

This transcript is provided for the convenience of investors only, for a full recording please see the [Morgan Stanley Technology, Media and Telecom Conference webcast](#).

Ruth Porat, CFO, Alphabet and Google at the Morgan Stanley Technology, Media and Telecom Conference on March 8, 2023

Brian Nowak, Morgan Stanley: All right. Good morning, everyone. Welcome to the next keynote fireside chat here at the 2023 Morgan Stanley TMT conference. We're thrilled to have Ruth Porat with us, the CFO of Alphabet. Ruth, thank you so much for joining us again.

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

Brian Nowak, Morgan Stanley: Let me do the Safe Harbor and all the important disclosures. 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. They're also available at the registration desk. Some of the statements that Ms. Porat 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 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 a discussion of the risk factors that may impact actual results.

I will forgo your impressive bio and background. For anyone who wants to know who Ruth is, you can Google her. It's a very extensive background, including a Morgan Stanley alum. So it's great to see you.

Ruth Porat, CFO Alphabet and Google: Great, thanks.

Brian Nowak, Morgan Stanley: There is a lot to talk about, from a macro and micro perspective. Maybe, let's talk about sort of top priorities for 2023 for Alphabet, and just sort of to really tackle it right away, top priorities, and how does AI fit into the company's top priorities?

Ruth Porat, CFO Alphabet and Google: Well, the top priorities are first to invest for long-term growth, and then also to make sure we durably re-engineer our cost structure. In terms of investing for long-term growth, the priorities are the same that we've talked about at this conference for quite some time. It's really behind Search, Ads, YouTube, Cloud, and Pixel.

And to your question, AI really underlies all of that in the investments we're making in AI research and delivery.

In terms of durably re-engineering our cost structure, we do have a number of work streams that are in flight to go right at that. And the main point is, we are looking to slow the rate of expense growth such that revenue growth exceeds expense growth.

And then more specifically to your question on AI, it is obviously an extremely exciting time for AI, and as Sundar indicated, we're on the verge of launching a number of LLM-based products and services. You can think of it as a portfolio. And I'm not going to get ahead of those sitting here today, but we do very much look forward to continuing to unveil what we're doing there.

And I think the main point as I think about it is all that we're doing with LLMs in these launches builds on many years of research and product work that we've done. We have amazing engineers, in particular in AI with both Google Research and DeepMind, and you can see it in the product rollouts that we've had.

So, you know, reminiscing back to when I first joined Google back in 2015, that's when Google first launched RankBrain, and it was the first opportunity where we're really using AI to improve context around queries.

And then you think of BERT and MUM and what we've done with LLMs to continue to advance what is Search.

And going through what we're doing, the same is true with Ads. We've used AI to really help advertisers achieve and maximize their objectives around ROI. We've used it in Cloud. And so, we're building on a decade of extraordinary work, and as we said, look forward to sharing more in the next weeks and months.

Brian Nowak, Morgan Stanley: Okay. I want to go into the AI discussion a little bit more, but maybe just to sort of right-set from a macro perspective, could you just sort of give us any updates or the status there of what you're seeing from macro ad demand? Any verticals or categories that are potentially stronger or weaker than others, and sort of the state of the advertiser discussions in '23?

Ruth Porat, CFO Alphabet and Google: So, after, you know, what was clearly an extraordinary acceleration in digital activity, kind of going into COVID, coming out of COVID, what we saw and what we've talked about is that the macro environment, you know, got more challenging, and in the fourth quarter, as well as prior in the year, we talked about some of the pullbacks that we had seen as a result of the more challenging macro environment. In Search, there was some pullback. We described it as kind of broader pullback affecting YouTube and Network.

And basically, as we've talked about for many years, what you see with Google Search is what you see in the broader economy.

To your question about what is the conversation with advertisers, it's as it's always been. What about ROI? What can we do with ROI?

And that again is where you start with Search as this extraordinary cost efficient way to achieve their objectives, measurable, and that's such an important part, therefore, of the dialogue.

But then, to your prior question layering on AI and things like Performance Max where we can help them really optimize across the portfolio and solutions to maximize ROI.

So, continuing to have a lot of those conversations.

Brian Nowak, Morgan Stanley: Okay. Let's talk about Search a little bit, and sort of the AI use cases and the way Search could change.

You know, the investors right now have sort of taken the stance of bucketing certain companies in the winners or losers group within the AI discussion. Other companies are pushing out AI tools within Search, throughout the overall ecosystem. To your point, we're still sort of waiting to learn about Bard and more tools to come with the APIs.

