needed in order to share that resource with a whole lot of different gamers. And we have to make sure that the latency is so low that it appears as if your computer is right next to you. These are really complicated technologies. Quality of service is a great challenge. And so we're going to continue to keep working on this for some time yet. And so we have no immediate plans to bring it out of beta. And that's why it's great. The waiting list is quite long, I understand. And so for people who are on the waiting list, I appreciate your patience. We're trying to make sure that everybody who has a chance to enjoy it enjoys it with a great experience.

Is drive.ai's robot taxi powered by NVIDIA?

I'm not sure what they've said publicly recently. But most of the robot taxi platforms around the world uses NVIDIA's chip technology or chip and computing system at some level. And so -- and the reason for that is because NVIDIA's processors, as you know, is incredibly good at parallel computing. And we do so with great performance, great speed as well as great energy efficiency. And when all of these sensors are collecting information, we're processing tens of algorithms at the same time. And we're processing the sensory input from all the surrounding cameras and surrounding LiDARs and radars. We're fusing all these sensors together. We're applying computer vision algorithms, artificial intelligence algorithms, driving planning algorithms to help navigate the car, help drive the car. And so NVIDIA's technology is really ideal for it. And most of the robot taxi -- in fact, almost virtually all of it, the ones that I know of anyways, use NVIDIA's technology at some level.

The next question. Can you dispel concerns of competition you envision from BitMate and Google? Can you share specific progress in your other markets beyond the 4 corners of gaming, ProVis, data center, autonomous vehicles, for example, CLARA adoption and Isaac?

So first of all, thanks for the question. That's a large question. But let's tear it down. BitMate designs chips for Bitcoin mining. And we don't do Bitcoin mining. And that's not our core business. As I mentioned earlier, one of the recent applications of GPUs

is a cryptocurrency called ethereum and other cryptocurrencies like it. They tend to be very hard to turn into an ASIC because it requires the general purposeness of our GPUs. As an application, that is small for us in our overall business. It is volatile because the pricing of cryptocurrency goes up and down. The way to think about that, it's a bonus in our business. Our core business is growing nicely without it. And as you already mentioned, our businesses are growing in gaming. And ProVis. And data center and autonomous vehicles. These are large growth opportunities for us. And so cryptocurrency is a small part of that. And it's -- the way to think about that is to think about it as a bonus. With respect to CLARA, CLARA is a really exciting new platform that we're developing. There are something along the lines of 3-plus million medical instruments on the road. They tend to -- these medical imaging instruments don't get upgraded very often. The lifetime of these medical instruments are quite long. And its development time was even longer than that prior to that. And so the technology that are inside these instruments, although many of them -- most of the modern medical instruments use NVIDIA's GPUs for computational imaging, the installed base consists of a lot of medical instruments that have been around for 10-plus years. Recent advances with artificial intelligence gives us an opportunity to upgrade, if you will, remotely or virtually from a data center these medical instruments and apply AI technology to them so that we can enhance their ability to detect or recognize images. Isaac is another platform. Isaac is the world's first platform for autonomous machines. Autonomous machines is a computer, if you will. It could be software. It could be software and a computer as well as a device. And it's able to operate and perform its function largely autonomously, which means that it has to be able to perceive -- sense and perceive its surroundings, reason about what to do and act accordingly. And so an autonomous machine would be a self-driving car. And we have a very specialized version of that we call DRIVE. There are some general applications of it, whether it's a farming equipment that can detect which one of the crops needs to be fertilized or which one of the fruits could be picked. These autonomous machines could use a more generic version of our platform we call Isaac. Other applications of it includes manufactured robots in the future. They could be visual inspection robots, picking robots. All the things that are mundane to do but requires human levels of perception, we can now do with Isaac. We already did that one.

**A - Timothy S. Teter** {BIO 3936302 <GO>}

Yes.

**A - Jensen Hsun Huang** {BIO 1782546 <GO>}

Any update on the company's plans for autonomous driving cars?

