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Ruth Porat, CFO, Alphabet and Google at the Morgan Stanley Technology, Media and Telecom Conference on March 8, 2022

Brian Nowak, Morgan Stanley: All right. Good -- good morning, everyone. It's great to see everyone live. Welcome to day two of our 2022 Morgan Stanley TMT Conference. We are thrilled today to have Ruth Porat with us, the CFO of Alphabet and Google. It's great to see you live.

Ruth Porat, CFO Alphabet and Google: It's great to be back here.

Brian Nowak, Morgan Stanley: We have a lot to talk about. Let me do the -- all the disclaimers first. Please note that all important disclosures, including personal holdings disclosures and Morgan Stanley disclosures appear on the Morgan Stanley public website at www.morganstanley.com/researchdisclosures. And they're also available at the registration desk. Some of the statements made today by Alphabet 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 Ms. Porat makes are based on assumptions as of today and Alphabet undertakes no obligation to update them. Please refer to Alphabet's Form 10-K for discussion of the risk factors that may impact actual results.

We have a lot to talk about. There are always a lot of things going on in the world, things going on with Alphabet. And it's always good to connect with you. It's -- you're approaching your seven-year anniversary at Alphabet in a couple months from now. I wanted to sort of -- I want to start with this question with you and talk about investment and innovation.

When you sort of step back at the key priorities at Alphabet for where you're most focused on innovating for users, advertisers, and the ecosystem, where are you most excited for what happens next?

Ruth Porat, CFO Alphabet and Google: So there is a lot to talk about. Look, at the highest level when we talk about investments, when we approach our investments, it's unchanged from what you and I have talked about over the years. We start with investing for long-term growth, and within that, every product area looks at how they can optimize within their portfolio. And we focus on investing for operational excellence, everything around trust, privacy, cybersecurity, content moderation.

To the heart of your question, I think there are a couple of areas to call out. First and foremost is AI. About five years ago, Sundar said that we are moving from mobile-first to AI-first, and that AI we would be able to apply across our products to really enhance experiences for everyone in the ecosystem: users, advertisers, merchants, governments, you name it.

And you can see that in everything from Search and Ads to YouTube and Hardware. But if you focus, for example, on Search, as hopefully many of you remember, about a year or two ago, Sundar at I/O said that Search remains our biggest moonshot. And what we're really excited about with AI is the ability to make Search more human-like, more conversational. We've talked about MUM and how that enables you to actually have a more human-like interaction. You'll be seeing us, for example, with Lens where you can take a photo of a bike and then just literally query "how do I fix this?". So we still think there's a lot to run as a result of the enhancements with AI.

The other obvious area is Cloud and everything that's going on there. The number of times I said we still think we are in early innings with Cloud. Super excited about the opportunity and the progress and momentum that we've seen, and that's not just GCP. It's also with Workspace. And when you think about the importance of productivity tools, in particular as we're moving to this hybrid work environment, super excited about what's going on there.

Brian Nowak, Morgan Stanley: Okay. AI, machine learning, and Cloud, a lot of focus. Let me go back to Search. You talked about Search. You've talked a lot over the years about the runway there and the innovation there. I think over the last year or so, the Retail category of Search has been particularly strong. You've called it out on conference calls. Our AlphaWise data show there's a rising number of people starting on Google within eCommerce. Advertisers and merchants seem more pleased than ever.

Maybe just can you bring it down, maybe dumb it down for me a little bit? Can you give us a couple of examples of specific improvements you've made within the retail search category that have driven this user growth, the merchant spending, and the overall more transactions for customers?

Ruth Porat, CFO Alphabet and Google: Absolutely. So we did talk about it quite a bit on the Q4 call. It was an important contributor to results. And when we talk about retail, we obviously talk about ads as well as the broader set of experiences, all that Bill Ready is doing with commerce. And really excited about the effort that he's been leading.

