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Thomas Kurian, CEO, Google Cloud, at the Deutsche Bank 2021 Technology Conference on September 9, 2021

Brad Zelnick, Deutsche Bank: Good morning, everybody. Welcome to Deutsche Bank's 16th Annual Tech Conference. I'm Brad Zelnick, Head of Software Equity Research, and I'm delighted to be joined by none other than Thomas Kurian, CEO of Google Cloud, for our morning keynote. Thomas, welcome and thanks for being here.

Thomas Kurian, CEO, Google Cloud: Thank you for having me, Brad. It's great to be here.

Brad Zelnick, Deutsche Bank: Awesome. So the format of this session will be a fireside chat, but before we begin I'd like to read the following Safe Harbor on behalf of Alphabet. Some of the statements that Thomas Kurian will make today may be considered forward looking. These statements involve a number of risks and uncertainties that could cause actual results to differ materially. Any forward-looking statements that Thomas Kurian makes are based on assumptions as of today, and Alphabet undertakes no obligation to update them. Please refer to Alphabet's Form 10-K and the most recent Form 10-Q for discussion of the risk factors that may affect its results.

And just to jump right in, while I imagine most are familiar with Thomas's background, just a very brief bio for those that might be less familiar. Thomas joined Google in November 2018 as the CEO of Google Cloud. Prior to Google, Thomas spent 22 years at Oracle Corporation, where most recently he was President of Product Development. Thomas's degrees include an MBA from Stanford University and a BSEE in Electrical Engineering and Computer Science from Princeton University. And with that, why don't we dive right into the fun. Is that okay, Thomas?

Thomas Kurian, CEO, Google Cloud: Sounds great.

Brad Zelnick, Deutsche Bank: Excellent. So maybe the first question I have for you, can you talk about the pandemic and the way that it's changed the technology requirements for businesses? And as well how it's changed the market opportunity for Google Cloud.

Thomas Kurian, CEO, Google Cloud: The pandemic has hugely accelerated digitization in every industry, and each industry looks at it in a different lens. Retailers look at it as ecommerce, medical providers look at it as telehealth, but the changes are really pervasive. When the first phase of COVID happened, everybody wanted to move to a digital front door. So we helped organizations like Loblaw's, for example, create an ecommerce system to help bring traffic and be able to fulfill demand. But then as you saw that rush of demand, you saw people not comfortable and wanting to ask questions and get help. So we helped, for example, Albertsons create a complete virtual assistant to help its people and consumers.

Then there were lots of deeper things that may not have been perceptible, but supply chains were hugely disrupted and, for example, making sure that the right medicine could get to the right place to get vaccinations. For example, we had to help organizations like Cardinal [sic] [Cardinal Health] and McKesson in the supply chain space. And then we are seeing even deeper things happening in longer-term, for example, in the hospital system, a real shift where people used to have to go to the hospitals to take care [sic] [get care], but now, whether it's with

telemedicine or telehealth, we're seeing a lot of changes in the way that care will be provided to people.

So we do expect that the changes that have happened because of COVID in the technology landscape, many will persist long after, because they are fundamental shifts in the way technology is being used, and, secondly, they're also a recognition in many organizations that they were not prepared for some of the disruption, whether it's in their manufacturing system, supply chain, distribution networks, that COVID introduced.

Brad Zelnick, Deutsche Bank: That's helpful. And I feel almost as if the Earth's rotation along its axis has been accelerating over this last year or two. You can almost feel it palpably. So that is consistent. Maybe a bigger-picture question. I think many are familiar or have a perception of how GCP positions itself within the marketplace. Can you maybe speak more broadly about how the offering is differentiated and what factors are driving customer wins for you?

Thomas Kurian, CEO, Google Cloud: I mean, what's really driving is that shift to digitization has introduced five or six new requirements in organizations. And we designed our Cloud to support these needs. The first one, I think when you talk to larger companies now, there's the fundamental belief that they're going to use technology from multiple cloud players, something called multi-cloud. And, for example, Telus, in their networking, they use technology from many, many companies, but the multi-cloud technology from us is a foundation for it. Secondly, data is now – particularly with the shift to digital, whether it's understanding your customer, understanding your infrastructure, for example, your network if you're a carrier, like the work we're doing with Vodafone as a data platform, is becoming the fuel for organizations. Third, anytime you put a lot of data into a system – you increasingly read of all kinds of new cyberattacks coming in. And there's enormous interest in Google's expertise in providing both a secure cloud as well as security tools to protect against cybersecurity [*sic*] [cyberattacks], and so we see that as a big differentiator. Our history as a secure technology company now translating into how can we secure companies' systems as they move to the cloud.

