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**Alphabet Q1 2021 Earnings Call**  
**April 27, 2021**

**Candice (Operator):** Welcome everyone and thank you for standing by for the Alphabet first quarter 2021 earnings conference call. At this time, all participants are in a listen-only mode. After the speaker's presentation, there will be a question-and-answer session. To ask a question during the session, you will need to press star one on your telephone. If you require any further assistance, please press star zero. I would now like to hand the conference over to your speaker today, Jim Friedland, Director of Investor Relations. Please go ahead.

**Jim Friedland, Director Investor Relations:** Thank you. Good afternoon, everyone, and welcome to Alphabet's first-quarter 2021 earnings conference call. With us today are Sundar Pichai, Philipp Schindler, and Ruth Porat. Now I'll quickly cover the Safe Harbor. Some of the statements that we make today regarding our business, operations, and financial performance, including the effect of the COVID-19 pandemic on those areas, may be considered forward-looking, and such statements involve a number of risks and uncertainties that could cause actual results to differ materially. For more information, please refer to the risk factors discussed in our most recent Form 10-K filed with the SEC. During this call, we will present both GAAP and non-GAAP financial measures. A reconciliation of non-GAAP to GAAP measures is included in today's earnings press release, which is distributed and available to the public through our Investor Relations website located at [abc.xyz/investor](#). And now I'll turn the call over to Sundar.

**Sundar Pichai, CEO Alphabet and Google:** Thank you, Jim, and good afternoon, everyone. After a hard year, people in some parts of the world are beginning to rebuild their lives, businesses, and communities. But recovery is far from uniform across the globe as the tragic scenes in countries like India and Brazil remind us.

We're continuing to help support public health officials in their vital and urgent work. Our focus is on providing authoritative information. We're helping over 100 government agencies and non-profits worldwide distribute critical information, and billions of PSAs, about COVID-19 and vaccines. And Google Cloud technology is powering a virtual agent to help make vaccination appointments over the phone – supporting 28 languages and dialects – for those with limited internet access. We are focused on doing our part to help.

In some parts of the world, the economy began to rebound, which created a rising tide in the first quarter that benefited a number of sectors, including existing and emerging companies and partners. For example, data suggest that investment in startups is at an all time high. Our product releases are returning to a regular cadence. I'm particularly excited that our developer event, Google I/O, is back this year, all-virtual and free for everyone, on May 18th through 20th. We'll have significant product updates and announcements, and I invite you all to tune in.

Today, I'll briefly mention a few highlights from the past quarter, and go a bit deeper on Cloud. Then, Philipp will discuss advertising and partnership developments. Finally, Ruth will cover the quarterly results. Quickly turning to product highlights of the quarter. Our knowledge and

information services like Search and Maps remain at the heart of our mission to provide helpful and accurate information during important moments. People have turned to Google Search more than ever since the pandemic began. We see hundreds of millions of searches every day for COVID and related health information.

People are also searching for jobs. To help them, job seekers can now use Search to quickly and easily find roles that do not require a college degree, and we're working together with the top employment websites to make the service even better. Maps will be adding over 100 AI-powered improvements this year, such as Indoor Live View, which helps you navigate airports, transit stations and malls using augmented reality. Last quarter I mentioned Google News Showcase, our \$1 billion investment in the news industry. I'm pleased to see continued momentum this quarter, with new launches in the UK, Italy, Argentina, and Australia. In Q1, we added more than 170 publications across 12 countries, with more coming soon.

With respect to YouTube, people continue to find all types of informational content, from educational videos to podcasts. In fact, according to a recent study conducted by Ipsos, 77% of respondents say they used YouTube during 2020 to learn a new skill. YouTube Shorts continues to gain popularity, with over 6.5 billion daily views as of March, up from 3.5 billion at the end of 2020. We've added a new metric to our transparency reports, called the Violative View Rate, which will help us estimate what percentage of views on YouTube come from content that violates our policies. In Q4 of last year, YouTube's violative view rate was between 16 and 18 views out of every 10,000. This is down over 70% compared to the same quarter in 2017, in large part thanks to our investments in machine learning.

Let me also mention Chrome OS, which this quarter celebrated 10 years. It's been a valuable tool for millions of students and teachers during the pandemic. According to third parties, Chromebooks were the most popular device in K-12 education globally for the last year.

Next, I'll move to Cloud, where we continue to see strong performance across both Google Cloud Platform and Workspace. Q1 revenue grew 46% year-over-year, with GCP's revenue growth rate once again meaningfully above Cloud overall. We continue to unlock the value of the Google ecosystem by signing multi-year, multi-product partnerships with companies like Global Payments and Grupo Globo. And just yesterday we announced a new Google-wide partnership with Univision, which is migrating to our Cloud, continuing to distribute content on YouTube, and reaching customers via Play and Ads.