And I'd say that a couple of the things that are really important from our perspective is, one, really connecting users to merchants and all that we're doing to create the best place for users and merchants. It is about building this open ecosystem. So the way we work, as an example, with Shopify and Square. And again, it's the open ecosystem that's important. And then using technology in ways to enable you to search. So Lens again is a great example. It's bringing all of those to bear, whether it's in the commerce discussion that we just went through or all that we can do across the platform.

Brian Nowak, Morgan Stanley: The open ecosystem or Lens or the partnerships, are there examples of learnings you've had within retail search that you think could be applicable to other categories as you think about healthcare, travel, any of the other categories? Just because we're thinking about what happens next in Search. What categories are you most focused on?

Ruth Porat, CFO Alphabet and Google: Yeah, I love that question. When I think about what -- the way we describe what we're doing in retail, in commerce, it is about creating the best experience for users and providers, merchants in the instance of all that Bill is doing. And so if you take that very simple framework and you say what are we doing, for example, in Travel, it's the same concept. It's about creating the best experience for users and everyone in the ecosystem. So, for example, with users, the question is: Where do I go for inspiration, for best pricing, price comparison, for booking? And that's what we're looking to do, which is create access to updated, relevant, timely information so that you can go on that entire user journey in the most effective way.

Similarly for travel providers, the notion is how can you have this seamless connection to users? How can we create this open, highly competitive, vibrant ecosystem so that you can connect to users? So it's a very similar concept as we described in commerce.

Brian Nowak, Morgan Stanley: Okay. Well, anxious to see that innovation to come, then. Let's talk about YouTube a little bit. Again, strong year for YouTube. In 2021, contributions, we think, from both branded advertisers and direct-response advertisers, \$29 billion of revenue growing over 40%. Two-part question on YouTube. Sort of similar to Search, can you give us some examples of innovation that sort of spurred that strength in YouTube throughout 2021? And as you sit here and look ahead to '22 and '23, what are the areas of potential improvements you see on YouTube to come to sort of keep that growth going?

Ruth Porat, CFO Alphabet and Google: So I think there are sort of two parts to your question as I hear it. One is -- given you've cited the year-on-year growth, obviously as we talked about throughout last year, in many respects, that growth reflects how challenging 2020 was as much as anything. So we had the benefit of lapping. We called it out throughout last year, and that was an important driver of what those -- those numbers look like.

Brian Nowak, Morgan Stanley: Mm-hmm.

Ruth Porat, CFO Alphabet and Google: That being said, the team does continue to focus on innovation and different new opportunities, whether it's Shorts or -- or Shopping. And so we do continue to iterate and look at opportunities within YouTube, building on the strong base that we have.

Brian Nowak, Morgan Stanley: Okay. Let's talk about Shorts, then. There's a -- there's a lot of discussion about the creator economy and all big platforms sort of trying to address the creator economy and short-form video.

For YouTube Shorts, you have Shorts receiving 15 billion daily views, 5 trillion all-time views, probably higher now since that blog came out. Susan has spoken quite a bit about the importance of the creator economy. Maybe just help us understand how you look to differentiate

YouTube in the creator economy for both creators versus other platforms as well as how do you ensure that you're getting users, engagement, and monetizing those Shorts?

Ruth Porat, CFO Alphabet and Google: So it's still early in Shorts, to state the obvious. But I think when we look at it, we're starting with a strong base. The YouTube Partner Program started about 15 years ago, and it was a way to provide support to creators so they could build thriving businesses basically on YouTube. We have 2 million creators who are building businesses through the Partner Program. And we're looking -- as we look at extending this to Shorts, we're still experimenting with what's the best approach to monetization. So as many of you are aware, we did create a \$100 million fund for creators. That's one of the early iterations, but it is early and we're continuing to look at what monetization is. I would say one of other important elements of YouTube generally, and as it relates to Shorts, is the investments that we continue to make in content moderation and really protecting what is a healthy, appropriate, vibrant ecosystem.