Lastly, every business executive wants to see faster value in their transformation, whether it's faster value in how they run their supply chain, how they forecast demand, how they serve customers. And so we built a set of industry solutions, and they're being used by lots of organizations – LVMH, for example, in retail, wanted to change how they interact with their luxury customers, and we're helping them with some – for industry solutions in retail. And so that effort has also been very important.

Lastly, a new theme we see emerging a lot is the notion – as organizations look over a multi-year time frame on their sustainability commitments. We're seeing a lot of interest in the fact that we run a green cloud. We've been carbon neutral for – since 2007, so 14 years now. And whether it's Unilever or various other organizations, we see that as a big source of interest in helping them meet their sustainability objectives as well. So these are some of the big trends we see. We designed our technology and our solutions to capture these opportunities, and that's why we're seeing so much demand for our products and services.

Brad Zelnick, Deutsche Bank: Thank you for that, Thomas. And I'd like to maybe touch on those trends and some of those factors that you mentioned. Maybe for starters, the third one. Security and ultimately trust is so paramount for what you do. We hear about breaches nearly every single day in the news. How much of security is table stakes for everything that you might provide versus a discrete opportunity to go after the \$100 billion plus spent every year on cyber-defense? Is there a reason customers can feel even more secure running in Google

Cloud versus others?

Thomas Kurian, CEO, Google Cloud: Yes, we are focused, Brad, on three important things. One, how to make sure that the way software is built is secure to avoid things like the SolarWinds attack, which is a cybersecurity attack through a compromise in the software supply chain. Second, how do we protect people when they run their workloads in Google Cloud so there's security off Google Cloud? And third, how do we give them tools to understand their threat posture and protect them no matter where they run their workloads, which is a security for your enterprise. And we have lots of organizations using our platform for all three of these things. Just as a secure cloud infrastructure, one of the big things we've done is we've brought financial institutions like BBVA, stock exchanges like the London Stock Exchange, and a variety of others – Equifax, for example, in the financial markets – to run on top of our Cloud because of the security it provides.

One of the very interesting new offers that we have introduced which is getting a lot of attention from customers is – every cyber event to some extent is a black swan event. The organization thinks it's secure, a cybersecurity event happens, and then they don't have a way of measuring their risk posture. So what we felt was, just like any other risk, cybersecurity should be measurable. Your posture – it should be measured as a risk that you can manage and our platform in Google Cloud provides organizations not only the ability to protect themselves but to measure their posture and now we offer cyber insurance to companies running their technology on our Cloud because of the capabilities that we offer. So we're getting a lot of interest, particularly as the threats grow and the impacts of the threats grow.

Brad Zelnick, Deutsche Bank: It's really important. By the way, I was unaware of the cyber insurance offering. I'm going to follow up on my own and get smarter on that. I've always felt the last several years that cyber insurance is a key component of any cyber defense strategy. But in the respect of time and so much to talk about, I'd like to move on to something that's obviously very core to Google itself. Can you share some examples of why businesses are choosing Google Cloud for your capabilities in data analytics?

Thomas Kurian, CEO, Google Cloud: Yes, data – our capabilities in data analytics are super simple. We want to allow people to combine structured and unstructured data in real time as well as large-scale processing no matter where that data originates from, our Cloud or other clouds. And there are many, many examples of people, and I'll just use some examples that you may not be aware of because it's happening inside organizations. So if you use Gillette, for example, as a razor, the forecasting of demand for how many razors to manufacture and how to be more accurate and where you need to distribute them – that's done on our Cloud. If you ordered a package and you wanted to track its delivery, we work super closely with UPS, for example, using our data cloud to help them optimize how long and how efficiently their trucks and their fleet can be scheduled. If you look at, for example, Best Buy and the ecommerce – the electronics – consumer electronics business, they want to be much more accurate in understanding their customers and merchandising products for them, and their whole data platform in the retail business runs in our Cloud.