We now have some 370 companies from car companies to what is called in the industry Tier 1s or car computing system makers to robot taxi services and start-ups that are now working on the NVIDIA DRIVE platform. And the production ramp of most of these cars will start in the late 2019 and beyond. And so it's relatively soon. We've got a lot of people working on it. The automotive industry is working really hard on it. There's a lot of testing yet to do. And I think it's going to be fantastic because everything that moves someday will be autonomous. Every car, every truck, every shuttle, every bus will be autonomous. And so this is going to be a very large market. And we've invested so much in doing so. And we're so good at it. I think

we're going to play a very large role in this future of autonomous driving in the future.

What is the TAM for health care that NVIDIA is working towards? We work -- our health care business -- our health care practice has several different areas. The first area, an area that we've been working in for a long time -- don't take it off so I can see the question -- that we have been working on for a long time is medical imaging. Just about every CT, MRI and modern ultrasound machine includes NVIDIA's CUDA GPU inside for computational imaging. And we use it -- it's used for image processing, image reconstruction, segmentation, which is identifying organs. And maybe even detection. It's used in -- we have businesses in radiology. Just about every radiologist's workstation has NVIDIA's GPUs inside. And so medical imaging is a big part of our business. That's probably something -- has a market opportunity, if you kind of guessed, the world has 3 million medical image instruments. If 300,000 of them are being updated each year, if each one of those medical image instruments, depending whether it's a CT or MRI, which could have several thousand dollars of NVIDIA GPUs inside, to an ultrasound machine which has several hundred dollars' worth of NVIDIA technology inside, that kind of gives you a sense of the size of the medical imaging market. We -- as I mentioned earlier, we now have a new platform we call CLARA, which has the opportunity to remotely from a data center enhance the capability of the 3 million installed medical imaging systems. And we're early days in that. It's going to take several years for us to get that platform into production and -- but the excitement around it is really great. We could basically turn just about any scanner into an AI supercomputer with Project Clara. There are a couple of other areas of health care that we're quite successful in. One of them is life sciences. Whether it's molecular dynamics or quantum chemistry, we do incredibly well there. Recently, you might know that the Nobel Prize for chemistry was for an instrument called cryo-EM, cryogenic electron microscopy. And the image reconstruction process is intensely computationally heavy. And it's an application called RELION. RELION runs on NVIDIA GPUs. And without NVIDIA GPUs, it wouldn't have been possible to reconstruct these images in any kind of a reasonable time. And so life sciences, whether it's computational, molecular dynamics or imaging instruments like cryo-EM and RELIONS, we're doing really well there. Then lastly, we're starting to see a lot of interest and a lot of development around genomics using the latest-generation technologies. It is becoming quite exciting to be able to do relatively near real-time sequencing of human genomes so that we could have better early detection of anomalies with your cells.

Cryo -- crypto mining has helped increase the demand for graphics cards and revenues for Q1 2018 as well as increased graphics card retail prices. My forecast, crypto mining will decline by this year's end while prices for graphics card return to their lower prices.

I really hope so. Our prices are set. And when demand is so extraordinary, as a result of crypto mining, the end market price of our graphics cards causes it to become unaffordable for many gamers. And so it's -- the demand is great for crypto mining and -- in Q1. And it was hard on the gamers around the world. Ultimately, our gaming business is growing incredibly well. And so as soon as the prices of the graphics cards come down, as they have, the demand from gamers will jump. And so what's

interesting is when crypto demand is strong, miners buy our graphics cards. When crypto demand is not strong, gamers buy our graphics cards. And so I think the simple way to think about that is think about crypto as a bonus. Our core gaming business -- our core businesses in gaming and high-performance computing and artificial intelligence and in self-driving cars are doing so well that with or without crypto mining, we have a growth -- we have a wonderful growth business behind us.

Next question. When can I order a 1080 Ti Founders Edition from NVIDIA's store web portal without it being sold out in a blink of an eye?