Brian Nowak, Morgan Stanley: YouTube -- It's fascinating when we were putting together these questions, I look at all the questions over the years on YouTube, and there's been a lot of different strategies. YouTube, when you have billions of users, trillions of hours of content, there's a lot of opportunities. And we've gone from subscriptions, Premium video, music content, YouTube TV, Shorts, creator economy, Shopping. There's a lot.

As you look back at the last five years on YouTube, can you give us an example of one or two of the strategies that maybe didn't quite scale as well as you hoped? Why did that happen? And what did that teach you about sort of what works well, and what did not work well on YouTube?

Ruth Porat, CFO Alphabet and Google: Yeah, that's important, because we talk a lot about success is as much what you do as what you don't do and the whole notion of prioritizing within each of our product areas. I would say one of the areas that iterated -- we iterated quite a bit is what we were doing with YouTube Originals.

Brian Nowak, Morgan Stanley: Right.

Ruth Porat, CFO Alphabet and Google: And so originally we thought let's take YouTube Originals and create this as a really interesting offering as part of our subscription offering. We then said, you know, let's open it up for the ad-supported part of YouTube and sort of iterated there as well. And I think you went through a great list of different areas that the team's working on. And our view is if we're thinking about highest and best use, where to focus, that wasn't -- that wasn't going to end up being kind of the long run. And so you've seen us pivot some of our efforts to other areas.

And these types of calls are hard. I think we learn how we build on the strength of what the content community is, the creator community is. And so, again, trying to be responsive to what we're seeing from users and creators and where they really want to be. And so that would be one example.

Brian Nowak, Morgan Stanley: Okay. That's a good example. There's a lot of -- a lot of macro uncertainty through these difficult times right now. Can you just -- to level set the best you can, can you talk to us about your exposure to Russia and Ukraine and how that's sort of impacting the business?

Ruth Porat, CFO Alphabet and Google: Well, most important it is obviously just devastating to see, and it's such a human tragedy. So we're focused intensely on everything we can do to be in support of people in Ukraine. And that's everything from how do we get the right information to them, how do we shut down attempts at disinformation campaigns. It's intense work 24/7 on cybersecurity and attempts to disrupt. It is the humanitarian relief work through Google.org and Googlers broadly. It's looking at how to protect Googlers and their families, extended families, both in Ukraine and in Russia. So that is a big part of it.

We have stopped advertising within -- within Russia, and so there is no doubt an economic cost to this. You know, it's both in revenues and, I would say, also as you see the strengthening dollar, the foreign exchange headwind that that implies. But for us, the most important focus area is making sure we're doing what we can in support of people in Ukraine.

Brian Nowak, Morgan Stanley: I want to talk about privacy and regulation, a little bit. Another recurring topic we cover pretty much every year. Maybe just with all the changes that are going on, both changes that Alphabet is making and changes other platforms are making, regulatory headwind changes, et cetera, maybe just talk to us philosophically about what Alphabet is most focused on in the changes that you've sort of written about in some of the blog posts. And what steps are you taking to minimize the friction for advertisers throughout any of these privacy changes you may implement?

Ruth Porat, CFO Alphabet and Google: Yeah, it's -- that's the key part of the question. So I think I've said in this room that one of the important approaches we have is to continue to raise the bar on ourselves on privacy. It is very clear that this is core to all of our users, and we -- it's a responsibility we have to make sure that we continue to use technology as we can to up the bar on privacy.

And at the same time, we want to make sure that we continue to support an open, ad-supported ecosystem. And so getting that right is where our teams have been intensely focused.

Brian Nowak, Morgan Stanley: Okay. On the Cloud, the Cloud is the other area that you talked about as an area of investment and innovation. 2021 we had about high 40s growth in the Cloud segment, about \$19 billion of revenue. And we think GCP is growing even faster than that within the mix. I think you had said that a couple of quarters in the past. So very impressive growth in a competitive Cloud space. As you sort of look back at the last two or three years at changes you've made in the Cloud segment, what has sort of been some of the key executional areas that have driven that growth? And how do you think about further low-hanging fruit to come?

