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Thomas Kurian, CEO, Google Cloud at the Goldman Sachs 2021 Technology and Internet Conference on February 10, 2021

Heath Terry, Goldman Sachs: Great. My name is Heath Terry. I want to welcome you all to the next session we have here at the Tech and Internet Conference. Really excited to have with us back again this year, Thomas Kurian, Chief Executive Officer of Google Cloud. Thomas, thank you so much for joining us.

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

Heath Terry, Goldman Sachs: Good. I do just want to cover the Safe Harbor here. Some of the statements that Mr. Kurian may make today could 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 Mr. Kurian makes are based on assumptions as of today, and Alphabet takes no obligation to update them. Please refer to Alphabet's Form 10K for a discussion of the risk factors that may affect its results.

So as everyone watching I think knows, Thomas took the reins at Google – as Google Cloud CEO in November of 2018. This is now the third year that he's been with us at the conference. He has deep experience in building enterprise software and fostering relationship with enterprise customers. Prior to Google Cloud, he spent 22 years at Oracle building many new product lines and diversifying Oracle from being a database company, and Thomas is focused on growing Google Cloud and helping accelerate every organization's ability to transform through data-powered innovation with the best infrastructure, platform, industry solutions, and expertise for digital transformation. The company has seen great traction with large enterprise customers in terms of market perception and adoption, and it's certainly something we've seen in the financials. Thomas will now walk us through some slides. And with that, I'll turn it over to you.

Thomas Kurian, CEO, Google Cloud: Thank you, Heath. Good morning, and thank you for the privilege to share with you the market trends that we see and how we're shaping our product and go-to-market strategy to capture the opportunity. As Heath mentioned, our mission is to accelerate organizations' ability to digitally transform their business. And we do so by bringing Google's infrastructure, our platform, solutions for specific industries who are seeing different needs, and our expertise as Google in having transformed industries digitally.

Over the past 24 months, we're seeing three important elements. First of all, that the cloud is in its early stages and has strong future growth potential as measured by independent analysts who project significant spend in the years ahead. The drivers of growth have also shifted. The primary driver we have seen accelerate significantly is the need from customers to digitally transform their core business, and that's been further accelerated by COVID.

This in turn has led to new technology requirements. For example, companies want to work with multiple cloud providers to get the best technology from them and to use that together, something called multi-cloud. They want to re-architect platforms that they use to serve customers for multiple years so that they're not carrying a legacy. So rebuilding on a cloud-native architecture. And they want to use data and analytics to understand customers, to improve the products they deliver, to understand that exposure from a supply chain point of view. And so we're seeing shifts in the kind of technology that people want from cloud providers.

As we look forward, several of these customer needs tie very closely to our strengths at Google. We're seeing technologies like container-as-a-service, multi-cloud, databases, data warehousing, machine learning and AI as measured by independent surveys of enterprise customers and their plan to adopt. Our own focus on building strong products in these emerging categories has made us a leader as measured by independent surveys from Gartner and Forrester. We're leader 29 times, an increase in the past two years of four times. So it's a significant growth in the maturity of the portfolio of products that in turn represents significant total addressable market opportunity.

As a result of this maturity in product and our investments in go-to-market, we're seeing rapid adoption, strong return on investment in customers, and significant metrics from independent analysts of customers expressing their intent to use Google Cloud as a strategic part of their platform and of their infrastructure. We offer products in five important categories, starting with infrastructure. We offer it through a global network of 24 regions and 73 availability zones, high-scale compute, storage and networking, protected by leading cybersecurity capability, and great management tools to make it easy to operate. We offer that in four important configurations. In our public cloud, we support organizations like Nokia, which is migrating a large set of workloads to our public cloud from a variety of different data centers.

We provide mission-critical infrastructure to run complex applications like SAP to Cardinal Health and Gordon Food Services. Organizations like HSBC and Plaid use our multi-cloud capability, running our technology not just in our regions but across multiple cloud providers, giving them the ability to deal with regulatory issues like concentration risk and survivability. Our private cloud, running our cloud inside a customer's data center helps Macquarie Bank meet a number of their technology objectives, and our edge cloud brings our technology into a 5G telecommunications network, providing great experiences for both enterprises and consumers as our work with AT&T and our recent announcement yesterday with Telus. So we have a broad set of capability in infrastructure.