And then lastly, many, many hospital systems, when a doctor talks to a patient, they need to have a full view of the record of the patient. All of their history, their – what their biomedical factors may be, the genetic predisposition for certain diseases. And we've helped many organizations use that data platform to serve people. An example of a project that we're super proud of is we've done work with a company in Brazil to deliver care, virtual care during COVID to 30 million people in the Amazon. And in order for them to be able to deliver that care, they

needed a data platform that could pull all of their data together. And our work with Keralty, for example, this company has facilitated that. So data permeates many, many parts of the business in organizations, and our capability and our expertise and our much – and our scalable data platform as well as our machine-learning tools are now helping many, many organizations use this capability.

Brad Zelnick, Deutsche Bank: Those are really strong examples. Thank you for that, Thomas. And maybe as we reflect on just enterprise cloud adoption more broadly over the last several years, there were varying perspectives as to whether hybrid cloud, multi-cloud, cloud first, now I'm hearing the phrase from another vendor out there that talks – one of your partners, actually, that talks about cloud smart. But I think it's clear that multi-cloud is the future. No one, especially medium/large enterprise, is settling on just one cloud. And Google has been very clear that it embraces a multi-cloud approach for its customers, and you tend to talk about multi-cloud more than your peers. Why is this so important?

Thomas Kurian, CEO, Google Cloud: I'll give you a very simple analogy and then talk about it, right. When the Internet was happening years ago, imagine you had certain web pages that only showed up in Microsoft's browser and other web pages that only showed up in Netscape's browser and yet another set of web pages that only showed up in Firefox. You wouldn't have the Internet. And so from our point of view, cloud is going to be a transformational infrastructure. People should be able to develop their applications and run them on any cloud of their choice but not be locked into the cloud.

Secondly, they should be able to use infrastructure from multiple companies in concert. They can use data from Google along with other technology from other cloud providers side by side. And you should be able to manage multiple clouds, their security and operational requirements in a much more consistent way. And so – and then lastly, particularly as technologies like 5G come out, the need to distribute processing closer to the user leads to things like edge cloud. And increasingly, we see that carriers, for example, many who we work with, want a much more portable infrastructure for the edge.

So this notion of an open cloud that allows choice from multiple companies is now helping us solve real problems. We've got, for example, J.B. Hunt in the transportation and logistics market. They wanted to containerize and move their applications, and have choice in adopting technology from multiple companies. Telus in their network operations, they wanted to use our Cloud to transform their network, but they wanted to build their technology in a much more modern way using modern cloud native technology, and that allows them to use a much more open architecture. And then we see, for example, you've been reading about some outages that occurred with some of the cloud providers in Japan recently, and many companies ask us can they run their workloads across multiple cloud providers to provide, for example, better resilience, reliability. And our design center [sic] [approach] has been to facilitate that, to make that possible for people, and then let them choose the best cloud provider for their need.

Brad Zelnick, Deutsche Bank: That's helpful, Thomas. Thank you very much. That makes a lot of sense, and I like your analogy as we think about the original web browser. Maybe if we could change topics to talk a little bit about go-to-market.

Thomas Kurian, CEO, Google Cloud: Yes.

Brad Zelnick, Deutsche Bank: Google, especially since you've landed, I know have hired some of the most talented enterprise sales reps, direct reps, that I've known, along the way. So

– so you're doing something right for sure. But, Thomas, you've seen the evolution of enterprise sales firsthand, evolving from decades ago having a steak-eating, golf-playing salesperson show up to your doorstep with a PowerPoint deck to educate the customer. Today the process is far more digital and naturally varies by product category and other factors. How should we think about the evolution of Google Cloud's go-to-market and why it's a strategic differentiator for you?

Thomas Kurian, CEO, Google Cloud: It's great. I mean, we see our go-to-market, first of all, in three or four different lenses. One, we have shifted as an organization from talking about technology and shifted from technology to products to solutions. Customers want to have us understand their business, the opportunity to transform their business, and then provide solutions to their business problems as opposed to coming in and talking about how great our technology is. So that's been a big change in selling methodology and approach.