Ruth Porat, CFO Alphabet and Google: Well, one of the most important is bringing in Thomas Kurian to run it and have him lay out the vision and bring in the team that he did. And really excited about the announcement we made this morning that we signed a definitive agreement to acquire Mandiant – extraordinary player in cybersecurity, really adding to all that we do in cybersecurity and it's going to enable us to provide this end-to-end solution in this very important area. And again, it goes to our commitment around cybersecurity but also all that we're doing in Cloud.

So I would say if you break down his approach and what the team is doing, the investments and the focus, you know, it starts with let's make sure we've got the depth and breadth within industry verticals so that we can address the idiosyncratic needs within each industry, whether it's Finance versus Retail versus Healthcare. And so they built those out. Very consistent with that, building out the Product Engineering team. We said, I think, on the call, the last call that we've introduced more than 2,000 new products in 2021 alone; again, enriching the overall offering of Cloud. We continue to build out our go-to-market organization. We've continued to build out partnerships for distribution. We've continued to build out what we're doing with our Cloud regions so we really have this fantastic global infrastructure to support our customers. So it's really that full breadth.

And then when we step back and say, okay, how do we continue to differentiate? What we do keep hearing is so much public sector, private sector. It's our data, analytics and AI. It is all that we're able to offer in cybersecurity, and look forward to extending that even further. It is the strength of what we do around -- around cybersecurity, and it's, again, what we're doing with Workspace and the ability to actually help companies and the public sector as they transform that work experience.

Brian Nowak, Morgan Stanley: The future looks very good for Cloud, too. We look at the backlog. \$51 billion dollar backlog is the latest figure. There's a lot of hopeful growth to come. When I look at the segment, it still looks like there's about \$3 billion of losses in 2021. Now, if I compare the size of Google Cloud to some of your peers at that point, the losses are larger. The question is, is that a fair comparison? Are there factors that are different from a go-to-market, a revenue mix perspective, an investment philosophy as to why we should not make that analogy? Or how do you think about the profitability of Cloud versus your peers at this point?

Ruth Porat, CFO Alphabet and Google: Yeah, so I think the way we look at it is we're obviously not competing against our peers at the scale they were then. We're competing against them at the scale they are now in a market that is accelerating.

Brian Nowak, Morgan Stanley: Yep.

Ruth Porat, CFO Alphabet and Google: And our view, as we've said repeatedly, is we continue to think it's early innings, and we want to make sure that we continue to invest aggressively in the business so that we have the capability to deliver on this accelerating opportunity. So we don't -- we don't view it as a guidepost. We want to make sure we're

investing commensurate with the opportunity. And as I've said repeatedly, we are going to continue to invest aggressively given the opportunity that we see. We of course remain focused on what is that longer term path to profitability, but to be really clear, in the near term, we're continuing to invest across the board to support Cloud.

Brian Nowak, Morgan Stanley: Okay. Let's talk about expenses, then, for the total company. In 2020 and 2021 --

Ruth Porat, CFO Alphabet and Google: [Indiscernible]

Brian Nowak, Morgan Stanley: Yeah, we've got to segway. 2020 and 2021 were years unlike any other when we think about remote work. Teams operating really efficiently at home from around the globe. I know as of April, the teams in the Bay Area are going to be coming back a few days a week, so there is a return-to-work action in motion. But I guess as you sort of you look at learnings over the last two years with all the opex reductions and sort of what happened, are there any areas where you see structural potential for productivity to be higher, efficiency to be higher, opex levels to be lower going forward? Just learnings from working remotely.