The heart of digital, however, is also using data and analytic tools on top of this infrastructure. We provide organizations the ability to uniquely analyze both structured and unstructured data, not just in Google Cloud but across multiple clouds where they may be running their applications, and also in their enterprise data centers. This ability to analyze data across multiple clouds and across the enterprise data center provides a variety of capabilities to organizations.

UPS streams data from their trucks into Google Cloud and uses our streaming capability to reposition their global fleet and plan their logistic systems. Vodafone and Sky Broadcasting use our data lake to handle large-scale processing of network information, customer information, and product information. HSBC uses our data warehousing to accelerate their regulatory reporting needs. And organizations like Home Depot and Metro use our data warehousing capabilities to understand customers better. Even more organizations are using our data platform as the core data infrastructure for the organization. Twitter, for example – we announced just last week a partnership to help them use our data platform as the core infrastructure for their data and analytic needs.

When data is moved to the cloud and applications are moved to the cloud, we provide organizations security to protect their data, their applications, and their users, not just in our cloud but also in other clouds and in their enterprise, so they can standardize their security requirements across all these providers in one place. We provide security tools, such as Confidential Computing and our Application Firewall, Cloud Armor, to protect workloads for NCR, who is running their point-of-sale systems in our cloud, Equifax and SEB, the two – the leading Swedish financial institution as examples.

Our enterprise-wide and multi-cloud security tools are used by the London Stock Exchange, AT&T, and Lloyds Bank to protect themselves from threats that we can accurately detect using our expertise in machine learning and security breach detection across multiple environments. And we protect ecommerce sites, social platforms from bots and malware using our reCAPTCHA solutions. Examples include Wayfair, Etsy, and many more. We're seeing strong growth in this portfolio along with our data and infrastructure, and we have successfully integrated our acquisition of Chronicle for security, Looker in analytics, Apigee in infrastructure, and we're seeing good growth in those portfolios as well.

Over the last 12 months, driven by the pandemic, we've seen a huge shift in what we call the hybrid workplace, where people want to work in a combination of work from home but also office settings and, increasingly, areas like manufacturing lines where it's difficult to have people just work from home when you're in a manufacturing or first-line setting. To give you an example of the value that our cloud native communication and collaboration platform, Google Workspace, provides customers, consider the following: we served over a trillion video minutes in 2020 with over 60 million daily meeting participants, including 96% of the next-billion-dollar startups that are emerging players in the economy.

We also provide great tools to enable front-line or first-line workers. Our communication collaboration tools are used by the nurses and doctors at Ascension Health to deliver healthcare, by the scientists at Roche as they identify new drugs for treatments, by manufacturing line workers at Fiat Chrysler making automotive and automobiles, and Barilla, making pasta for people. And by retail workers in online retail and retail stores at Carrefour, Gant, and Whirlpool. So we're seeing a shift in the use of these tools not just by white-collar workers but also first-line workers.

Finally, Google has deep expertise in artificial intelligence and machine learning. We're taking our expertise in AI and ML and monetizing it by delivering solutions to specific industries. For example, in retail, we're helping organizations improve how the products are discovered online, optimizing inventory, helping them do better demand forecasting. In financial services, we're helping people detect anti-money laundering and fraud much more accurately, streamline and automate your KYC – “Know Your Customer” process – and automate how lending processing works using our deep understanding of documents. In manufacturing, we're helping organizations improve how they do connected products and build connected factories as well as using our visual quality inspection tools to improve manufacturing quality. An example is our recent announcement with Ford.

All of these provide three important capabilities for us. One, bringing – monetizing Google's AI/ML leadership with products and services that are unique to industries. Second, broadening our addressable market from not just being the IT organization but important buying sectors in different organizations and different industries. And third, providing highly differentiated, high-value solutions to customers.