Maybe just remind us, give us some more examples of how you're already using AI in Search, and then what are some new use cases in Search that you can sort of think about through next applications of AI to come?

Ruth Porat, CFO Alphabet and Google: Yeah, I love it.

So, we have, as I said, been using AI in Search for many, many years, and, you know, our view is that we don't launch products just because there's a new capability or technology available. We have billions of people around the globe who trust us, rely on us to deliver accurate, timely information. And so user testing is a large part of what we've always talked about and continue to do and remain very excited about when we do launch the application -- utility, take-up.

To your question, I think probably one of the most exciting new applications that really leverages large language models is everything we're doing with multimodal search. And to give you a sense of what that is, say you want to -- tonight, anyone here wants to plan a great dinner somewhere in San Francisco, and you've got your favorite Italian dish that you want, lasagna. You can take a screenshot, photo, combine it with text with Google Search around "near me," and you'll get a full listing of where can you go for that great lasagna dish that you've seen that you want here in San Francisco.

And so it's this combination of visual search and all elements of it, leveraging MUM, that is so exciting. Multimodal Search. We're the only search engine -- Google Search is the only search engine now offering multimodal search, and it builds off of Google Lens, which now has 10 billion [sic: 12 billion] actual queries per month and growing, and we're really excited about what the capability of Google Lens, and it's just one of the examples of how we're continuing to advance what is Search and look forward to continuing to do so.

Brian Nowak, Morgan Stanley: I feel like the Search discussion around AI is sort of what is part of the Zeitgeist of society right now, given some other companies' products. But Google Services has a lot of other potential ways to use AI. So maybe -- I know there's no other

announcements today, unless you're interested in that.

But, you know, talk to us about how you think about other uses of AI across all the Google Services suite of tools and products?

Ruth Porat, CFO Alphabet and Google: Yeah, good try, but I'll stick with the second part of your question.

So, you're absolutely right. It is across the full set of Google Services. So, for example, within YouTube, we've been using AI for quite some time, for a host of different things. One is as it relates to, again, advertisers and how do you maximize ROI. It goes back to PMax, Performance Max. It also goes to the recommendations engine for users. It also goes to the very important work that we're doing around Trust & Safety and content moderation, our ability to actually identify quickly content that violates our policies and take it down.

And we're continuing to look at opportunities to apply AI in ways that help creators generate content and their storytelling. In the Pixel family, we're similarly using AI on a host of different applications. One of my favorite is in the camera and the ability to use, for example, something called Magic Eraser, which hopefully many of you have seen and used, it's the ability to take a photo, and if you don't actually want some of the clutter in the background, it will help you with AI identify it, take it out, and put in a better background.

And amazing with respect to overall what we're doing in ads. So, yeah, a lot of applications.

Brian Nowak, Morgan Stanley: The advertising point. This is another, you know, common discussion around AI. The incrementality of revenue. You said at the fourth quarter earnings call that using advances in AI to drive new and better experiences for users in Search as well as deliver better measurement, higher ROI and tools for more compelling creative content to advertisers is one of your big opportunities.

Are there any statistics or ways you can help us quantify early signings of the -- early signs of the incremental revenue you can generate from all these AI tools?

Ruth Porat, CFO Alphabet and Google: Well, it starts with -- that you sort of -- probably because you're quoting us back from the earnings call, it starts with a lot of the functionality that we bring. And so the ability with respect to advertising, there are two parts to it. One, what are we doing for advertisers, and whether it's through Smart Bidding or through Performance Max, we're helping advertisers really maximize what is the opportunity.

The second part is what we're doing with users, and when you -- you know, for users, in support of users. When you think about what users turn to Google for, they're coming because they either want to learn something or they're trying to do a task or they're trying to transact something commercially.

And so, what we're using -- you know, again, AI has been invaluable as we understand context, so that we can be as responsive, which then translates into activity.

So to give you an example. Say you want to go buy something. Or we each want to go buy something. You may care more about price. I may care more about availability. I may want availability near me. And one of you may want something about ranking and reviews.

And so what we're able to do with AI is better enhance what is context for a query, better deliver. We're able to help advertisers, again, with placement, with creatives, all of which translates into additional revenue. And we're continuing to leverage what we're doing with AI, again, to address both sides.

