

## **Operator**

Good day, ladies and gentlemen, and welcome to the Alphabet first quarter 2017 earnings call. At this time, all participants are in a listen-only mode. Later we will conduct a question and answer session, and instructions will follow at that time.

I'd now like to turn the conference over to Ellen West, Head of Investor Relations. Please go ahead.

## **Ellen West - Alphabet, Inc.**

Thank you. Good afternoon, everyone, and welcome to Alphabet's first quarter 2017 earnings conference call. With us today are Ruth Porat and Sundar Pichai. While you were waiting, you were listening to the infectious song "Diggy," by Spencer Ludwig. Spencer is a new, exciting artist on Warner Bros. Records who is touring Europe this month. You have heard his trumpet stylings when he performed with Capital Cities on "Safe and Sound." Be sure to check out his official "Diggy" video on his YouTube channel.

Now I'll quickly cover the Safe Harbor. Some of the statements that we make today may be considered forward-looking, including statements regarding our future investments, our long-term growth and innovation, the expected performance of our businesses, and our expected level of capital expenditures. These 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 Form 10-K for 2016, filed with the SEC. Any forward-looking statements that we make are based on assumption as of today, and we undertake no obligation to update them.

During this call, we will present both GAAP and non-GAAP financial measures. A reconciliation of GAAP to non-GAAP measures is included in today's earnings press release. As you know, we distribute our earnings release through our Investor Relations website located at [abc.xyz/investor](http://abc.xyz/investor). This call is also being webcast from our IR website, where a replay of the call will be available later today.

And now I'll turn the call over to Ruth.

## **Ruth Porat - Alphabet, Inc.**

Thank you, Ellen. Our revenues of \$24.8 billion in the first quarter demonstrate our broad-based strength globally, with revenues up 22% year on year. In constant currency, our consolidated revenues grew 24% versus 1Q 2016. Growth in advertising revenues was again driven by mobile search,

with ongoing strength in YouTube and programmatic. We also had substantial growth in other revenues from Play, hardware, and Cloud.

Our outline for today's call is, first, I'll review the quarter on a consolidated basis for Alphabet. Given the obvious seasonality in Q4, I will focus on year-over-year changes in our results. As a reminder, I will review our results on a GAAP basis, which includes stock-based compensation for operating income, net income, and earnings per share. Second, I will review results for Google and then Other Bets. Finally, I will conclude with our outlook. Sundar will then discuss our business and product highlights for the quarter, after which we will take questions.

Let me start with a summary of Alphabet's consolidated financial performance for the quarter. Total revenues were \$24.8 billion, up 22% year over year. We realized a negative currency impact on our revenues year over year of \$304 million or \$87 million after the benefit of our hedging program. Holding currency constant to the prior period, our total revenues grew 24% year over year.

Turning to Alphabet revenues by geography, as you can see in our press release, we've enhanced the geographic split to give you more insight into our businesses around the world. We are now reporting our revenues in four regions: the U.S., EMEA – namely Europe, Middle East, and Africa – APAC or Asia Pacific, and Other Americas, which encompasses Canada and Latin America. To help you with the transition to our new geographic reporting, we're also sharing the U.K. revenues for this quarter. These groupings align more closely with how we manage our businesses and also with the major currencies that affect our results.

The results by region highlight the strength of our business around the globe. U.S. revenues were up 25% year over year to \$11.8 billion. EMEA revenues were \$8.1 billion, up 13% year over year. In fixed FX terms, revenues were up 19%. U.K.-reported revenues continue to reflect the ongoing weakness of the British pound, with revenues up 5% year over year to \$2 billion on a reported basis, yet up 16% in fixed FX terms. APAC revenues were \$3.6 billion, up 29% versus last year and up 26% in fixed FX terms, reflecting strength of the Australian dollar and yen. Other Americas revenues, which include results from Canada and Latin America, were up 34% versus last year to \$1.3 billion. In fixed FX terms, revenues were up 29% year over year, with fixed FX growth reflecting strength in the Brazilian real.

On a consolidated basis, total cost of revenues, including TAC, which I'll discuss in the Google segment results, were \$9.8 billion, up 28% year on year. Other cost of revenues on a consolidated basis was \$5.2 billion, up

34% year over year, primarily driven by Google-related expenses – specifically, costs associated with operating our data centers, including depreciation, and content acquisition costs, primarily for YouTube, as well as hardware-related costs reflecting the continued strong performance of our new Made by Google product line. Operating expenses were \$8.4 billion in the quarter, up 15% year over year.