Gosh. Let's see. What's the answer to that? We've just got to build more and get them back on to the web stores. And so we'll get on top of it. It is the case that -- I'm sorry that demand has been so great. The 1080 Ti is just one of the best -- it is the best GPU the world has ever made. And its versatility is fantastic. From gaming on a 4K display -- to be able to enjoy games at 60 frames a second in 4K high dynamic range to people who are using it for digital content creation, whether it's Photoshop or Premiere, to people who are using it -- researchers who are using it in universities to do deep learning and AI advances, to even crypto miners. The 1080 Ti is unquestionably the best GPU the world's ever made. And so we'll keep working hard on keeping the demand up.

Does NVIDIA have any plans for stock buyback any time soon?

Yes. We will continue to buy back stock and are associated with our capital return program.

Are there any plans to provide your new AI technology to control bot players for co-op and enemy control in order to provide an online experience making obsolete lobby wait times, cheating and friends that are unavailable?

A smart bot that makes friends -- that makes up for friends that are unavailable probably works against the other objective of cheating. But nonetheless, the online game companies are working super hard using AI to detect cheats. And in fact, for these large ecosystems, where there are hundreds of millions of gamers, the only way to detect cheats is using AI machine learning techniques. And so I don't -- I think that those bots already exist. And they're using -- they're being used extensively in games today. With respect to friends, the high-level point is that future characters and their artificial characters in video games are going to become increasingly intelligent. They will animate as if people are animating, whether they're animating through new terrain. They'll talk to you like -- and hold a conversation with you in a way that is very humanlike. And as a result, these friends -- virtual friends that you could play with in video games are going to become more and more sophisticated and more intelligent. I think we've already done that one, yes?

## **A - Unidentified Speaker**

Yes.

## **A - Jensen Hsun Huang {BIO 1782546 <GO>}**

Our GPUs have been the segment with the highest revenue. What about the Tegra processor segments? And how are sales in there?

The Tegra processors -- let's see. I see your revenue grew 86% year-over-year. The Tegra processor is used in several different applications. One of the funnest application is the Nintendo Switch. The Nintendo Switch uses one of the -- one of NVIDIA's Tegra processors. And as you know, the Nintendo Switch is selling like crazy. And some of the applications are so clever. And the recent Nintendo Labo is one of my favorite things in the world. Using cardboard, you could turn these Nintendo Switches into little tiny robots or pianos and all kinds of interesting applications. I love this. The second application is our self-driving car. The DRIVE computing platform is based on a next-generation Tegra processor called the Xavier processor. Xavier is the world's first SOC that's designed for autonomous vehicles. It has a huge amount of sensor input processing capability, artificial intelligence, computing, parallel computing for localization and planning applications. And so it's also in our DRIVE autonomous vehicle strategy. Then the third part is Jetson. Tegra is also in our Jetson. It's the chip inside our Jetson platform, which is our robotics platform and our autonomous machine and edge computing -- Edge AI computing platform.

The next question. India has, this week, announced they want to be a leader in AI. How is NVIDIA partnering with companies in this large market? Do you plan to partner with the Amazon, JPMorgan, Berkshire? Can you sell, Jensen, leather jackets online today on Amazon? NVIDIA logo mugs? T-shirts, too? Can you tell I love NVIDIA?

First, I love NVIDIA, too. And so you're in great company. We create -- we -- NVIDIA's strategy with AI is to create an open AI computing platform. AI is the future of software. And for the very first time, we're able to solve problems that were previously unsolvable. AI is really quite amazing. You have a machine that's able to write software that no humans can, a machine that can write software so complex that no human, no computer programmer can possibly imagine writing something that incredible. And so the type of problems we're able to solve for the very first time is really growing. And it's stunning for everybody. And it's created enormous opportunities. AI is so important and so capable that no industry and no nation can possibly ignore it. It will have an economic impact and a social impact for every industry and for every country. And so I'm excited to see that India is putting their resources behind this important technology trend. We're an open computing platform. We're the leading computing platform -- HPC platform and AI platform in India. We're the leading platform in just about every single country. And we work with every single company. Whether it's Amazon or Microsoft or Google or Facebook, our GPU computing approach is adopted by everybody. And we love working with everybody involved. JPMorgan Chase is in the financial services industry. And we work with many firms in the financial services industry as they apply AI to their businesses. And Berkshire, I don't know what we're doing with Berkshire.