In Cloud, there are three distinct market trends shaping our growth and driving our product and go-to-market strategy. First, we see very strong customer momentum in the Data Cloud. Our expertise in real-time data and analytics is winning companies like Twitter and Ingersoll Rand, who are moving their complex data workloads to Google Cloud. Our strength in AI and ML is also helping Financial Services customers like HSBC, Commerzbank, SEB Group and BBVA improve efficiency of payments, reduce fraud and risk, and deliver faster payment solutions. This past quarter, we released new functionality for BigQuery, delivering significantly better performance for Business Intelligence queries.

Second, we're seeing customers wanting a robust Infrastructure Cloud in order to create operational efficiencies and reduce IT costs. We are winning large IT transformation deals with companies that are migrating their data centers to Google Cloud. Multi-cloud remains a

differentiator as it provides the easiest and most open development environment for customers like Telus, allowing them to access and move their data between various clouds.

Third, we continue to deliver helpful innovations to enable hybrid work with Google Workspace. This includes digital tools for front line workers like nurses and retail store workers, as well as new security offerings. These innovations have helped grow our revenue per seat and the number of seats in the last quarter. Workspace is being adopted by customers including Keralty in Healthcare, Sun Life in Financial Services, and Airbus in Manufacturing & Aviation.

Now, a brief update on Other Bets. Waymo's fully autonomous public ride-hailing service in Phoenix is providing hundreds of rides per week. In San Francisco, Waymo has begun limited employee testing. I am pleased by the progress here, and look forward to Waymo's continued momentum under the leadership of new co-CEOs Tekedra and Dmitri. Calico and its partner, AbbVie, announced that it has entered clinical-stage programs for new drug therapies for cancer and neurodegenerative diseases, like ALS, Parkinson's disease and traumatic brain injury.

Before I close, I want to mention that in 2021, in the U.S. alone, we plan to invest over \$7 billion in offices and data centers, and create at least 10,000 new full-time jobs. And as we do this, we continue to make progress on our sustainability goals. We've matched our operations with 100% renewable energy for the past four years, and we are working towards operating on carbon-free energy, around the clock, by 2030 – a far more ambitious goal that we hope will be transformative for the industry.

Five of our data centers in Europe and North America are already operating near or at 90% carbon-free energy, around the clock. We're also working towards our commitment to help one billion people make more sustainable choices with our services by 2022. One example of how we're doing this is a new AI-powered feature in Maps that will show the route with the lowest carbon footprint when ETAs are the same. You'll also be able to compare the carbon impact between routes.

Finally, as we look ahead to the rest of 2021, our four big themes continue to guide us. First, building and providing the most helpful products and services. Second, continuing to earn the trust of our users, by investing in high quality information and keeping users' data safe and private. Third, strong execution as a company, particularly as we start to re-open our offices. And fourth, building sustainable value in our own business and for our partners. As always, thank you to our Googlers around the world for a great start to the year. To everyone, I look forward to seeing you at I/O. Over to Philipp.

**Philipp Schindler, SVP and CBO, Google:** Thanks, Sundar, and good afternoon everyone. It's great to be joining you again today. We're pleased with the strong growth in Google Services revenues in the first quarter. Year-on-year performance reflects elevated consumer online activity, broad-based strength in advertiser spend, and lapping of the initial impact of the pandemic on advertising revenues that began in March last year.

In the first quarter, in Search, we saw sustained strength across most categories, led by retail. We also saw strong performance in tech and CPG. In YouTube, we had phenomenal growth driven by direct response, followed by continued strength in brand. We're seeing great momentum in TrueView for Action ads with the number of advertisers using the format doubling

over the past year. In Network, exceptional growth was driven by AdMob and Ad Manager with particular strength in App Campaigns. Google Other Revenues were driven by growth in Google Play and YouTube's non-advertising revenues, followed by Hardware.

I would now like to take a few minutes to dive deeper into the trends we're seeing in our business. As Sundar touched on earlier, the pandemic is evolving in different ways across the world. Some countries are in advanced stages of reopening. Others are facing re-acceleration of cases. And there's everything in between. It's never been more important to help businesses navigate the pandemic as circumstances change.

On Travel, we're starting to see renewed interest from users as they turn to Google to plan their next trip – even before they're ready to book. Every travel partner is looking to understand where demand is going, and we're helping them find these opportunities through insights and automation. For American Airlines, for example, that meant using our insights tools to anticipate demand on untapped routes – these newly prioritized routes had a significantly higher booking rate in Search this quarter, compared to last quarter.