Year-on-year comparisons in part reflect the change in the timing of our annual equity refresh cycle, with a half-year grant in Q1, which enables us to move to a single annual compensation cycle. As discussed last quarter, this affects the timing of stock-based compensation but does not affect the overall size of the SBC expense for the year. The year-on-year increase is therefore more sizable in Q1 and Q2 compared to previous years, with less of a year-on-year impact in both Q3 and Q4. More specifically, stock-based compensation totaled \$2 billion, up 34% year over year.

Headcount at the end of the quarter was 73,992, up 1,939 people from last quarter. The growth in consolidated head count was somewhat muted by an internal reallocation of people from Fiber to Google. Consistent with prior quarters, the vast majority of new hires were engineers and product managers. In terms of product areas, the most sizable head count growth was in Cloud, consistent with the priority we place on this business.

Operating income was \$6.6 billion, up 23% versus last year. The operating margin was 27%. Other income and expense was \$251 million. We provide more detail on the line items within OI&E in our earnings press release. Our effective tax rate was 20% for the first quarter. Net income was \$5.4 billion, and earnings per diluted share were \$7.73.

Turning now to CapEx and operating cash flow. Cash CapEx for the quarter was \$2.5 billion. Operating cash flow was \$9.5 billion, with free cash flow of \$7 billion. We ended the quarter with cash and marketable securities of \$92.4 billion, of which approximately \$55.7 billion or 60% is held overseas.

Let me now turn to our segment financial results, starting with the Google segment. Revenues were \$24.5 billion, up 22% year over year, which includes the impact of FX. In terms of the revenue detail, Google Sites revenues were \$17.4 billion in the quarter, up 21% year over year. The biggest contributor to growth again this quarter was mobile search, reflecting the secular shift to mobile due to the greater utility of smartphones for users and advertisers, but obviously also benefiting from our focus on continuously enhancing features and functionality. YouTube revenues continue to grow at a significant rate, driven primarily by video advertising. Network revenues were \$4 billion, up 9% year on year, reflecting the ongoing strong growth of programmatic and AdMob. Results

benefited from a slower rate of decline in the traditional Network business than in prior periods, although it continues to be negatively affected by both the ongoing shift by advertisers to programmatic and our ongoing policy efforts. Other revenues for Google were \$3.1 billion, up 49%.

Last quarter we talked about our bigger investment areas, and you can see the strong momentum here, reflecting contributions from each of Play, hardware, and Cloud. Specifically, Play benefited from both broad-based app strength but also from all the work we have done in areas such as direct carrier billing, which helps more people globally access and buy their favorite apps and games on Google Play. Hardware continues to have strong growth and remains an important area for us, with our family of products extending geographically. Google Cloud continues to drive sizable growth, with Google Cloud Platform remaining one of the fastest-growing businesses across Alphabet. Finally, we continue to provide monetization metrics to give you a sense of the price and volume dynamics of our advertising businesses. You can find the details in our earnings press release.

Total traffic acquisition costs were \$4.6 billion, or 22% of total advertising revenues, and up 22% year over year. The increase in both Sites TAC as a percentage of Sites revenues, as well as Network TAC as a percentage of Network revenues, reflects the fact that our strongest growth areas, namely mobile search and programmatic, carry higher TAC. Total TAC as a percentage of total advertising revenues was up year over year as a result of an increase in the Sites TAC rate, driven by the shift to mobile, which was again partially offset by a favorable revenue mix shift from Network to Sites, which carries lower TAC.

Google's stock-based compensation totaled \$1.9 billion for the quarter, up 40% year over year. Operating income, including the impact of SBC, was \$7.6 billion, up 22% versus last year, and the operating margin was 31%. Accrued CapEx for the quarter was \$2.4 billion, reflecting investments in production equipment, facilities, and data center construction.

Turning to Other Bets. For the first quarter, Other Bets revenues were \$244 million, primarily generated by Nest, Verily, and Fiber. Operating loss, including the impact of SBC, was \$855 million for the first quarter. Other Bets accrued CapEx was \$170 million, primarily reflecting a reduced investment in Fiber due to the pause in expansion we announced in 3Q 2016.