Ruth Porat, CFO Alphabet and Google: So there definitely are advantages to working remotely, and I think we've all experienced it. Our view is that there are advantages to working remotely but there are also tremendous advantages to being together, which is why we were early to say we think hybrid is the way to go, and we continue to believe that. At the highest level, in your question, yes, we are focused on efficiencies. We always will be, and you see it in some of the comments we make, you know, technical infrastructure or other areas.

It continues to be a key focus, but we're also looking to invest consistent with what we believe is important given the opportunities that we see. And you saw that in the fourth quarter. In particular, headcount; we added 6,500 people in the fourth quarter. And I tried to be very clear that we intend to continue to hire aggressively, and it's because we see opportunity across the board.

I've mentioned Cloud already, the opportunity we see there, but it's true in Google Services as well. It's everything that we're seeing with the investments to support better experiences in Search, the application of AI in Ads, it's about what we're doing in YouTube and Hardware. So across the board we're seeing opportunities, and we want to make sure we're setting ourselves up to continue to really extend that runway by investing where we see it makes sense.

You're going to see it really in opex and in capex. In capex, on the call I indicated we're continuing to build out our technical infrastructure globally. That's primarily servers but also data centers. And then as it relates to office facilities, we've continued to add. So even though we're hybrid, when you add, for example, 6,500 in one quarter --

Brian Nowak, Morgan Stanley: Right.

Ruth Porat, CFO Alphabet and Google: -- people have often said to me -- so why do you keep buying new spaces? Well, our view is it's more efficient. It gives us control over the space to do what we want. And so we added in the first quarter in New York. We made an acquisition in London. And hopefully you saw in Poland as well earlier this week -- so in Q1, about \$4 billion in capex around office facilities. And we think, again, that sets us up really well for the kind of growth that we hope to execute against.

Brian Nowak, Morgan Stanley: That's helpful. 6,500 employees in the fourth quarter and I think 21,000 for the year, in a highly competitive labor market. I'm sometimes asked by investors how do they even hire that many people in a year. Let me pop open the hood a little bit. Help us out. As you're thinking about hiring, as you're thinking about bringing all these people on the platform, is it project based? Is it segment based? Like what -- How does the actual hiring process work? And what safeguards and checks do you have in place to ensure that as you're hiring all these people, you're still getting a good return from them to deliver return for shareholders?

Ruth Porat, CFO Alphabet and Google: So on hiring and overall planning, we start first with what we call OKRs: objectives and key results. We've talked a lot about how committed Google is to really setting out -- what are your OKRs each year and then really marking to market your progress throughout the year and frankly discussing it with the entire company. That starts the capital allocation discussion.

And then within every product area and function, we look at -- so what are the resources that you need, headcount being an important part of it, to deliver against those OKRs. And then throughout the year, we have the quarterly financial review -- the check-in -- out of which flows -- are you executing against the metrics that were pre-ordained by the business leaders and the functional leaders as you go throughout the year.

And so, yes, there's rigor around it, and, yes, it's an important question because we want to make sure we're onboarding great talent, giving people an extraordinary experience, and having them deliver effectively. And it's really all parts of it.

Part of the hiring and part of your question goes to -- we're really pleased, proud to continue to be an incredible magnet for talent. We had more than five million applications last year. And so a large part of this is the rigor around, okay, five million applications. How do we then leverage the global team? And everybody has a role in hiring, because people and compute are two of the most important ingredients to then deliver these magical experiences.

So that's a big part of it. I think that a large part is the work people get to do. But I would also say that some of the return-to-office decisions that we've made -- so, for example, we're really proud of the fact that we've opened up the number of locations, in particular across the U.S., so that we can attract more diverse talent. We're really increasing in Atlanta, in Chicago, in New York and D.C. And so thinking through -- what is your footprint, and we have the luxury of that given the scale that we have to hire in so many different places and still have large cohesive

teams, but that's important. Giving people agency, like four weeks work from anywhere, thinking about – how do you do hybrid? I think those are additive to continue to be a great magnet for talent.