Also, just last month, we made it free for hotels and travel companies to list their booking links – similar to what we did with Shopping last year. For consumers, it means more choice. For hotels and travel companies, it means free exposure on Google. For advertisers, it means paid campaigns can be augmented with free listings. We're already seeing positive results across the board.

Let me switch gears now and talk about retail – where we had a very strong quarter. As you know, we've taken important steps over the past year to accelerate an open retail ecosystem. We made product listings free, removed commission fees, and opened our shopping platform to Shopify and PayPal. We're also helping retailers lean into some key opportunities. Such as innovating in omni-channel as the line between digital and physical retail continues to blur. And tapping into commercial intent on YouTube and other surfaces. Let me talk about both.

Over the last six months, people's shopping preferences have shifted constantly in response to changing conditions. It's not just online. It's not just offline. It's a mix, and that's our sweet spot with Search, Maps and YouTube. Last quarter, we talked about a surge in searches for “available near me” and for “curbside pickup”. That trend has not changed. Searches for “local” and “businesses” are up 80% versus last year. Omni-channel is here to stay.

Take Dick's Sporting Goods. Throughout the pandemic, they accelerated curbside pickup, pick-up-in-store, and ship-from-store fulfillment options in Search. This approach contributed to 100% year-over-year increase in e-commerce sales in 2020. And, just recently, they activated YouTube to build awareness for new store concepts. Michaels, the arts and crafts store, also activated their omni-channel fulfillment approach using Search and Maps. And to meet surging demand for arts supplies, they used TrueView for Action to tap into the vast number of arts and crafts searches happening on YouTube. In 2020, their e-commerce sales were up 350%.

We're also doing more to help merchants tap into the incredible innate commercial behavior across Search and YouTube. Google Merchants can now plug their product feeds right into their video action campaigns. And early adopters are seeing huge results. Luxury cosmetics company Clarins HK added beautiful product imagery from their Google merchant feed as an

extension and saw a 68% conversion rate uplift within three weeks. Any merchant can now light this up with a single click in our Google Merchant center.

Speaking of YouTube – we’re helping advertisers address both brand and performance goals at scale, driving higher return on ad spend at a time when they need it most. We’re only a few years in on direct response and we think there is significant opportunity for innovation that will improve the user experience and provide better ROI for advertisers. On the performance side, advertisers of all sizes are actually seeing incredible results. Like global group fitness company, LesMills, who was hit hard when their 20,000 partner gyms closed during lockdown. They accelerated digital and grew app subscribers by almost 7x with TrueView for Action.

We’re seeing strong growth in YouTube’s brand business, fueled by a global consumer trend from linear TV toward streaming video. With over 2 billion monthly logged in users and over a billion hours of video watched every day, YouTube is offering advertisers efficient reach to large audiences which are incremental to those found on TV. Large brands are benefiting from this trend. Taco Bell saw 27% incremental reach for their limited time offer campaigns, and Kellogg’s saw incremental reach of over 30% for their recent Special K campaign.

Before I close, I want to take a minute to highlight our work with partners. Sundar mentioned Google News Showcase – we now have deals with 600+ publishers across more than 12 countries. Le Monde in France, Der Spiegel and Stern in Germany, Clarín in Argentina, Evening Standard in the UK – just to name a few, and we’re continuing to expand the program.

We’re also developing more valuable relationships with some of our strategic partners. By teaming up, we’re able to build new experiences for our users while helping our partners innovate and grow. We’ve gone well beyond ads to bring the best of Google across Cloud, Play, YouTube and more to help them do just that. Sundar mentioned Univision. In the quarter, we also announced T-Mobile, Albertsons, Allianz, and Munich Re. I want to thank our customers and partners for their collaboration – we’ve always said, we succeed only when they succeed. And I also want to thank our product, partnership, sales, and support teams for their amazing work and innovation. I’ll now hand off the call to Ruth.

**Ruth Porat, CFO Alphabet and Google:** Thank you, Philipp. Our very strong financial results in the first quarter reflect both lapping the impact of COVID on our business beginning in March 2020 as well as the benefit of excellent underlying operating performance. My focus will be on year-over-year comparisons for the first quarter, unless I state otherwise. I’ll start with results at the Alphabet level, followed by segment results, and conclude with our outlook.