We've invested not just in maturing our products, but over the past 24 months, significantly scaling a world-class enterprise software team. Today we provide services to customers in over 200 different countries and territories. We're on track to expand our direct sales organization by more than three times. We've certified our products, 154 products, with 75 compliant certifications. Every compliant certification opens up a new addressable market for us. We've invested in training the ecosystem, enabling more than two and a half million developers, trained and certified. And as a reflection of the demand for our products, Google Cloud Certified Architect is the highest paid certification in the IT industry in both 2019 and 2020.

We're focused not just on bringing our technology to customers direct, but also through a broad ecosystem of partners. Our ecosystem of partners has expanded by more than five times in the last two years and consists of four important segments: independent software vendors and Software-as-a-Service companies that expand our total addressable market, technology partners that complete our solutions, distributors that extend our reach to customers we may not be able to reach direct, and global system integrators that help deliver solutions but also speed consumption. We have global partnerships and dedicated Google Cloud practices with 12 leading global system integrators.

All of this work in bringing our technology to many regions around the world, maturing our products, and scaling our distribution has helped us rapidly win new customers. We have both direct and indirect channels, build deep relationships with these customers and expand these relationships. We serve over seven and a half million Cloud customers, not just large enterprises but the long tail of digital natives who are all growing up in the cloud. We've seen growth of 50%, more than 50% year-on-year in customers over a million dollars. We've closed several deals over a billion dollars in 2020, and we've seen a three times increase, more than three times increase in deals over \$250 million. All of this is not just coming direct, we've also seen a 2x increase in deal volume via indirect channels.

A reflection of the deep relationship we have with customers is that, on average, customers are using more than ten products from us. So not just compute, storage, and networking, but database, data warehousing, security tools, monitoring and administration tools, and a variety of other solutions. Because of the deep relationships we have with the customers, their satisfaction with our products, on average on a contract renewal – we see two times expansion.

Here are just some of the customers, a small set of the customers we won in 2020. They represent not just enterprises but also digital natives. And because our technology applies not just to enterprises but also digital natives, we have a broad addressable market. We've diversified and have great strength across the globe and in many industries. Here are examples of customers.

Just one industry as an example is our presence in retail. By independent analysts, we're seen as the leader in retail. An example of our strength is our work with all of these customers. And during Black Friday 2020, we processed more revenue through Google Cloud in support of these customers than Amazon.com. We're strong not just in retail but in many other industries, serving the largest and leading companies in these industries. And as we continue to strengthen our sales and distribution, we've seen great momentum with these large customers.

All of this is driving strong growth in our backlog, which nearly tripled from 2019 to 2020, representing meaningful long-term commitments that customers are making to Google Cloud. We're also investing in having this revenue convert – this backlog convert to revenue through work that we're doing with customers as they onboard their workloads to Google Cloud. So not only do we have strong backlog, but as the backlog gets converted, we're seeing good, strong growth in revenue.

Our revenue has more than doubled in the last two years and Google Cloud Platform revenue continues to be materially higher than the aggregate growth rate of Google Cloud itself. Google Workspace's growth is driven both in expansion of seats and average revenue per seat as more products from Google Workspace are used by customers. Finally, this strong growth in revenue and backlog has led to diversification for our business across industries, products, customers, and market segments.

We're focused on investing, recognizing that with the rapid shift to cloud, customers are making decisions on their core platforms. We're investing in three important things: data centers in regions to bring our technology to customers in each country. For instance, our region in Indonesia services the needs of Gojek and Tokopedia, and several other Indonesian customers. Our region in South Korea helps us serve LG CNS, Samsung, and a number of other companies in Korea. So the first thing we're doing is investing in bringing our technology to local markets, because data regulatory requirements now require regions in these countries.

Second, we've invested in a broad, mature product set. Every product investment opens up new addressable market and we're focused on scaling our sales and distribution to drive revenue

growth. As we scale revenue growth and as we scale the business, we're working closely with Alphabet CFO, Ruth Porat, to improve our operating margin and operating loss, which will both benefit from increased scale over time.