You know, you mentioned, as we were talking in the green room, some of the work that we had done around Google Shopping. It's a great example. What we've done with Google Shopping, and the whole mission you've heard a lot of -- a lot of you heard us talk about, is open up to the broadest array of merchants because that's good for merchants, it's good for users, it's good for the overall ecosystem, and that's the type of work that we're looking at, and again, comes back to some of this context of queries that's useful.

Brian Nowak, Morgan Stanley: And how do you think about Google Cloud and GCP sort of fitting into this AI opportunity as well? Is it going to be an incremental competitive advantage? How does AI drive workloads to GCP?

Ruth Porat, CFO Alphabet and Google: Well, at the core of your question, we firmly believe that AI is transformative for each one of us in our businesses, our ability to connect more closely to customers, our ability to extract operating efficiency in our businesses, our ability to address some of the risk management requirements that we need.

And so our Google Cloud team similarly is very excited about the way they are able to work with customers across each one of those, and then really leveraging our infrastructure, which again, goes back to your AI question, to better deliver.

So, our AI infrastructure enables customers really to leverage TPUs, GPUs to really run what they need. We bring data analytics that's critical to their ability, again, on each of those dimensions. It's our cybersecurity capabilities.

And so, yes, it is incremental to everything that we've already spoken about, and at its core, they too are leveraging the AI capabilities across Google. That's GCP.

And then similarly within Workspace, we've used AI in our collaborative docs and tools and Gmail for quite some time, and look forward to, again, continuing to add to that with some of the LLM work that we've been doing.

Brian Nowak, Morgan Stanley: Looking forward to those announcements.

All those announcements, those AI tools, they do come with a cost. We've been doing a lot of work trying to figure out the cost. I think Wall Street generally has. You know, we have some estimates that say that the incremental cost to the AI models can be two to three times more expensive than paid search. In some cases, even higher than that when you're going through a lot of aggressive training of these large models.

First, love your reaction to that. And then secondly, if that is the case and it is more expensive than paid search to run these models, how should we think about the long-term margin profile of Alphabet, the OpEx structure? Just walk us through that a little bit.

Ruth Porat, CFO Alphabet and Google: You're absolutely right. LLMs, running Search with LLMs generally are more compute intensive, and thus expensive. The important point is this is not new for Google, and we've been asked this question for many, many years. The cost to compute has continued to increase, one, because of the scale of the Internet and growth in the Internet. And two, as I've already said, we've been using AI for a decade now. We introduced LLMs four years ago. So this is not new for us.

And what we've been doing, and hopefully it's self-evident from results, is we have a number of teams that are very focused on every element of efficiency around compute and driving down efficiency as much as possible.

So, to be more specific, within the infrastructure area, you've heard us talk about TPUs. There's a benefit that you can have with TPUs. We have a team that's focused on software optimization, so you can move workloads as efficiently as possible. We're looking at overall model efficiency, where there are benefits there as well.

And then the other -- the obvious point, that LLMs don't need to be used for every query. So just optimizing actually how you think about application.

And so, yes, the premise is right. Yes, we are focused on it. We got a host of teams that are focused on cost efficiency around compute, because it's an important part as we think about sort of long-term performance. And they have been for years.

Brian Nowak, Morgan Stanley: Exactly. We watch with all the other AI tools. It's not new.

Ruth Porat, CFO Alphabet and Google: It's not new. It's been a decade here. So, yeah, it's been a lot of work.

Brian Nowak, Morgan Stanley: Great. What about CapEx? You talked about total 2023 CapEx being flat on a reported basis. You know, we think the real estate CapEx is probably going to be down quite a bit, so we're backing into infrastructure CapEx, up 20%-plus for the year.

Just sort of talk us through the drivers of CapEx this year, and how should we think about the CapEx and the capital intensity and the spend needed to sort of push more AI to more consumers across more products?

Ruth Porat, CFO Alphabet and Google: So, CapEx for 2023 will generally be in line with 2022, and you're right, that is because real estate CapEx is down meaningfully, and CapEx around our technical infrastructure is up meaningfully. That's for both data centers and for servers, and it's primarily in support of Cloud and everything that we're doing in AI, and as I said, in general, that comes to ballpark in line with last year.

Brian Nowak, Morgan Stanley: Okay. On the fourth quarter call, you talked about your efficiency and expenses and sort of discipline, and you said, "We're focused on delivering sustainable financial value, and that obviously means that expense growth cannot be growing ahead of revenue growth."

That is more than I remember you saying previously around these topics. So, maybe walk us through what are sort of the few areas where you're focused on to drive this more durable expense discipline. Where have you made the most progress, and when should we expect to see the impact with P&L?