For the first quarter, our Consolidated Revenues were \$55.3 billion, up 34%, or up 32% in constant currency, reflecting elevated consumer activity online and broad-based increases in advertiser spending within Google Services, as well as ongoing strength in Google Cloud. Our total cost of revenues was \$24.1 billion, up 27%, primarily driven by Other Cost of Revenues which was \$14.4 billion, up 25%, followed by TAC, which was \$9.7 billion, up 30%. Within Other Cost of Revenues, the biggest factors were, first – content acquisition costs – primarily driven by costs for YouTube’s advertising-supported content, followed by costs for subscription content; and second – costs associated with data centers and other operations, offset partially by a reduction in depreciation expense due to changes to estimated useful lives of servers and certain network equipment.

Operating expenses were \$14.8 billion, up 4%. In terms of the three component parts of opex, first, the increase in R&D expenses was driven primarily by headcount growth. Second, Sales & Marketing expenses were essentially flat, reflecting headcount growth which was offset by lower spend on ads and promo, as well as on travel and entertainment. Finally, the decline in G&A reflects the benefit of lapping the unusually high allowances for credit losses recorded in the first quarter of 2020 due to the impact of COVID, offset by charges relating to certain legal matters. Headcount was up 4,694 from the fourth quarter, including more than 1,800 Fitbit employees who joined us in Q1. Again, the majority of new hires were engineers and product managers. Operating income was \$16.4 billion, up 106% and our operating margin in the quarter was 30%.

Other Income & Expense, was \$4.8 billion, which primarily reflects unrealized gains in the value of investments in equity securities. Net income was \$17.9 billion. Operating Cash Flow was \$19.3 billion, with Free Cash Flow of \$13.3 billion in the quarter and \$50.7 billion for the trailing twelve months. We ended the first quarter with \$135 billion in cash and marketable securities. Let me now turn to our segment financial results.

Starting with our Google Services segment, total Google Services Revenues were \$51.2 billion, up 34%, consisting of Google Search and other advertising revenues of \$31.9 billion in the quarter, up 30%, with strength across most categories, led by retail. YouTube advertising revenues of \$6.0 billion, up 49%, driven by exceptional performance in direct response and ongoing strength in brand advertising. Network advertising revenues of \$6.8 billion, up 30%, driven by AdMob and Ad Manager.

Other Revenues were \$6.5 billion, up 46%, primarily driven by growth in Play and YouTube non-advertising revenues, followed by Hardware, which benefited from the addition of Fitbit revenues. Google Services operating income was \$19.5 billion, up 69%, and the operating margin was 38%.

Turning to the Google Cloud segment, including GCP and Google Workspace. Revenues were \$4.0 billion for the first quarter, up 46%. GCP's revenue growth was again meaningfully above Cloud overall. Strong growth in Google Workspace revenues was driven by growth in both seats and average revenue per seat. Google Cloud had an operating loss of \$1.0 billion. As to our Other Bets, in the first quarter revenues were \$198 million. The operating loss was \$1.1 billion. Let me end with our outlook for each segment and our investments more broadly.

For Google Services, for the remainder of 2021, year-over-year comparisons will be affected meaningfully by the impact of COVID last year – with a greater benefit in Q2 from an easier comp relative to what you saw in Q1, and then beginning to lap stronger performance in the second half of the year. In the first quarter, we continued to benefit from elevated consumer online activity and broad-based strength in advertiser spend. It is too early to say how durable this consumer behavior will be as economies recover and restrictions on mobility are lifted.

Within Other Revenues, Play benefited from an increased level of user engagement starting in Q1 last year due to the pandemic, which we are now beginning to lap. In terms of investment levels within Google Services, we still intend to invest aggressively to support the extraordinary opportunities we see. That being said, in some areas like travel and entertainment and

marketing events, the pace of investment through the balance of the year may be affected by the pace of COVID recovery globally.

As for Google Cloud, our approach to building the business has not changed. We remain focused on revenue growth, and we will continue to invest aggressively in products and our go-to-market organization given the opportunity we see. The operating results in Q1 in part reflect some notable items in the quarter, first, the lapping of the unusually high allowances for credit losses recorded in the first quarter of 2020 as I already mentioned; and second, lower depreciation expense due to the change in estimated useful lives, although the dollar benefit will diminish throughout the course of the year across segments. As we have noted previously, operating results should benefit from increased scale over time; however, at this point we do remain focused on continuing to invest to build the Cloud organization for long-term performance.

In terms of Other Bets, we continue to invest with a focus on the long-term value creation opportunity. Turning to CapEx at the consolidated level, the results reflect ongoing investment in our technical infrastructure, offset by a slower pace of investment in office facilities given the ongoing impact of COVID. Within technical infrastructure, servers continue to be the largest driver of investment, as we continue to invest to support Cloud, Search, Ads and Machine Learning.