## **A - Unidentified Speaker**

I think it's about the health care initiative there.

That's joining these together.

**A - Jensen Hsun Huang** {BIO 1782546 <GO>}

Oh, this is...

**A - Unidentified Speaker**

(inaudible) Amazon and Berkshire are all working together to try and change health care.

**A - Jensen Hsun Huang** {BIO 1782546 <GO>}

I see. I see. Well I don't know what we're doing there. Does anybody? We'll find out and let you know.

**A - Unidentified Speaker**

They don't know either.

**A - Jensen Hsun Huang** {BIO 1782546 <GO>}

I -- what is top on your wish list for ways the White House can support AI innovation as a top priority for the country?

First of all, I think that our national laboratories, which creates the open platforms for researchers, is in desperate need of investment. And we want to make sure that our national supercomputing initiatives continue to get the investment and the attention of funding.

Let's see. Let's see. Let me just read the question first. NVIDIA's finances are doing well. And currently, cash dividends are at \$0.15 per share. Can you see an increased dividend in Q2 of this year?

Our dividend is an important part of our capital return program. Our Board of Directors and management will continue to review future increases.

Why does NVIDIA hold its Annual Shareholders' Meeting virtually? I'd love to see Jensen Huang live at NVIDIA's awesome new headquarters in Santa Clara.

I -- well, let's see. This method is superefficient and allows a lot more people to participate. And that's one of the reasons why we decided to do it this way. And as you could see, the number of interesting questions that we get by doing it virtually is quite large. And so I think that this is a fairly good approach. If you would like to drop by our new headquarters, feel free to. It is quite an interesting design. And when you're inside it, you could really feel the energy of the building. And so we're more than happy to host you. Just drop by.

Do you believe DRIVE Constellation certification may be required more for companies to get their AVs on the road?

First of all, DRIVE Constellation is a virtual reality supercomputing platform that we created to allow cars -- autonomous vehicles to be tested in these virtual worlds. The basic problem is this: the world drives about 10 trillion miles per year. And if we're super, super rigorous and we continue to test our cars, in several years, we will achieve a few million miles. And most of those miles are actually quite peaceful miles. As you know, most people who drive on the roads every day rarely run into or bump into any challenging circumstances. And yet, if we wanted to -- if we want to test our autonomous vehicles, we want to stress test them and put them in difficult circumstances. And so we created a virtual reality simulator that allows us to drive in virtual reality billions of miles. And we hope that by doing so, by the time that we have our products on the road, they'd be much more robust and they've encountered a lot more stressful circumstances and ultimately create our platforms to be a lot more safe.

Our condolences go out to the family of late Director William Miller.

I appreciate that. Thank you very much. Bill was a long-term board member. He's been with us from practically the beginning. And he was an excellent board member. He was incredibly wise. Helped our company through some very challenging times. He's was a great mentor to me and the rest of the management team. We'll miss him greatly.

Are any of NVIDIA's processors a part of the CRISPR revolution supply chain?

The CRISPR workstations do have NVIDIA GPUs in them.

Will your responses to our Qs today be available to the public shortly?

A copy of the webcast will be available on NVIDIA's website until May 30.

Follow-up question. Since there is a demand for both crypto miners and gamers for GPUs, can't the company increase production? Demand has been skyrocketing on all segments. Can we ramp up production to meet these demands? This, in turn, could help reduce the prices for graphics cards on the retail level.

I absolutely agree. And we try to. The difficult thing, of course, is that crypto demand is volatile. And so we have to be mindful how many we -- how much capacity we put in place. But nonetheless, the single best thing we could do for crypto -- to address crypto is to serve the demand and to make possible for the GeForce cards that we built for gamers to be affordable to gamers. And so your recommendation is exactly what we try to do. We just try to do it in a mindful way.