Let me conclude. First, we've benefited from our team's innovations that continually enhance our advertising business, as evidenced by the ongoing growth of Sites revenues. On a dollar basis, the increase in Sites revenues reflects the healthy growth in mobile search. As we discussed in prior calls,

even though mobile revenue growth requires an increasing investment in the mobile ecosystem in the form of higher TAC, our strength in mobile search is adding meaningfully to profit dollars.

Second, the strong performance in our advertising business allows us to take bigger bets within Google to fuel the growth of additional revenue streams, including those from Cloud, hardware, and YouTube subscription offerings. Cloud is one of our most important strategic priorities given the scale of opportunity in a rapidly evolving sector and the fact that the requirements for success align with many of our strengths. We will continue to invest here for the long-term opportunity. Similarly, hardware remains an exciting growth opportunity for us, and you've seen the early indicators again this quarter.

Finally in Other Bets, we're determining the size and pace of investment appropriate to each bet, given their stage of development and achievements against milestones. We expect to increase near-term investment in certain areas while continuing to calibrate the pace of investment in others as they move along a path to commercialization. For example, as I hope you saw earlier this week, Waymo announced it has commenced a trial of its self-driving cars in the Phoenix area. Waymo also announced it is expanding its fleet of minivans to support this trial. These actions reflect the tremendous accomplishment of our team over many years, leading with safety, and now beginning to bring the experience to consumers.

I will now turn the call over to Sundar.

### **Sundar Pichai - Alphabet, Inc.**

Thanks, Ruth. It's been a terrific start to the year. This quarter was notable for the fantastic momentum across our products. Advances for the Google Assistant, the launch of YouTube TV, and lots of new features launched at our Google Cloud Next event. In the next few weeks, there's much more to come. We'll host our annual developer conference, Google I/O; our advertising event, Google Marketing Next; and our YouTube upfront, Brandcast. I hope you'll join us.

Today I'll discuss three things. First, how our continued investments in machine learning are fueling innovation across Google, and particularly how it's helping drive our core mission of providing access to information for everyone. Second, progress in three of our biggest bets: YouTube, Cloud, and hardware. And, third, our platforms, such as Android and our advertising platform, which power businesses and computing experiences around the world.

Now, turning first to machine learning and access to information. I'm really happy with how we are transitioning to an AI-first company. The Google Assistant is one of our first steps towards that future. This quarter, we brought the Assistant to your wrist with Android Wear 2.0, announced that it'll soon come to Android TV, and began rolling it out to hundreds of millions of people with Android phones running Nougat and Marshmallow. We also continue to announce new integration partners for the Google Assistant, so you can now ask it to do things like dim the living room lights. Stay tuned for more to come.

Advances in machine learning are helping us make many Google products better. One example from this quarter is the launch of parking predictions in Google Maps. Beyond that, we continue to set the pace in machine learning and AI research. We introduced a new technique for training deep neural networks on mobile devices called Federated Learning. This technique enables people to run a shared machine learning model while keeping their underlying data stored locally on mobile phones. DeepMind is bringing AlphaGo to China in May, pairing AI with the world's best players at the Future of Go Summit. And it's very exciting to see the incredible things that developers and researchers are building on the TensorFlow platform. There are more than 6,000 GitHub projects and counting.

Search remains at the heart of our mission to make information available to everyone, and we are laser-focused on making Search even better. In March, we introduced tappable shortcuts in Google Search to help you easily access topics you care about, like sports, entertainment, and weather. And, earlier this week, to improve our results further, we introduced algorithmic ranking improvements, as well as easier ways for people to provide better (17:28) feedback in autocomplete and Featured Snippets. Last week, we made big improvements to one of our longest-standing and most loved products, Google Earth. It's really beautiful and easy to use. Now you can experience breathtaking locations in virtual reality, like the top of Table Mountain in South Africa.

Moving on to three of our biggest bets: YouTube, Cloud, and hardware. First, YouTube, where we continue to see extraordinary growth and opportunities. People around the world are watching more content on YouTube than ever before. In 2016, we passed a big milestone that continues to grow. Every day, users watch over a billion hours on YouTube. YouTube continues to be the most popular destination for online video globally, and we are focused on building awesome experiences.

This quarter we announced YouTube TV, which offers live TV from major broadcast and cable networks, a cloud-based DVR without storage limits, and streaming on all of your devices. We have launched in five cities so far,

and the positive feedback from customers has been really incredible. Our destination for family and kids' content, called YouTube Kids, also recently celebrated its second birthday. There have been more than 30 billion video views in the app to date.