Finally, with respect to capital allocation, our primary use of capital continues to be to support organic growth in our businesses, followed by retaining flexibility for acquisitions and investments. We complement these growth drivers with a return of capital. As we indicated in our press release today, our board has authorized the repurchase of up to an additional \$50 billion of our Class C Stock. Thank you. And now Sundar, Philipp and I will take your questions.

**Candice (Operator):** Thank you. As a reminder, to ask a question, you will need to press star one on your telephone. To withdraw your question, please press the pound key. And to prevent any background noise, we ask that you please mute your line once your question has been stated. And our first question comes from the line of Brian Nowak from Morgan Stanley. Your line is now open.

**Brian Nowak (Morgan Stanley):** Thanks for taking my questions. I have two. First one for Sundar. Appreciate the color on the four key priorities. I wanted to dig a little more into the “build and provide the most helpful products and services.” Maybe if you can sort of talk to us about Search. How do you think about the key investment priorities and innovation areas to continue to make Search more and more helpful for your users and your advertisers? And the second one for Philipp maybe. Similar question on YouTube. You've done such a great job on innovation around YouTube. Where do you see the largest incremental opportunities for further innovation at YouTube to deliver more outsized value for your advertisers? Thanks.

**Sundar Pichai, CEO Alphabet and Google:** Thanks. On Search, great question. I still think we are in very early stages. A recent example which I was proud of was when the ship was stuck in the Suez Canal and then it got out. If you asked a question to Google, I think very soon after that we had the right answer. It seems obvious to do, except we need to provide right answers and without giving wrong answers or misinformation for many other things. So to do that is where all our underlying investments go, and that's how we think about it over the long-term.

BERT last year, I think, was a great example of it. It was one of our biggest quality improvements. And that was based on the Transformer breakthrough from our Google AI team which laid the foundation for it. So we are continuing to invest that way – in the deep technology. As the web is scaling up, there's more information than ever before. So that's a big part of what we are doing. Beyond that, there's a lot of opportunity to improve the user experience. You've seen our efforts around Shopping. That's one aspect of how we are working hard to improve the experience there so – but we are looking at it pretty deeply. Philipp?

**Philipp Schindler, SVP and CBO, Google:** Yes. On the YouTube side, let me start with our direct response business. Growth was truly exceptional this quarter. DR was practically nonexistent on YouTube a few years ago, and it's now a large and fast-growing business. And we're just getting started, in my view. People already, as you know, go to YouTube to decide what they want to buy. And we want to make it easier for them to buy and make the discovery process overall a lot easier. And for creators, we launched new shoppable capabilities so viewers can actually make purchases from their favorite creators directly on YouTube.

Just as an example, as part of our BrandConnect program, Calvin Klein tested these and drove over – I think it was – 200% lift in brand search and sold out multiple products actually. For merchants, they can now bring their product feeds directly into their video campaigns. And I think we're still scratching the surface on what's possible really with commercial intent on YouTube. And then there's, of course, the opportunity to be a major platform for brands. Historical approaches to reaching audiences through, let's just say, call it, linear TV don't really work anymore. Advertisers are using YouTube now to reach the audiences they can't find anywhere else. And remember, more 18-to-49-year-olds are actually watching YouTube than all linear TV combined. And brands are also seeing more incremental reach on YouTube compared to TV.

So we're starting to see advertisers buy a mix, actually, of awareness and more action-oriented formats. And they are driving reach and results across the funnel from awareness to consideration to action. So we see a lot of really interesting opportunities here.

**Brian Nowak (Morgan Stanley):** Great. Thank you, both.

**Candice (Operator):** Thank you. And our next question comes from Doug Anmuth from JP Morgan. Your line is now open.

**Doug Anmuth (JP Morgan):** Thanks for taking the questions. I have two. First, Ruth, just wanted to ask you about Cloud. You saw some significant benefits just from the change in useful life. But I think in the past, you talked about 1Q perhaps being the biggest loss of the year. I was just curious if that's still the case, in your view, going forward. And then second, just given the management transition that we've seen at Waymo, should we expect any change in terms of how things are operated there going forward? Thank you.

**Ruth Porat, CFO Alphabet and Google:** Thanks for the question. So in terms of Cloud and overall performance – I think, the main point I would say is, I wouldn't extrapolate generally from quarter to quarter, given we're still in the early stages of building the business. We do intend to continue to invest meaningfully in Cloud, given the opportunity. And so, as you said, there were



a couple of things that benefited margins in the quarter, both the depreciation expense item, but also lapping the unusually high allowance for credit losses that were recorded back in the first quarter.