A second thing that we've done is we've organized our sales organization around industries because different industries have different needs. In financial services, for example, the use of data may be for fraud detection, may be for regulatory reporting, may be for financial market simulation. In contrast, in retail it may be about personalization, inventory management, supply-chain optimization, etcetera. So we've segmented our sales force by industry so that we can build greater competency in understanding customer needs.

Third, to be honest, the last 18 months have been almost all digital in our engagement with customers, because just because of the pandemic, you're forced to engage with customers in a digital medium, and we've learned how to do that really well. Even as we brought in a lot of new salespeople and grew the organization, we also got them engaged with customers through digital media, and that's helped bring a certain degree of efficiency in our scaling the distribution organization.

And lastly, we would not be where we are without our partners. We've always felt strongly, we're a products and solutions company. We have to have an ecosystem, and the ecosystem has helped us scale the business really well, and we're working super well with our partners in a variety of different parts of the world. So a lot of this is credit to the senior talent that we brought into the sales organization. They know how to sell, they know how to do relationship selling, and that competency – many people asked us how will you build 20 years or 30 years of selling experience quickly? And, one, we brought in some of the best talent who had that experience, but, two, we equipped them with new selling methodologies so they could use digital tools and digital ways of selling.

Brad Zelnick, Deutsche Bank: By the way, I know there's a number of really great people, but I'll give a shout-out to Rob Enslin who is just a luminary in the industry. He's phenomenal. So no surprise with all the success and traction that you're seeing. Maybe if I could double click on just two of the points that you've made, Thomas. First on the ecosystem, in the context of go-to-market, how do you think about the partner ecosystem and getting leverage there? You've had some important announcements with partners like Workday recently, for example. What's your strategy with partners both in the U.S. and globally?

Thomas Kurian, CEO, Google Cloud: We look at partners in four ways: partners that can complement our solution offering; partners that can help us deliver, jointly, new solutions to customers; partners that bring implementation, change management expertise; and then partners that broaden our distribution reach. I'll just touch on two flavors. Partners that complement our solution portfolio. There are lots of places, for instance, in security, that we

work with organizations not just to offer our security products but, for example, the people like Palo Alto Networks, with Cybereason, with Splunk and others to offer a more holistic solution to customers. Similarly, in analytics and data we offer solutions with organizations like Informatica, with Tableau and others to offer customers a more complete solution.

With software vendors that build applications, we work closely with organizations – you mentioned Workday, SAP and others – that work across industries, so we can offer our solutions to multiple industries, but we also have deep partnerships in specific industries. In telecommunications, for example, we work very closely with Ericsson to deliver joint solutions. Telecom Italia is a company where Ericsson and us work together to provide new capability for their 5G network.

So there's a lot of work we're doing. Delivery – helping an organization adopt cloud is not just a question of putting the solution in front of them, but making sure those solutions can be adopted. Often that requires change management of people in the organization as well to adopt the technology, and we work very closely with a number of partners: Accenture, PwC Consulting [sic] [SADA Consulting], Deloitte, Infosys. And each of them have practices that they've built around our product portfolio. And so that helps us also bring clients to them jointly and to be able to deliver the promise of Cloud to clients together.

Brad Zelnick, Deutsche Bank: Great. That's very, very clear, so thank you for the comprehensive answer. And just on the other front, you've talked industry verticals and, frankly, throughout our entire conversation you've mentioned many customer examples, much of which is vertical specific in terms of what you're delivering for them. But can you maybe double click a bit further about speaking the language of the customer and your vertical market strategy and why Google is in a strong position to win with industry solutions. And maybe – again, you've already shared so many, but if there's any specific industry anecdote or solution to really bring the point home as to why this is so important for your business strategy.

Thomas Kurian, CEO, Google Cloud: So, a lot of our focus with our technology is not just modernizing the IT landscape within an organization but also bring our expertise in analytics and data processing as well as machine learning and AI to service the needs of the business that are outside of traditional IT. So I'll just give you a – and what we're doing is taking our expertise in machine learning and AI and then applying it to specific problems in each industry. And I'll just illustrate three examples, if I may.