Next, our growing Cloud business. Our Google Cloud Next conference in March was a great opportunity to highlight core areas of differentiation for GCP, like new security products and the recognition that we had the highest cloud availability in 2016, according to CloudHarmony. It was attended by five times as many people as last year. We also demonstrated new machine learning services and announced our acquisition of Kaggle, the largest community of data centers focused on machine learning and AI. We introduced dozens of new products, including Spanner, a database optimized for distributed computing that can reliably update data across multiple data centers. And our G Suite team introduced a major expansion of our collaboration platform with Hangouts Meet and Hangouts Chat. To give you a taste of the kinds of large enterprise customers and partners we are now working with across GCP, we were joined on stage by major companies like HSBC, Home Depot, Schlumberger, and SAP, as well as large G Suite customers, including Colgate-Palmolive.

We continue to see tremendous momentum in education, where our products are leading the industry, thanks to their simplicity, security, and low cost. Chromebooks are now used by more than 20 million teachers and students, and more than 70 million people actively use G Suite for Education.

Over the last several months, we have noticed a change in the types of conversations that Diane and her team are having with customers. Increasingly, we are being asked to partner for mission-critical projects and full migrations, moving data from on-prem data centers to the cloud. We are seeing a meaningful shift, and this momentum is resulting in a fast-growing business.

On to our next big bet, hardware. Last year, we debuted a beautiful new family of hardware devices, including the Pixel, Google Home, and Google Wifi, bringing together the best of Google across hardware and software. We are finding that people who buy products like Pixel and Google Home are not only incredibly happy with their purchase but also very likely to recommend it to others. Sales continues to be strong, and we are actively working to bring these great devices to more people around the world. Just a few weeks ago, we announced that Google Home and Google Wifi are now available in the U.K. Speaking of Google Home, last week we made it possible for up to six people to connect their accounts to one Google Home, and thanks to a

leading voice recognition technology, it can recognize who's speaking to it. It's really a game changer.

And, finally, we are continuing to invest in our computing and advertising platforms. Our platforms have had great success over the years, creating incredible user experiences, as well as real opportunities and economic success for partners, creators, and developers around the globe. To illustrate, in the past three years in Europe, the Middle East, and Africa alone, we paid out more than \$15 billion to our publisher, creator, and app developer partners. That's across AdSense, YouTube, and Google Play, and it doesn't even include device sales by many hardware partners who build on Android. There's tremendous momentum in the Android ecosystem, as evidenced by the great reception of the beautiful Samsung Galaxy S8. We'll have much more to say at I/O next month.

In March, we introduced the first developer preview of Android O, featuring improvements for battery life, notifications, and picture-in-picture display. The Android platform is also seeing great growth in emerging markets. In 2016, nearly 300 million new users adopted Android devices from countries like India and Brazil. We also announced the public launch of Android Wear 2.0, with two new flagship watches from LG. And thanks to partnerships with major brands like TAG and Fossil, there'll be more than 20 different Android Wear watches available this year, doubling the number from last year.

Our virtual reality platform Daydream, which debuted almost a year ago, continues to gain traction with more devices and more great content, like VR video. More than 50% of time in Daydream is video consumption, and YouTube VR is Daydream's number 1 app by time spent.

Lastly, I'll talk about the highlights and trends we are seeing across our growing advertising business, where there are still enormous opportunities. As you can see from our results, we continue to experience remarkable growth worldwide. Not only are existing advertisers choosing to spend more as they see the value of our ads, but many more businesses around the world are just getting started on our ad platforms, from India to Brazil and many more. Our momentum continues to be driven by the shift to mobile. Our great properties, like Search, Maps, YouTube, and Google Play, are the prime time for the mobile world, where people are actively engaged and interested.

We have increased our investment in machine learning in our advertising business, with efforts like Smart Bidding, where our systems predict the performance of an ad and adjust advertisers' bids in real time to maximize their results. Two areas where we are seeing particular strength are retailers and app developers. Mobile has transformed the shopping experience. In the



past year, local shopping queries have increased by 45%, and the number of retailers that provide us with their local inventory feeds has doubled. Our investments in innovative ad formats, include targeting and better measurement, are really helping retailers, who see us as an ally in their corner. Brands like Williams-Sonoma have seen a 70% increase in mobile sales year over year, with Google mobile shopping ads playing a big part.