So the main takeaway is we're continuing to invest. We'll invest aggressively in products and go-to-market, what we've talked about quite consistently over time. And as much as operating losses and operating margin will benefit from increased scale over time, at this point, we do remain focused on investing to build the organization for long-term performance.

**Sundar Pichai, CEO Alphabet and Google:** And, Doug, on Waymo, John is stepping down as CEO. And he's been planning for this transition, and Dmitri and Tekedra have been working closely with him. And so we'll continue our investments there. Pretty excited that the fully autonomous experience of Waymo One is available in Phoenix, and we are also accelerating the development of our next-generation Waymo Driver to deploy it in San Francisco. And this past quarter, Waymo began limited rider testing in San Francisco. And so really focused on making sure we make the hard technical progress so that we can operationalize this. And so we will continue executing towards that.

**Doug Anmuth (JP Morgan):** Okay. Thank you, both.

**Candice (Operator):** Thank you. And our next question comes from Brent Thill from Jefferies. Your line is now open.

**Brent Thill (Jefferies):** Thanks. As it relates to some of the harder-hit industries, I'm curious if you could just characterize the shape of the recovery, what you're seeing across travel and some of the other sectors. And have there been any verticals that you have yet to see recover that may pull out in the second half of the year? Thank you.

**Ruth Porat, CFO Alphabet and Google:** So overall, what we indicated is that the strong results reflect, in part, lapping the impact that we saw starting late in Q1 of last year and then a pickup in a number of areas. I think the main thing we'd want to leave you with is that we are seeing, in part, an acceleration in the shift to digital. But it's too early to forecast the extent to which these changes in consumer behavior and advertising spend will endure. There's some obvious examples. If you think about, for example, the bump in consumption for things like outfitting your home to work from home, obviously, that doesn't repeat. And so our main thing is we think it's premature at this point to really assess how durable those consumer behavior trends are.

**Brent Thill (Jefferies):** In travel specifically, can you just give us any color in terms of what you're seeing on that front?

**Ruth Porat, CFO Alphabet and Google:** Nothing more to add. Philipp had a couple of comments about some of the areas where we're trying to innovate to be helpful to our partners. But beyond that, nothing to add.

**Brent Thill (Jefferies):** Great. Thank you.

**Candice (Operator):** Thank you. And our next question comes from Justin Post from Bank of

America. Your line is now open.

**Justin Post (Bank of America Merrill Lynch):** Maybe one for Philipp and one for Ruth. First, Philipp, you've mentioned a couple times the durability of the improvement is tough to gauge. Maybe you could help us understand what the key drivers of Search are that you're thinking about over the next couple years. Is it queries? Product improvements? Certain changes in verticals like Shopping? How are you thinking about driving Search growth? And then maybe for Ruth, models showed great efficiency last year on the cost side and margins. Anything you're learning or experiences during the pandemic that we can think about post-pandemic on cost efficiencies or things like that? Thank you.

**Philipp Schindler, SVP and CBO, Google:** Yes, thank you. Thank you so much for the question. I usually look at the different components of Search as basically four key drivers. The first one, obviously, being the queries. So are we really the best place for users to turn to when they need information? The second one is, I would call it, ads coverage. So what percent of queries is really commercial and then what percentage are we actually covering with ads? And then we need to ask ourselves, do both of these have upside?

The third one is click-through rates. Are individual ad click-through rates close to being optimized? Is there more we can do here by just delivering better creatives, better ads, better answers? To what extent can we deploy next-generation machine learning here? And then the last one is obviously the CPC, right? How much is someone willing to bid for a click on their ad? And this is obviously to a large extent driven by the quality of traffic we're sending. And then conversion rate is a big driver of this. So working very closely with our partners, advertisers and so on across the world to help them optimize their conversion rates and their ROI. Those are really the four big components, and I'm excited about all four of them actually.

**Ruth Porat, CFO Alphabet and Google:** And in terms of your question on efficiency, I appreciate the question. I think at the highest level, the approach is unchanged. Our approach on investing and capital allocation is, first and foremost, to support long-term growth with financially sustainable businesses. It's about being sharper within product areas and then making sure we're investing in what I keep referring to as operational excellence, things like our technical infrastructure, systems to improve productivity, to improve velocity of our product teams and then the very important efforts around privacy and security and content moderation.