Are you concerned about any trade war with China? Or are you optimistic?



Wars are no good for anybody and -- including trade wars. You know that most large companies operate on a global level these days. And the world is surprisingly small in many respects. And China is a large market for us. We do business in China. We've been doing business in China for some 20 years. And so we're hopeful. And we hope that whatever trade issues will be resolved.

In the past few quarters, the data center business appears to be growing approximately \$100 million quarter-to-quarter. Given that the TAM for this segment is \$50 billion, are you expecting a faster uptake at this business in the near future?

I would say that we're growing really fast. And the rate of growth is related to the applications that we accelerate in the data center and customers' qualifications of our products for large-scale scale-out. And both requires an enormous amount of work. Recently, at GTC, we announced our fourth-generation TensorRT model compilers, a deep learning neural network compiler. These deep learning networks are enormous. They're written by computers. And these models are huge. And they're just large computational graphs. And TensorRT, the program, the compiler that we created, allows us to compile this graph, optimize it and make it run optimally on our processors. The speedup is really quite incredible. It could be anywhere from a factor of 2 to a factor of 10 faster than the output -- the native output of these frameworks. The second thing that we have to do is, in addition to image recognition, support all the various workflows -- the many diverse workflows that are showing up in data centers. The number of models and the different types of AI applications that people are creating for their data centers is just exploding. And so the versatility of our platform makes it incredibly useful. We know that we can support every neural network model that comes along because it was trained on our architecture. We know it will run on our architecture. And recently, TensorRT supported not just images. But also speech recognition, language understanding, language translation, product recommenders and recommendation systems in general. And so the amount of workload that we can offload in a data center has grown significantly. So that's one of the limiters. And we're in trials and early development with hyperscale data centers all over the world. Then the second is just getting these systems qualified into the large-scale infrastructures. The opportunity is there. And this is going to be a very large market. AI is the future of computing. And so I look forward to our continued growth in this sector.

We're nearing the end of our allotted time for the meeting. So we will take one more question.

In a blog post about the NVIDIA DGX SATURNV in (2016), you guys mentioned that you will use it to improve your -- improve GPU designs. I was wondering if you could comment on how well this approach is working in terms of the discoveries that you guys are making and how deep learning is being streamlined into the development process.

Since about seven years ago -- 6, seven years ago, we realized the importance of deep learning not just as an algorithm for computer vision. But as a general methodology for developing software in the future. And so we invested in creating a

supercomputer in our company. We have something along the lines of -- let's see. Something along the lines of 600, 700 petaflops of deep learning capability inside our computer -- inside our company. And it's continuously saturated by researchers that are doing work. We're using deep learning in just about every aspect of our company today, from self-driving cars, of course, much of the basic research we're doing in deep learning. You might have seen the base generation and painting technology we created. The progressive GAN and the conditional GANs that we invented that is considered to be really great -- groundbreaking work. We're using it for computer graphics. We're using it for robotics. We're using it in our health care endeavors. And so we're doing -- we're using deep learning in just about everything. The way to think about that is wherever you have large-scale optimization problems, large-scale optimization problems, deep learning has proven to be an extraordinary approach. And when you think about the GPUs we built, we're building a GPU that is -- or the GPUs we build are unambiguously the largest chips the world makes. And in order to create these GPUs, it's no longer possible to craft them by hand. We have to use all kinds of algorithms and computer science approaches to optimize these GPUs -- these very, very large GPUs. And deep learning is -- has been very useful in that endeavor as well. Okay.

**A - Simona Stefan Kiritsov Jankowski** {BIO 7131672 <GO>}

Our 2018 Annual Meeting is now closed. Thank you for attending and for your continued support of NVIDIA.

**Operator**

The conference has concluded. Thank you for attending today's presentation. You may now disconnect.

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