Secondly, developers use us to help their apps stand out from the crowd. Thanks to our app install advertising products, developers have already driven more than 5 billion app downloads. Our flagship product here, Universal App Campaigns, allows developers to easily promote their apps across Google Search, Play, YouTube, and the Google Display Network. It incorporates machine learning to improve campaigns and drive great results for advertisers. We recently announced new innovations at the Game Developers Conference, including an interactive playable ad format in Universal App Campaigns that lets users play a lightweight version of your game right in the ad. It's really effective in driving installs from engaged users.

Now on to our growing video advertising business. Brands love the reach and engagement that they get across YouTube, along with the effectiveness of formats like TrueView skippable ads and our new bumper ads, which are snackable six-second videos that drive incremental reach and frequency. We recently did research on more than 120 bumper ad campaigns, and the data showed that they drove a significant lift in brand awareness and ad recall. Under Armour used both bumper ads and TrueView together to promote a new product launch recently, resulting in double the lift in product interest among people who saw both ads compared to those who only saw the TrueView ad. We work incredibly hard to create the best environment for brands on YouTube. The cornerstone of our offering is Google Preferred, which allow brands to advertise against the top 5% of our content.

We also announced new safeguards for advertisers through a combination of updated ad policies and enforcement, new default settings around where ads can appear, improved controls for advertisers, and third-party brand safety reporting. Brands and agencies understand how hard we work to create the safest possible environment. We do this by also being very careful to ensure YouTube's innovative creators can earn money to support their unique and popular content. We've been actively engaged in conversations with clients about the new tools and controls we are providing, and we are having very productive discussions ahead of Brandcast next week.

Finally, programmatic advertising. As marketers continue to shift towards programmatic ad buying, our DoubleClick platform makes it easy for them to effectively reach the right audiences. We've been focusing on making more

inventory available to more advertisers, especially premium inventory. For instance, we recently expanded our Programmatic Guaranteed reservation product to advertisers globally, and we made traditional TV inventory available to buy in DoubleClick Bid Manager.

So that's a run-through of some highlights for the quarter. Thanks to every Googler for making Google such an exciting and inspiring place to work every day. Over the last few days, we have had Take Your Child to Work Day at Google, which is one of my favorite events of the year. We have had thousands of excited, screaming kids running around the Googleplex, which is how I feel some days, too. What motivates us at Google is building the technologies that'll be central to all of their computing experiences, to give them opportunities to learn, to be heard, and to succeed.

And with that, I will hand it back over to Ruth.

**Ruth Porat - Alphabet, Inc.**

Thank you, Sundar, and we will now take your questions.

### **Question-and-Answer Session**

#### **Operator**

Thank you. And our first question comes from Douglas Anmuth of JPMorgan. Your line is now open.

**Douglas T. Anmuth - JPMorgan Securities LLC**

Thanks for taking the question. I had two. First, just, you talked about Cloud as a huge strategic priority. Could you just talk more about the go-to-market strategy for GCP and how you plan on building up the reseller channel there going forward? And then secondly, Sundar, on Waymo, I was curious on some of your thoughts. I know it's early, but on the timing for Waymo to become commercially viable. And then what are the key guideposts and requirements along the way? Thank you.

**Sundar Pichai - Alphabet, Inc.**

On the Cloud stuff, talking about go-to-market, as Ruth said in Q1, our largest growth in head count and CapEx was in Cloud. So we are thrilled with the progress we have made there since Diane arrived, building our world-class sales, marketing, and engineering teams. The heavy lifting, I would say, is around how we meet enterprises in the market. We have reorganized so we have one face to the customer. So it's not just sales reps. We've been

thoughtful about how we have built out the entire go-to-market organization.

So we created two new areas that customers can now take advantage of. One is the office of the CTO, which helps customers solve difficult technical problems. And the second is our Advanced Solutions Lab, where customers can get help from machine learning experts. And on top of that, now we have a phenomenal support team that helps keeps customers' applications up and running. So I think what we have done – our approach is one Google. When a customer signs up for Google Cloud, they get more than GCP and G Suite. They have access to the ads and analytics teams, YouTube teams, and resources within our organization. So I think it's coming along quite well.

**Ruth Porat - Alphabet, Inc.**

And then on your question on Waymo, we view Waymo as a great example of a graduate from X that's addressing a sizable problem and builds off of tremendous technology here. We started with safety; we remain a leader in safety. And we continue to view that as the foundation for success. And at this point we're exploring many options enabling ridesharing, personal-use vehicles, logistics, and deliveries, and we also see opportunities to work with cities to address public transportation.