Ruth Porat, CFO Alphabet and Google: Well, it's an important truism, so it seemed valuable to just reiterate.

What I tried to underscore on the call is that we are focused on durably re-engineering our cost base, and we do have a number of work streams that are in-flight. They include everything from looking at how we can apply AI internally to our processes as well as all of the efficiencies and technical infrastructure that you just asked about. That's one bucket.

The second big bucket is around vendors and everything we're doing around procurement and how can we be more efficient in each element there.

And then the third major bucket, we call it where and how we work. And so, each one of those are work streams that have been launched. The reason I wanted to stress durably is to do change of substance takes time. So, the work streams are in place. Expect they'll contribute more in '24, and then beyond.

And our view is that these are critical elements that we're continuing to work on to deliver durable results as we look at what's the overall investment requirements.

Brian Nowak, Morgan Stanley: Okay. Very helpful.

Let's talk about hardware. Sundar has spoken about how hardware is one of the key long-term priorities for Alphabet. Why does hardware matter? And I guess the second one is, you talked a little bit about Pixel, but how can your own hardware's ecosystem potentially lead to further AI

advancement?

Ruth Porat, CFO Alphabet and Google: So when Sundar talks about hardware, he's in particular focused on the Pixel family: phone, tablet, and wearables.

And the view is that we're able to really highlight the opportunities, the future of compute, by bringing together the best of AI and hardware and software.

And, you know, an example of that, I already gave the example around Magic Eraser, but you also have things around Translate. And so our view is that we're able to highlight what this is for the Android ecosystem, which is a benefit to the Android ecosystem, in addition to the platform investments that we're making.

And so it's in that context that we view it as important. As we tried to be clear on the call, we're investing meaningfully against the opportunity, and that's why we said that there's a real focus on how we can drive incremental efficiency, whether that's through work with our supply chain, or some of the location opportunities for the teams. That's the overall -- both opportunity and expense implication.

Brian Nowak, Morgan Stanley: Okay. Let's shift to YouTube on sort of strategic priorities. Maybe just to level-set for everyone, what are sort of the one or two key areas of investment and prioritization on YouTube when it comes to the user offering, the advertiser offering, the overall ecosystem?

Ruth Porat, CFO Alphabet and Google: Well, I'm just thinking as you're asking, next year we can do this as a YouTube Short.

So, overall, YouTube is an extraordinary asset. Just billions of engaged people globally. And whenever we talk about billions of engaged people globally, we start with the creators. The creator ecosystem for YouTube is really special, and it's really because of the opportunity, as we've grown with them, to express themselves on so many different platforms and to monetize across the platforms. So, whether it's long-form video, Shorts, podcasts, livestream, music, you name it, you've got the breadth of opportunity on YouTube, and that creator ecosystem, it creates this virtuous circle with users and advertisers.

In terms of the opportunities, there are a number of them. One is Shorts. We're super excited about the momentum in Shorts. You know, up to 50 billion views at the end of last year. That's relative to 30 billion back in the spring daily, and just continued ongoing really extraordinary strength, and we're continuing to work to build that out.

The other is Connected TV. Living Room continues to be the fastest growing screen, and we're excited, another place where AI is relevant, both for user experience, but also for advertisers.

On the subscription side, it's an incredible opportunity. We're now at 80 million subscribers for

YouTube Music Premium. More than 5 million for YouTube TV, and really pleased with how the team has grown that. And then longer-term, we're looking at making YouTube more shoppable. So, we're excited about YouTube.

Brian Nowak, Morgan Stanley: AI goes across all those.

Ruth Porat, CFO Alphabet and Google: It does, it does. And has for a while.

Brian Nowak, Morgan Stanley: Yes. YouTube Shorts, 50 billion views. Can you give us an update on sort of the monetization of Shorts and where you are? Maybe just sort of a philosophical question. If you think about the potential ad revenue per hour on Shorts versus other forms of longer form video content on YouTube, do you see those eventually reaching parity, or do you think there's going to be a difference in what an hour of Shorts monetizes at versus other forms of content on YouTube?

Ruth Porat, CFO Alphabet and Google: So, a lot of questions in there. So, YouTube Shorts, we have been investing to really continue to build out what we're offering with YouTube Shorts, and it's, again, another area where AI can be helpful to creators as they're continuing to develop content. You know, we look forward to rolling out more there.

In terms of your core question on monetization, we talked about the monetization plan some time ago, launched it last month, and the feedback has been very positive. And this goes to my prior point, which is creators on the YouTube platform have the benefit of billions of users globally, and then these multiple formats that they really can draw from, and we think that's a real asset.