And I think, to your question, the experiences of this past year underscored, really, the value of having made those investments to protect and support operational excellence. It really served us well, and customers, in our ability to deliver throughout this period of time. So that framework is unaltered. I think that part of what you're seeing in the first quarter – I've said it a couple times now, but are some notable items in the quarter. The lapping of the allowance for credit losses, the benefit from depreciation life. And then there were certain things that were due to COVID – just the lower impact for things like T&E and marketing.

And so the main point is we will continue to invest for long-term growth. I've said that in both areas, Google Services and Cloud. And we have continued to maintain that framework that you referenced about looking for efficiencies where they are but ensuring that we can deliver for users and customers.

**Justin Post (Bank of America Merrill Lynch):** Great. Thank you.

**Candice (Operator):** Thank you. And our next question comes from Colin Sebastian from Baird. Your line is now open.

**Colin Sebastian (Baird):** Great. Thanks. Good afternoon. Sundar, first, you've highlighted for years that machine learning is clearly a strength and differentiation of the overall platform, including in Cloud services, where we're also seeing competitors focus more on their capabilities here. So I'm wondering if you can talk about the pace of change around data science and how Google can sustain its competitive advantage in those areas. And then, Philipp, I wanted to follow up on the momentum in Search that you attribute to Google Shopping. Is it fair to say that the shift to free product listings has led to the desired increase in retail advertising across the platform, or are there other reasons beyond the pandemic that you attribute for that success? Thanks.

**Sundar Pichai, CEO Alphabet and Google:** Colin, thanks. And, obviously, as we are thinking about AI, it all starts with foundational R&D we do. I think we are one of the largest R&D investors in AI in the world. And so thinking ahead and doing that, and we're doing it across all the foundational areas. And we are taking many diverse approaches. So as we make breakthroughs – I earlier spoke about Transformers and how that translated as BERT to improve search quality.

And similarly, we are very committed to taking the AI improvements and bringing it through our GCP offerings to our enterprise customers as well. So it's an approach we are deeply committed to. And we're thinking at it with all layers of the stack. So this is why you see us work hard on TPUs and we think about the toolchain for developers on top of all that. And so – and I think when I look at the progress ahead, I think there's a lot more progress coming down the pipe, and so I'm pretty excited. And it's why I feel Google – GCP will be differentiated over time as our competitive advantage plays out here.

**Philipp Schindler, SVP and CBO, Google:** Yes. And on the Shopping side, look, it's been a year since we brought Bill on board, Bill Ready, and we pivoted our Shopping strategy to better support retailers and consumers, trying to really build an open retail ecosystem. And we're pleased with the progress we're making. As you said, free listings and zero commissions have actually lowered barriers for online retail.

Shopping Ads continue to be a powerful way for resellers to promote their products, and the combination of free and paid is a meaningful one. We had a set of new partnerships with Shopify and PayPal that are giving retailers a lot more choice. And we will continue to simplify the, let me call it, end-to-end user and merchant experience, of course. In particular, we are trying to streamline and working hard to streamline the backend experience for merchants, especially for hybrid retailers, so retailers that play in both brick-and-mortar and in digital. And overall, we want to make it much, much easier for retailers to get started on Google and have their information appear across surfaces. And I mentioned the overall strength in retail before. So thank you.

**Colin Sebastian (Baird):** Thanks, guys.

**Candice (Operator):** Thank you. And our next question comes from Mark Mahaney from ISI. Your line is now open.

**Mark Mahaney (Evercore ISI):** Thanks. I wanted to ask about your attempts to retain advertisers. And I ask it this way. I think we've had record numbers of new business formations in the country and around the world on the unfortunate impact of COVID. But I think that's – my guess is it's been a huge tailwind for your business. At the same time, we've had this real tipover, I think, of linear TV ad budgets in the back half of the year to online channels like YouTube. So talk about these new advertisers that you've brought onto the Google platform, what you've been able to do, how confident you are in your ability to retain them, your advertiser retention strategy. Thanks a lot.

**Philipp Schindler, SVP and CBO, Google:** So I can take this. I mean, a lot of the new advertisers that you're referring to are obviously SMBs. And there's no doubt that this has been a challenging year for SMBs. The pandemic has disrupted how many of them connect with their customers. But, frankly, the pandemic has also been a catalyst for key consumer trends, obviously creating a lot of new opportunities for small businesses. And obviously consumers are spending more time online. They're buying more online. They were willing to try new brands. And they're eager to support local businesses, SMBs.

So searches for "support local businesses" are up significantly since last year. And we've been focused, really, on helping SMBs with simpler tools so they can actually embrace digital a lot faster. And that's where we have really invested over the year – making everything simpler. We had a very wide range of solutions to help them get online, get discovered across all of our key products – Search, Maps, YouTube and so on. And there's multiple, multiple fascinating stories from them coming back to us. And we see this positively reflected in our rates here as well.