So the announcements that we made this week are a continuation of the progress the team has made. We do have a strong relationship with Fiat Chrysler, increased our car order, given the opportunity. They have been our primary partner to date, but to note we're in active discussions with others around the globe. And then I think, importantly, the trial in the Phoenix area is something that's been in the works for some time, and we do look forward for that trial. So it's still in the early days, and we're excited about the upside from Waymo.

**Douglas T. Anmuth - JPMorgan Securities LLC**

Great. Thank you both.

**Operator**

Thank you. And our next question comes from Heather Bellini of Goldman Sachs. Your line is now open.

**Heather Bellini - Goldman Sachs & Co.**

Great. Thank you. I also wanted to ask a question about Cloud as a follow-up. I was just wondering, Sundar, if you could share with us what's the

feedback been since Next from your Cloud customers? And could you share with us how qualitatively – something so we can gauge just kind of whether this business is starting to see an inflection in growth or not? Is there anything you could give us qualitatively about how the pipeline is building in this area? And I guess just what I'm interested in is also the types of conversations you're having with customers now versus maybe six years ago. I'm sorry – six months ago. Sorry about that. Thank you.

**Sundar Pichai - Alphabet, Inc.**

Time flies fast. Next was – having done Google I/O many, many times, I was surprised to see the scale and growth of Next from even last year to this year. We had five many times as people. I think everyone really appreciated seeing large customers, very sophisticated customers, like HSBC, eBay, Colgate-Palmolive, et cetera, discussing use of Google Cloud, GCP. Along with Diane, I did follow-up lunches with a set of people, and so the feedback has been very positive. People sense our commitment to the area. They understand the pace at which we are investing. They see that we are committed to machine learning and AI at a deep level. They appreciate how we are open-sourcing things. Facetalk was extraordinarily well-received. They are noticing the acquisitions we are making, Kaggle and AppBridge are a couple of acquisitions which happened around that time. So all that, all those details, I think clearly made an impact. I just spoke about the go-to-market progress, and I think that's beginning to get traction as well.

In general, I think there is a very strong recognition that we are have pivoted to being a deep enterprise company, and our conversations are very strategic. We are engaging at the highest levels within companies. And so, overall, I can see qualitative lead and momentum there. When we are in the middle of deals, we find we are very competitive, and there are areas where customers perceive us as best-in-class already. So it's been exciting to see.

**Heather Bellini - Goldman Sachs & Co.**

Thank you.

**Operator**

Thank you. And our next question comes from Eric Sheridan of UBS. Your line is now open.

**Eric J. Sheridan - UBS Securities LLC**

Thanks for taking the question. Sundar, you mentioned Google Assistant in your remarks. Wanted to know, what have you seen in terms of consumer adoption of Google Assistant, whether at the Pixel level or the Google Home

level? What does it give you in terms of sense of how people want to interact with the Assistant? What it might do in terms of putting artificial intelligence capabilities down to the consumer level and improve consumer experiences over the next couple years? Thanks so much for the color.

**Sundar Pichai - Alphabet, Inc.**

Good question, Eric. Pixel is a good example, because I think it's the place where we do the leading work here. And how we presented Google Assistant and the Pixel – well-received, both qualitatively in terms of consumer feedback we get, quantitatively in terms of how we see people using voice, how we see people interacting with overall Google Assistant and Search better. So we find that when we drive the Assistant experience well, it works overall in helping people engage with Google at a broader level.

It's always surprising to us – we always said, even with Search, every single day we see so many new types of queries. When you bring the assistant into the mix, you start getting even more different types of queries, and queries are more casual, more conversational. And so over time I think it starts breaking down the barriers to computing people have, and that's what makes it very, very exciting.

Now, artificial intelligence will help us push all that further. Just to give an example, we will make text to speech much, much better over time. Yesterday, we announced our Neural Machine Translation is launching in nine new languages. So all that starts accruing to the Assistant, and I think we'll overall improve the customer experience pretty dramatically. We'll talk about all this a lot more at Google I/O, so stay tuned.

**Operator**

Thank you. And our next question comes from Mark Mahaney of RBC. Your line is now open.