So just summarizing, we continue to see strong growth in the market driven by digitization. We offer a leading and highly differentiated portfolio of products. We've built a world-class software organization to complement our product strength, which is leading to strong customer momentum both through our direct and indirect channels. In turn, that is leading to strong backlog growth and revenue growth as customers make meaningful commitments to work with us. And finally, we continue to focus on accelerating revenue growth to capture the secular shift that's occurring. And as we scale that, we will see improvements in not just top line but also operating margin, and we're working closely with Ruth to enable that. Thank you for your time. And with that, let me turn it over to Heath so we can do question-and-answer with all of you.

Heath Terry, Goldman Sachs: Thank you, Thomas. That was incredibly, incredibly informative. One of the places that I want to start is obviously, there has been a lot of discussion around the impact that the pandemic has had in the acceleration of the adoption of technology, particularly in cloud. How has that impacted Cloud's business? And how are you seeing consumer buying patterns shift in this environment?

Thomas Kurian, CEO, Google Cloud: The technology shift for digitization means different things to different industries. In retail it's called ecommerce, in healthcare it's telemedicine, in financial services digital banking, but one important thing that we're seeing is once you get through that first phase of opening that digital front door, that's when people start experiencing the next set of things.

For instance, if you look at bank financial institutions, today your Internet or mobile banking platform allows people to move money and transact, but it doesn't take all the expertise that bankers have and deliver that to the consumer – the advisory services and all the value-added things – so people are starting to look at that. If you look at ecommerce, while ecommerce has grown significantly, the way you do demand forecasting, the way you do your logistics and supply chain in an ecommerce environment with things like last-mile delivery is vastly different than when you had people visiting stores. So we're seeing not just the process of opening that front door to reach consumers, but now – kind of the internals of the organization needing to change in order to capture what digitization really means.

Heath Terry, Goldman Sachs: Sure, of course. Two years ago when you first joined us, one of your biggest priorities for Google Cloud was a new go-to-market strategy.

Thomas Kurian, CEO, Google Cloud: Yes.

Heath Terry, Goldman Sachs: Two years in, how would you say it's going and what would you say your biggest priorities are for here?

Thomas Kurian, CEO, Google Cloud: We are very focused, Heath. When we started we said we are going to do 21 countries, six industries, four customer segments, and five buyers. And we've been laser focused on that. We've built a great software and sales team – a credit to Robert Enslin who runs that team. We've brought in some fantastic talent from across the industry. And at the same time, we've also had great relationships with partners.

We focused on what we do well. For instance, we don't have large professional services teams, creating opportunities for partners as we grow, and we're seeing the partner ecosystem recognize that and do a lot of work with us. And we're seeing momentum not just direct, but also through the channels.

Heath Terry, Goldman Sachs: Sure. Well, I mean, it certainly seems like it's having an impact. I mean, in the most recent quarter, we saw nearly 60% growth in your backlog. What would you attribute that to?

Thomas Kurian, CEO, Google Cloud: I mean, lots of organizations are doing large commitments to long-term partnerships with us because they want the expertise to help them digitize. I mentioned just in the last week, Ford, Twitter, Telus, Global Payments – these are all examples where they want to build long-term platforms and they want our expertise to work with them to transform their business. With Ford, for instance, we're not just bringing the capability in the car, but also transforming how people shop for cars, how they get service, what the manufacturing and quality assurance systems looks like, how we can improve the way they do warranties – so a variety of different things. And so it's a combination of our technology, our expertise, and the partnerships people are building with us.

Heath Terry, Goldman Sachs: Sure. We also got to see Cloud's profitability last week for the first time. How would you put that in context? I think a lot of people have looked at it – comparing it to other platforms at similar scale. What's the right way for investors to think about what that number means for Google Cloud?

Thomas Kurian, CEO, Google Cloud: We're focused on three things. They're all about – and all our investments are focused on three things. Broadening our global footprint in data centers and regions, allowing us to serve customers in individual local markets, because now, as compared to when other companies went profitable, the need is to serve – because of new regulatory requirements, you have to be in the country to serve the needs. So that's number one and every investment in that opens up TAM. Second, we have a broad portfolio of products, and these product investments also open up TAM for us. Third is we're broadening our go-to-market to capitalize on the opportunity that's happening right now with the shift to customers.