Brian Nowak, Morgan Stanley: Okay. And I remember in the early days when you came to Alphabet, you talked about really making sure the managers are more accountable to the projects, the targets and everything else. So I'm sure that's part of it as well, where the project leaders who are being given these heads, there's firm mandates on ROI and ensuring that you're clearing ROI goals, right?

Ruth Porat, CFO Alphabet and Google: Well, they're with everybody in looking at what are the metrics and milestones along the way, and it really varies from the earliest stage research to sort of earlier stage to all the way through to more sort of consistent, established that we're trying to make sure that we're running it in a most responsible way.

Brian Nowak, Morgan Stanley: Safeguards are in place.

Ruth Porat, CFO Alphabet and Google: Safeguards.

Brian Nowak, Morgan Stanley: On the capital return point, we saw Alphabet buy back \$50 billion of stock in 2021. That's about \$110 billion since 2018 total. Share count has declined by about 5% even through dilution over that period, yet still quite a bit of cash. \$140 billion of cash and marketable securities. We think you're going to generate about \$85 to \$100 billion a year going forward. It's a good preamble to this. Remind us again how you think philosophically about capital allocation strategy, dividends versus share repurchases, and how do you arrive at the size of the buybacks?

Ruth Porat, CFO Alphabet and Google: Yeah. Carefully, I would say. So capital allocation starts with – the primary use of capital is organic growth. Everything we've just talked about, investing in the business. The second part is M&A and strategic equity investments. And then we turn to the question of capital allocation. You know, on the strategic equity investments, you've seen the benefit of those in Other Income & Expense over the last couple of years, OI&E, and we've called out that most of those are unrealized, so with market volatility, obviously those can go up and those can go down. So that's in OI&E.

More broadly to your question on sizing of program, we do look at this, you know, consistently with our board, and we look at size as well as form of capital return. I'm really pleased that we're able to have taken it up as much as we have. I think if you had gone back to that 2018 when we were having this conversation and I had said we would be here, you may have questioned it. But we've gone and made this steady march forward. And at this point we think that share repurchase continues to be the right answer for us, but we do consistently look at, as I said, both size and form.

Brian Nowak, Morgan Stanley: Okay. Let's talk about some of the more -- the emerging pieces. I guess Hardware is not really emerging but it is sort of a question I get asked a lot by investors: you know, what's the Hardware strategy. So let me maybe sort of ask a three-parter on Hardware. Biggest learnings from Hardware for you, the overall Hardware strategy, and how does ambient compute fit into the Hardware strategy for where you would like the Android ecosystem to go for the next three to five years?

Ruth Porat, CFO Alphabet and Google: So overall what we've seen is that when we bring together the best of AI and software and hardware, we can create a really important sort of benchmark and work with the ecosystem more broadly and showing kind of what is the art of the possible, whether it's how it's used or photography or other elements of it. And so that was the initial goal and remains the goal, is that we continue to support the broader ecosystem, and we have the opportunity to, with our product, demonstrate some of the capabilities. It was, I think, really exciting for us to finally have this system on a chip -- this past -- with the Pixel 6 and the implications of that and sort of the functionality of the phone. That was an important learning, and continuing to invest there as a result.

And then to your question about ambient computing, the whole notion is to be as useful and helpful to you wherever you may happen to be. And so, you know, adding Fitbit, as an example, to the family, it's like whether you're with your phone or with a watch or in the car, it's this notion of constantly being able to be as responsive as needed. And so that's the way we're continuing -- the team's continuing to work, work against the program.

Brian Nowak, Morgan Stanley: Okay. Let's talk about Waymo. Autonomous driving. This has sort of been a, I would say, a bit of a snail's pace relative to what we thought from an autonomous perspective. It's a very difficult engineering challenge, a lot of regulatory challenges, et cetera. You now have a Waymo One, rider-only product out for a little over a year now. So I guess the question is as you sort of look at progress you've made with Waymo and Waymo One, where have you come the farthest? And what are sort of the biggest areas of incremental investment you need to make on Waymo to sort of get autonomous driving to where you want it to be?