**Mark Mahaney - RBC Capital Markets LLC**

Great, thanks. Two questions, please. One on YouTube and one on Google Maps. Sundar or Ruth, there was some press about some of the pushback or some of the controversy around content and advertising and monetization of that. Are those technical problems that can be solved over time? Or is just the magnitude or the volume of content in trying to keep bad content off the site, however that's defined, and keep it from being monetized, is that an ongoing technology challenge or did you already find a solution? Then did you see any material impact to advertisers' budget interest with YouTube? And then if you could also comment briefly on Google Maps. This is one of those massive properties that you've owned that's highly used by almost

everybody, and I think the monetization to date has been really de minimis. Is there anything that's changed for you in terms of your thought about the ability to monetize Google Maps over time? Thank you.

**Sundar Pichai - Alphabet, Inc.**

On advertising and monetization in YouTube, we talked a bit about it. We have taken it pretty seriously, and we are taking significant steps. And obviously as part of doing that, we have brought new technical solutions into place. Machine learning is a great example of it. It helps us enforce – as we improve our policies, it helps us enforce it better. And we are in early days, so as machine learning gets better, I think we'll be able to do all of this even better and create that virtuous cycle.

Overall, I'm pretty confident at the rate at which we have made progress. And we're going to continue investing a lot here. It is super important to us that this ecosystem works well. It matters for advertisers. It matters for content creators. And so we take that responsibility very seriously. I would say advertisers have clearly noticed all the improvements we have made. Our conversations with them are very, very positive, and so I'm pretty optimistic about how we'll continue to make progress here.

On Google Maps, your question is – it's a good question. I get surprised at, for a property which we had launched many, many years ago, even now it's showing strong growth, especially in emerging markets. Maps is an integral part of your mobile phone. And users get more interested in the real world around them with AR and so on, I think Maps will continue to play a bigger role. We take a long-term view. It's already impacting monetization very significantly for us with local search. So today, when you use Google, a lot of the information we are able to do is because of Google Maps. But I'm sure you've noticed changes within Google Maps over the past few months. If you open Google Maps, you're traveling or you're out on a Friday evening, we start surfacing a lot more interesting information about what you can do, places to eat, and so on. So those are beginning to get good feedback from users, and I think that gives us an opportunity to add value there over time as well.

**Mark Mahaney - RBC Capital Markets LLC**

Thank you, Sundar.

**Operator**

Thank you. And our next question comes from Peter Stabler of Wells Fargo Securities. Your line is now open.

**Peter C. Stabler - Wells Fargo Securities LLC**

Good afternoon. Thanks for taking the question. Wanted to follow up on Mark's question on the local opportunity. Assuming that you agree it's a large one, what kind of steps are you taking to educate the smaller businesses out there on the opportunities you have? You've mentioned increasing take-up of local inventory ads. We understand that. But more generally, a go-to-market strategy on how you reach the millions of SMBs out there in terms of educating them on the growing opportunities on a local basis. Thanks so much.

**Sundar Pichai - Alphabet, Inc.**

It's a great question. And I think there's a lot of opportunity for us. Today we have many touch points. Obviously people – we reach out to SMBs, they want to get listed in Search and in Maps. AdWords Express has been a big part of how they want to advertise on our platforms. We obviously provide things like Google Apps to SMBs. So we have a lot of touch points, and internally we are beginning to do a much better job of reaching out and having a more thoughtful go-to-market approach. I think there's a lot more work there, but the rate at which we are seeing advertisers – small, medium businesses – on our platform has been growing very, very strongly as well. So indications are that it's already currently working at scale. We have millions and millions of SMBs on our platform, and the number continues to grow very well. But you'll see us invest a lot more here in the years ahead.

**Peter C. Stabler - Wells Fargo Securities LLC**

Thank you, Sundar.

**Operator**

Thank you. And our next question comes from Brian Nowak of Morgan Stanley. Your line is now open.

**Brian Nowak - Morgan Stanley & Co. LLC**

Thanks for taking my question. Could you talk a little bit more about the retail search category? Any high-level commentary on consumer search-query trends in retail, either an area of strength or otherwise? And then you talked about the real-time local-inventory integration, but, Sundar, I'd be curious if you could talk about any opportunities or areas of innovation in the retail search space that you see to really continue to improve users' retail-search experience. Thanks for the color.