But monetization is early days. The feedback is positive. You're absolutely right, there's a gap to the traditional long form, and we're working to close that gap, but it's still very, very early days.

Brian Nowak, Morgan Stanley: Okay. YouTube, one of the other recent announcements was the Sunday Ticket and sort of reaching a deal to distribute the NFL Sunday Ticket. What excites you most about adding the Sunday Ticket to YouTube, and how should we think about the ROI math done around that investment?

Ruth Porat, CFO Alphabet and Google: So, the ROI math is that we expect to generate an attractive ROI over the life of the deal, and we're focused on a couple of things. One is the opportunity to continue to extend subscribers, grow subscribers on YouTube TV.

The second is the opportunity to offer a standalone Primetime [sic: Premium] Channels subscription for the NFL Sunday Ticket, so distinct from YouTube TV subscription.

And the third, which I think is really interesting, is the opportunity with our top YouTube creators to offer them exclusive NFL content and see what they can do. And so, again, we see a number of different paths.

Brian Nowak, Morgan Stanley: Okay. Excited to see those.

One more on AI. On generative AI, specifically, because that does seem like another potential unlock for YouTube. I know there's sort of this discussion of how quickly will these tools develop and scale and be rolled out. Just as when you talk to the YouTube teams and the engineers, how far away are we from having scaled creator and advertiser generative AI tools that can be rolled out and used by the hundreds of millions or billions of people on YouTube?

Ruth Porat, CFO Alphabet and Google: Well, I want to start -- and again, I keep going back to this, but we are building on years of using AI, sort of to your question, within YouTube as well. And I've already mentioned things like the recommendations engine, or what we're doing with advertisers on PMax that's also benefiting YouTube.

I think where you're going is what about generative AI for storytelling or other areas. And, you know, we do look forward to, as I said, launching our various applications here of LLMs, and the concept of storytelling is a valuable part of it.

Brian Nowak, Morgan Stanley: Okay. One more on Cloud. You know, the Cloud segment, you had about mid to high 30s growth. Of the total segment in 2022, I think 37% growth. Just talk to us about sort of the key areas of strategic differentiation for Cloud to drive outsized growth versus the other competitors in the public Cloud space.

Ruth Porat, CFO Alphabet and Google: So, we keep coming back to the same couple of key drivers. One is our infrastructure, our AI infrastructure TPUs and GPUs that lets them run AI models, that's valuable. Our data analytics. Our extraordinary -- our cybersecurity has consistently been leading edge and being able to add Mandiant into the family as the ability to have early incident response capabilities. And so that whole suite is super valuable. And then as well our industry solutions.

You know, when I'm with Cloud customers, to your question, a couple of things that are called out and you'll be hearing more of is Vertex AI, which really is a lightweight, simple way for our enterprise customers really to run AI models. They don't need an AI scientist internally. And so super valuable.

And one that we've been doing for quite some time, but given a lot of the discussion around Conversational AI, is all of the work with our Contact Center AI, which provides extraordinary operating leverage for our enterprise customers. CSAT scores are up, costs are down, and it's really leveraging our Contact Center AI. Verizon has talked about this a bunch, as have many others.

So there are a number of examples where, again, we're leveraging AI on behalf of customers, and it's both within our infrastructure and our capabilities.

Brian Nowak, Morgan Stanley: Okay. I want to close on capital allocation. In 2021, you bought back \$50 billion of equity. 2022, almost \$60 billion of share repurchases. Just remind us again, sort of philosophically, how do you come up with these numbers? How do you think about what is the right amount of capital to be returning to shareholders? And what about the debate between buybacks versus a dividend as you compete for capital?

Ruth Porat, CFO Alphabet and Google: Well, our framework for capital return is -- or capital allocation is unchanged. It starts with what do we need in the business to support the organic growth of the business, and it then goes to acquisitions or strategic investments.

And then we're very pleased to have this third lever, which is return of capital. At this point, we continue to believe that the share repurchase program is the most effective return of capital to shareholders, and we're pleased to have done \$60 billion last year, and that's both the A's and the C's, and it was great to be able to have both of those in the program.

To your question, we look at the form and size with the Board on a pretty regular basis, and are pleased with the form and size as we have it. So, that's the way we're looking at it.

Brian Nowak, Morgan Stanley: Ruth, thank you very much. We're excited for all the announcements and everything that's to come out of AI.

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