Ruth Porat, CFO Alphabet and Google: So it is a tough engineering challenge, and when you look at the more than a million lives lost on the road, that's what motivated this, we've talked about that here before, and continues to do so, and we're making sure that we're doing this in a really safe way. So we -- at this point, we've had tens of thousands of rides. We are starting to charge here in San Francisco, which is, you know, a step in the right direction. We're testing in New York. We're testing in other cities so that we can see what happens in different climates and different topography. And so continuing to make progress with safety, continuing to be kind of be the number one, two, three priority. We are also building out Waymo Via, which is around logistics, and we have some partnerships there; for example with UPS. And so we're continuing to iterate on this one.

Brian Nowak, Morgan Stanley: Okay. Emerging markets have been a pretty consistent focus over the years. I want to ask you about India and Africa. You have a lot of initiatives in those markets: YouTube, Android, Hardware, Payments, Cloud, investments with Reliance, the Entrepreneur Fund. I guess as you and the executive team sort of envision where you would like India and Africa to go, how should we think about investments there? And how do you think about those markets developing maybe differently than some of the more developed markets like the U.S. and Europe?

Ruth Porat, CFO Alphabet and Google: Yeah, all important. It goes back to my first comment, which is we invest for long-term growth. And we shorthand call this the NBU markets, the Next Billion Users, and so have been very focused on ensuring that we're investing for the Next Billion Users. And your point – like how is this different? Yes it's different in many markets: younger, mobile first, and so it's voice before text. So there are a lot elements of it that are different. And so what we did in India is we created a \$10 billion India Digitization Fund, and the notion was really to invest in that ecosystem to build it out, and it's about confidence in where India actually can go. And as you said, with Reliance, with AirTel, with Jio – Reliance – we've made some investments and are looking to develop products that is specific to, to the market and potentially more broadly in NBU.

In Africa we announced, I think it was late last year, a billion dollar commitment to invest across Africa, and very similarly. It's very exciting when you look at a lot of the innovation that's coming out of there. We have some AI engineers there as well. Payments, some of the innovation that really points to the rest of the world. So our view is we need to be where the Next Billion Users are, and as part of our mission, organize the world's information, make it accessible and useful for everyone. It is a core part of it. And as you're thinking long term, of course it's, you know, a key initiative, and I've sized it for you to give a little dimension.

Brian Nowak, Morgan Stanley: Okay. I wanted to close. You know, I look over the years at the questions. A year ago I don't think we externally had any idea that the retail Search category had this type of -- this type of really acceleration, even through laws of large numbers. YouTube surprised us for a good part of the year. As you sit here now, what sort of excites you most about 2022 that, you know, one year from now we're going to be sitting here and I'm saying, wow, this aspect of Alphabet really surprised everyone and we're just not paying enough attention to at this point?

Ruth Porat, CFO Alphabet and Google: Well, I think I've hit on sort of the key areas that we're focused on. AI is one of those opportunities where it just continues to build on itself. And as we -- we have an extraordinary team. As they continue to explore, it continues to go deeper. And whether we're talking about MUM and what does that mean for Search or whether you look at some of the things like Performance Max and Ads or Smart Bidding, across the board, the opportunity in Cloud to work with enterprise. Every enterprise needs to think about – how do they interact with their customers, how do they think about efficiency, how do think they about risk analytics. And so this will continue to, I think, surprise or guide the way. So excited about -- excited about that.

Brian Nowak, Morgan Stanley: Can't wait to watch it. And we'll be talking about it over the course of the year.

Ruth Porat, CFO Alphabet and Google: Great.

Brian Nowak, Morgan Stanley: Thank you very much.

Ruth Porat, CFO Alphabet and Google: Thank you so much.

Brian Nowak, Morgan Stanley: Thanks.