Now, if you think about each of these three elements – data centers, engineering and product investment, and go-to-market – they're all fixed-cost structures that, as scale happens, will amortize over much larger business. And we are very confident that as we scale the business on revenue and as our backlog converts to revenue, you will see that in our continued focus on operating margin with Ruth as well.

Heath Terry, Goldman Sachs: And as CEO, how do you prioritize growth over profitability, longer term?

Thomas Kurian, CEO, Google Cloud: We are currently focused on capturing this opportunity. We really believe we have a good line of sight on how, as you scale investments that open up markets and scale revenue, scale will bring material improvements in profitability, and we're very focused on that. We know that in this business, you need scale in order to be profitable, and we know that customers are making long-term decisions now. So we're investing in capturing that opportunity, and every investment we make is about opening up new markets, opening up larger TAM, and scaling our revenue faster.

Heath Terry, Goldman Sachs: Sure. So obviously given Google Cloud's background, it's no surprise that you're seen as a leader in data and analytics. Could you give us some examples of why customers are choosing Google Cloud for your products in those areas?

Thomas Kurian, CEO, Google Cloud: Three very simple reasons. The first thing is we recognize that customers are going to have data in multiple clouds – they're going to have data in their on-premise environment. Telling them you have to move all of it to Google in order to do analysis will not work. So we built a technology that works no matter where your data sits, it allows you to do analysis. That's number one.

Number two, we made it super easy for people to be able to do their analysis. For instance, if you use our technology, you don't have to administer computers, you don't have to worry about machines. You pay us based on the number of queries you run or the number of questions you ask the system, which makes it much easier for people to be able to handle questions at scale.

And lastly, we provide a unified platform. When I say "unified platform," companies want to be able to do real time and batch on the same system. They want to do data lake, data warehouse on the same system, and so we provide a unified platform. All these have led – for example, when we worked with Twitter on helping them re-architect their data foundation, that's an example of a customer who wanted the breadth of the capabilities we offer and also recognizing that all their data is not going to be in Google Cloud. So we made some important product decisions that will help us differentiate our product offering in the market.

Heath Terry, Goldman Sachs: You referenced multi-cloud, which obviously we'd be really interested in your view on the state of sort of multi-cloud developing. But how meaningful is multi-cloud to your strategy? And how do you see it translating into what customers are looking for?

Thomas Kurian, CEO, Google Cloud: Customers, when they – two years or three years ago, multi-cloud was not even a topic people knew what it meant. Today, 85% of enterprise CIOs say, "We need multi-cloud." For us, multi-cloud represents three important buying decisions for customers. Number one, I need to move fast – can I get the ability to use the best technology

from different cloud providers together, number one. Number two, in regulated industries, there's a concern around areas like concentration risk. If I put all my financial institution systems into one cloud and we have an issue, how does that – how does that go forward? And that's an issue around concentration risk. The third thing we're seeing, particularly in Europe with digital sovereignty concerns, they want something called survivability – the ability to exist beyond a particular cloud provider.

All three things are facilitated by multi-cloud. And we're seeing great adoption of this because it gives customers choice, it allows them to move quickly and with speed, and it allows them to get a consistent way to manage their entire infrastructure.

Heath Terry, Goldman Sachs: So Alphabet is obviously seen as one of the true leaders in edge technologies, particularly artificial intelligence. What role does that kind of technology play in enterprise customer decisions when it comes to choosing Google Cloud?

Thomas Kurian, CEO, Google Cloud: Edge computing is really about bringing computing closer to where the application needs to run, right? So, for instance, when we look at edge computing, we're integrating our computational technology with many different telecommunications providers. And it offers them the ability to offer great experiences for consumers and enterprises. On the enterprise side, for example, people who want autonomous driving, they want inside-the-distribution-center control systems, they want to have the control systems that control a cleanroom manufacturing facility but cannot run inside the manufacturing facility – they want all of that to be powered by edge computing and be able to do data processing on the edge, and this is where our ML capability comes in. So we're building out a portfolio of solutions for enterprises and consumers and working with lots of telecommunications carriers to integrate this into their network.