In retail, many people, with the shift to ecommerce, want to understand how can they get the expertise of Google Search but on their website to help people find products faster. How do they understand the behavior of the person so they can personalize much richer and how do they get very accurate product recommendations? So we've used our expertise in ML and AI and built a product offering for Search, one-to-one personalization and recommendation, and then that then leads to more accurate demand forecasting, because once you understand what people are looking for, you can be more accurate in forecasting demand. And that work is going on at Lowe's and Home Depot and a variety of other places.

In financial services, many people said when this shift to digital happened, people wanted to accelerate the speed with which mortgages, loans, credit card applications could be processed. And using our expertise in document processing and our machine-learning tools, we've helped enormously speed up the whole lending industry. Yesterday there was an announcement, for example, with Lendi which is the primary lending platform in Australia where they're using our machine-learning tools to automate the whole process of lending. We also have work going on

in financial fraud detection based on our own expertise in payments and the need to manage fraud, and we're working with many of the leading institutions there.

So in each industry, not only are we providing horizontal technology but we're also taking important business problems and providing solutions to those business problems. And they help us, obviously, get much deeper into accounts, they help us deliver a value-oriented offering rather than infrastructure alone, and it opens many doors for us as a new entrant into the cloud space.

Brad Zelnick, Deutsche Bank: Very, very, clear. Thank you, Thomas. Maybe to touch on some of the most strategic customer and partner relationships that you have. You have an impressive list of customers. World's leading brands like Ford, Target, Univision, even Deutsche Bank. Can you talk about the nature of some of your most strategic, longer duration agreements and how often might they even involve offerings from other Google divisions? Whether it be YouTube or Android, for example.

Thomas Kurian, CEO, Google Cloud: You know, the fundamental thing, Brad, that we see is with the shift to digital, many, many organizations are wanting to go directly to customers, whether that's a car company wanting to understand customers and offer products directly to customers, whether that's financial institutions that were traditionally focused on institutional finance wanting to offer new products and services. So the deepest partnerships we have are those that connect the broad consumer ecosystem and our understanding of that digital consumer ecosystem with their technology infrastructure. And if you look at all of the big partnerships we've announced, many span Alphabet, but they're about bringing those two ecosystems together. And we are uniquely positioned because we have deep technology expertise to help enterprises, but we can also bring the consumer ecosystem, and our history with them and our reach with them brings that together.

And just a few examples. If you look at Univision, their vision is to be the leading Spanish-language broadcaster but also to deliver new services, not just to offer broadcasting to the broad market in Latin America. It requires them to understand how to deliver high-quality over-the-air type services which we have expertise in, but we also have lots of deep expertise in search and ads and YouTube, and all of that can be brought together to help Univision.

If you look at Ford, they wanted to transform every aspect of the vehicle experience. The way that somebody goes online, looks at their product, experiences their product, and buys it. So our expertise in search and ads helps there. How people experience the car when they're in the car. And so our experience with Android, for example, and our Google Automotive Services in the car can help people. And then how the car can be manufactured better, how the data from the car can be processed to deliver predictive maintenance, warranty management, et cetera, that's where our Cloud technology comes in. So as products, as industries digitize, there's need to link that consumer ecosystem and the experiences with the enterprise technology footprint, really gives us an opportunity not just to work with these companies as a cloud technology provider, but as a transformation partner.

Brad Zelnick, Deutsche Bank: That makes a lot of sense. And along the lines of every company wanting to be closer to its customers and drive better experience, Google is obviously in a very strategic position to help them there. With respect of time, maybe just a few more others we can tick through. I don't want to forget Google Workspace. Millions of organizations and over 3 billion users rely on Workspace for collaboration and productivity. This product suite's really come a long way, and what do we need to know about Workspace in terms of the

investments Google is making and the long-term aspirations for this product?

Thomas Kurian, CEO, Google Cloud: We are seeing huge interest and strong growth in Workspace because of three important things that we see changing in the nature of work. First of all, the people who want digital tools to collaborate. Most products were written for the sort of professional, some people call it white-collar workforce which were office workers. But in many industries – for instance, we work with Ascension Health in their healthcare – and they have far more nurses and doctors than they have professional office workers. And those people today need collaboration tools. A nurse talking to a patient wants to consult a doctor. They have a smartphone. They want a tool and a product for communication and collaboration that was optimized for that experience. So our product helps these, some people call them, first-line workers to collaborate in new ways.