**Mark Mahaney (Evercore ISI):** Okay. Thank you, Philipp.

**Candice (Operator):** Thank you. And our next question comes from Michael Nathanson from MoffettNathanson. Your line is now open.

**Michael Nathanson (MoffettNathanson):** Thank you. I have two, one for Philipp, one for Ruth. Philipp, on the questions on Search, when we step back, which categories, which geographies do you think you're still underrepresented as a percentage of marketing spending – where we could see potentially even more lift to come? And then to Ruth, we always asked in the past about capex spending – we know the change in useful life. But I wonder, has this pandemic changed maybe your approach to the office space that you bought and thinking about how the company's going to deploy capital in terms of space going forward and how you think about the future of capex in the next couple years based on post-pandemic?

**Ruth Porat, CFO Alphabet and Google:** Philipp seems to be on mute. I'll go ahead and start on the capex question.

**Michael Nathanson (MoffettNathanson):** Okay. Okay. Thanks, Ruth.

**Ruth Porat, CFO Alphabet and Google:** So in terms of capex, I think – I'll address two parts. You asked about office facilities, but I do think it's important to note, we are continuing to invest

in our technical infrastructure, and that's what you saw again here this quarter, and we'll continue to do so to support growth that we're seeing in Cloud and Search and Ads and Machine Learning. No change there so you'll be seeing that, but the core of your question was really about office facilities.

And I think it's – we've been very clear we do value bringing people together in the office. And we're looking at a hybrid work from home, work from office model. As we look forward at developing our real estate footprint for offices, what we factor into it is, first, we are growing our headcount. We are looking at less density per employee. So even with a hybrid work environment, we will continue to need space. And so we're continuing to build out our campuses and office facilities.

What you saw in the first quarter was a slightly slower pace of that and a slower pace on fit outs as well as we're evolving what does this space look like. But we expect to continue to pick up the pace there as we fit out our spaces for this kind of new, reimagined environment. So, yes, we'll continue to be investing in campuses around the globe as we have been.

**Philipp Schindler, SVP and CBO, Google:** Yes. And on your first part of your question, look, we're looking at our business from a very global perspective and are excited about it. Keep in mind, we're not just addressing above the line marketing budgets from an addressable market perspective. So not just traditional advertising, TV advertising and so on. Below the line budgets are really significant, everything – promotional pricing, product placement, sponsorships and so on and so on.

So there's this massive acceleration in e-commerce due to the pandemic. Still, more than 80% of commerce is still offline, so there's a huge opportunity here across the world for us to tap into – into those other budgets. They were really traditionally used in a very different context. So there's plenty of room for growth here. And I talked about how we look at it from a queries perspective, from a commercial intent perspective. We're trying to use machine learning really smartly here. But the real focus in the end has to be how do we actually make our partners successful, how do we drive incremental ROI for them? And as long as we continue this, well, I think we should continue to see budgets move our way as well.

**Michael Nathanson (MoffettNathanson):** Thank you.

**Candice (Operator):** Thank you. And our final question comes from the line of Brian Fitzgerald from Wells Fargo. Your line is now open.

**Brian Fitzgerald (Wells Fargo):** Hey, guys, you mentioned the strength in the supply-side products in the Network business. Wondering if you might be able to comment on how the demand-side products are doing? And maybe in a similar vein, some of the changes you've made in ad technology over the last few years may have had the effect of drawing some of your advertiser customers more deeply into your tech stack. Wondering if this is also creating a strong onramp in GCP specifically around data analytics products like BigQuery? Thanks.

**Ruth Porat, CFO Alphabet and Google:** So in terms of overall on Network revenues, as I think I noted briefly in opening comments, what we're really seeing is the ongoing strength in advertiser spend. Both Philipp and I talked about that. Particularly what we saw was AdMob

and Ad Manager and particular strength in App Campaigns. And all of this just underscores what each of us commented on, that the results do reflect what was broad-based strength across our partners' properties in the first quarter.

**Brian Fitzgerald (Wells Fargo):** Thanks, Ruth.

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

**Candice (Operator):** Thank you. And that concludes our question-and-answer session. I'd like to turn the conference back over to Jim Friedland for any closing remarks.

**Jim Friedland, Director Investor Relations:** Thanks, everyone, for joining us today. We look forward to speaking with you again on our second quarter 2021 call. Thank you and have a good evening.

**Candice (Operator):** This concludes today's conference call. Thank you for participating, and you may now disconnect.