Heath Terry, Goldman Sachs: And what about sort of the frontier technologies – like artificial intelligence, machine learning – those specifically, what you guys are doing with TensorFlow? What role do those play in the enterprise decision?

Thomas Kurian, CEO, Google Cloud: A lot of customers now are talking to us about using our machine learning platform, but also increasingly about using our solutions. One of the limitations today in enterprises adopting AI/ML is the lack of skills and so by taking our technical expertise in AI and ML and converting that to a solution that a customer can use, it helps us speed adoption, it helps us appeal to a different buyer, it helps us get into a door that we may not have been there prior, and it's opening up an addressable market.

A very practical example. When ecommerce happened, demand forecasting is extremely difficult because customers order online, want it delivered home – they order online and they want it delivered to the store for pickup. So where do you position that inventory? Do you put it in the distribution center? Do you put it in the store? That's a very complex problem. Our expertise in AI and ML help many retailers with that problem. And we're not saying here's a set of tools, why don't you just bring out an army of data scientists which they may not have access

to, but we're actually helping them with the solution. And that's our approach, and it's helping us differentiate from other players in the market.

Heath Terry, Goldman Sachs: And when you look at the cloud environment, a lot of – I think a lot of investors still think of cloud primarily as being compute and storage. You guys have obviously had a lot of success moving up the stack into the application level layer. Where is your level of satisfaction with Google Workspace adoption in the business market? And would really be interested in your thoughts on sort of enterprise collaboration market and tools such as Chat, Workflow as you move further up the stack.

Thomas Kurian, CEO, Google Cloud: We are seeing – Cloud used to be thought as cheap, compute, storage and network to sort of replace your data center with more utility computing. There's certainly that as a market segment, but increasingly, there are a variety of things people want on top of that: analytic tools, data warehousing, security tools, collaboration tools. If you look at Google Workspace as an example, we have seen continued growth, double-digit growth in users, double-digit growth in average revenue per user. And the satisfaction, when we measure it through independent surveys with the product is very high. We see increasingly, startups, small-and-medium businesses and large enterprises adopting it, and part of it is, it was written cloud native. So when the pandemic hit and people needed to say – overnight I need to send all my employees home and they need to collaborate and the only thing I can guarantee is that they have a browser or a mobile phone – much easier for them to do.

Lastly, there's an entire collection of people who were not – take nurses, for example, at Ascension Health. Nurses are not writing documents or filling out spreadsheets or doing slide presentations, but they are collaborating, they have digital devices. And as that collection of people come in, the buying decision on what they're optimizing for is different than what traditional white-collar workers are optimizing for. So we see a lot of momentum with the product. We, frankly, rebranded it and brought out new capability in it. And so far we've seen strong growth in the product.

Heath Terry, Goldman Sachs: So I know it's not fair to ask you to predict the future, but if we had asked last year, we probably would not have said that the biggest story in cloud would be business continuity and remote work. But from where we sit right now, from where you sit right now, what do you see being the biggest story in Cloud in the year ahead?

Thomas Kurian, CEO, Google Cloud: You know, having been through the pandemic, I'll be frank, Heath – I don't predict. I think what trends we see is the following. I think many CEOs recognize that digitization, even though it was accelerated by the pandemic, is fundamental. And so we expect that to continue beyond the pandemic. We expect then to see greater differentiation in the kinds of solutions people are adopting. And we continue to see organizations making important business decisions on what technology platforms they need. Software and programming becomes the centerpiece. As you go to digital, every industry needs talent and software, engineering and programming. They're increasingly choosing platforms that make it easy for them to get access to it. And you'll see greater differentiation as we go forward

with that.

Heath Terry, Goldman Sachs: Thomas, thank you. This has all been fascinating, and I can't tell you how much I look forward to us being able to do it next year in person.

Thomas Kurian, CEO, Google Cloud: Thank you so much, Heath.