The second is, traditionally, tools were designed only for collaboration within the boundary of an organization. But now, with digital taking over, many companies want to collaborate beyond the boundary of the organization. And when I say "beyond" the boundary of an organization, take Airbus, a big client of ours. They want to collaborate not just for Airbus employees, but they want to collaborate with their vendors, they want to share their demand forecasts, their supply requirements with all their suppliers, and they want a tool that will help them in a platform to share, collaborate in a secure way outside the boundary of their organization.

The third is we're seeing a lot of interest in digitizing workplaces, and digitizing workplaces, for example, a bank. A retail branch of a bank is a digital office – it is an office for the tellers who service clients. Now, many financial institutions are talking to us about using our collaboration platform, but as a vehicle to create a digital branch. And so these are also – it's digitizing offices and workplaces that no longer can be just physical but need also a digital representation. All three are driving growth of the workspace.

And lastly, because communication is so private and lots of corporate data happens to be exchanged in a private fashion over email, for example, we're seeing a lot of interest because of the security of Workspace. And so we have clients, whether it's Nielsen that does audience analysis and shares data to help people be more targeted in marketing, whether it's Netflix which is using our collaboration tools to help their creators work together in a more effective way, whether that is financial institutions using us to communicate to clients in new ways, hospital systems, all of these need new collaboration platforms. And Google Workspace was designed for that new mode of communication and working together.

Brad Zelnick, Deutsche Bank: Thank you for that, Thomas. I have two more topics I'd like to touch on before we finish up this session. Maybe just first on the infrastructure footprint that you have. Last I checked, Google has 27 regions, 82 zones, 146 edge locations. What does steady state look like, or is there such a thing? And how much of the global market can you now address with your current infrastructure footprint? And what determines when and where you expand?

Thomas Kurian, CEO, Google Cloud: I mean, we continue to expand in markets because as we see demand for the markets, in different markets, we are bringing our technology closer and closer by going to each country. So we've expanded, for example, in India, in Melbourne – we had an announcement just earlier this week in Germany with a big expansion in Germany. And you will see us continue to broaden our regional footprint.

That said, even on top of that, as cloud becomes an important technology infrastructure in

different countries, there are new regulatory requirements coming in. This notion of sovereign cloud and the ability to require data to be located in each country. And we have capability on top of our Cloud to provide this sovereign capability in many, many different parts of the world. And that's also broadening our addressable market because we're meeting these regulatory requirements.

Lastly, we've also introduced new products for organizations that need super low latency. And they say, "Well, look, I'd love to move everything to the cloud, but I have an application that's running, for example, on a mainframe, but I want your analytic tools next to mine." We've also introduced private cloud offerings that can now run inside a corporate data center. And so broadening our regional footprint, moving into private cloud or hybrid cloud with a new offering, and then addressing sovereign requirements, these are all about continuing to expand our total addressable market and providing new opportunities for people to work with us and use our technology.

Brad Zelnick, Deutsche Bank: That makes perfect sense, Thomas. And maybe just to finish up, profitability. Operating loss has improved the last couple of quarters. Have you reached an inflection point in profitability? And how do you think about steady-state margins for the business?

Thomas Kurian, CEO, Google Cloud: I'll say what Ruth and I have said before and what Sundar and Ruth talked about in the last earnings call. We continue to invest in the business. We continue to invest in the business to scale the business and to build the right products and services for customers. As you know, Brad, this is a economies of scale business because there's a certain amount of investment you have to have in products, a certain amount of investment you have to have in a network of data centers, a certain amount of investment that you need to have in a go-to-market organization. And the larger you get, that amortizes across a larger customer base and a larger revenue base. So we are very focused, as Ruth has said, on investing to ensure we succeed in the market, and you've seen our growth. And as we grow, and given the fundamental nature of the Cloud business, we have shown that we've been able to improve margins.

Brad Zelnick, Deutsche Bank: Excellent. Well, Thomas, with that, I think we're just about out of time. Thank you so much. It's always great to see you, even better to see you here at the Deutsche Bank Tech Conference this year. And with that, again, thanks, everybody, for joining.

Thomas Kurian, CEO, Google Cloud: Thank you, Brad. Thanks for having me.

Brad Zelnick, Deutsche Bank: Certainly.