**Sundar Pichai - Alphabet, Inc.**

I think obviously when we see what users are looking for in mobile, how shopping is evolving, it's an area we're continuously working on. I've been happy to see the evolution in our shopping experiences. Retail overall also happens to be an amazing category for us from a Google Cloud standpoint, so in some ways we are developing deeper partnerships with retailers around the world. And so as we start doing that, and I think as we get a better understanding of their inventory and the data, how we can translate all of that into our core experience is a bit of the work ahead. I think that's what excites us about the longer term. Shorter term, I think it's a space we continue to invest in. We are actually seeing strong trends in that category.

**Brian Nowak - Morgan Stanley & Co. LLC**

Great, thanks.

**Operator**

Thank you. And our next question comes from Dan Salmon of BMO Capital Markets. Your line is now open.

**Daniel Salmon - BMO Capital Markets (United States)**

Hey. Good afternoon, everyone. I've got two questions on YouTube for Sundar. First, this morning on the earnings call, WPP's CEO, Sir Martin Sorrell, noted that the company is being very responsive, I think were his words, to some of the recent concerns that we'd talked about earlier in the Q&A. We've also seen some official policy changes, things like that. I'd be interested, Sundar, to hear a little bit more about some of the softer outreach that you may be doing, thinking of Philipp Schindler's team, maybe the agency relations team, and how your people are reaching out and connecting with their clients, especially as you go into Brandcast?

And then the second follow-up on YouTube was, I'd be interested to hear your updated thoughts on the role of the YouTube Spaces. I think Ruth's prepared comments on CapEx mentioned some investments in production equipment. I don't know if that is related to that or something related to Cloud, but it does seem that the Spaces remain an important part of YouTube and continue to grow. And I'd love to hear an updated view on them. Thank you.

**Sundar Pichai - Alphabet, Inc.**

On the first part, (43:20) one of the things I've noticed is the depth of relationships we have with our advertisers was very evident to me as we went through this over the past few weeks. I would estimate – I think Philipp Schindler's team has probably made literally thousands and thousands of



calls, in-person conversations, and I think that deep relationship is what allowed us to respond thoughtfully. And I think the feedback from our partners were very positive and constructive, and I think we are evolving overall to a better place. And so I think to me that shows the long-term investments you make in these relationships, et cetera, plays well at times like these. And Brandcast is again an important touch point, and the excitement ahead of Brandcast, both internally and from our partners, all has the right indications for us.

On YouTube on Spaces, I visited the YouTube Space. I took my family to the YouTube Space in New York, and we had a lot of fun. Our creators love these spaces. They are something we are thoughtfully building out. They have a good return on investment for us, but we are very thoughtful about it. And I don't think that's a major factor in any of the CapEx we talked about here.

**Ruth Porat - Alphabet, Inc.**

Yeah, Exactly. In the CapEx, when I talked about production equipment, we were talking about machines, and that was the primary driver here. We're investing more machines given both our growing requirements and the higher cost of the new generation of machines and accelerators. So that will be more expensive in the short term, and we are continuing to build our inventory. But it does increase performance, and we believe reduce total cost of ownership in the longer term, so just to clarify that on CapEx.

**Daniel Salmon - BMO Capital Markets (United States)**

Okay, great. Thank you both for the color.

**Operator**

Thank you. And our next question comes from Ross Sandler of Barclays. Your line is now open.

**Ross Sandler - Barclays Capital, Inc.**

Great. I'm not sure if this is for Sundar or Ruth, but a question about regulatory. You guys recently reached an agreement in Russia around the Android bundling issue, where you're going to provide options for other browsers and search engines and app stores when a new Android phone is activated. So I was just wondering if this is the right way to think about these kinds of disputes in other areas of the world, where you may be under some regulatory pressure around Android bundles, or if that was kind of a one-off, isolated agreement. Thank you.

**Sundar Pichai - Alphabet, Inc.**

I think – without getting into specifics, I think when we deal with regulatory issues, I mean, the concerns vary differently depending on local laws and what the concerns are. I think in the case of Russia, I think there were some specific issues. And I'm glad we were able to work together with the regulatory agencies there, with our partners there, to come to a good solution. I'm not sure that's the right template. But as much as we are very committed to making sure we work with all the right agencies in all the countries we operate in, and I'm confident we'll get to a good place.

## **Operator**

Thank you. And our next question comes from Justin Post of Merrill Lynch. Your line is now open.

## **Justin Post - Bank of America Merrill Lynch.**

Great. Thank you. Sundar, ahead of this advertising conference I was thinking about Search innovation. And over the last four years, you've had an acceleration with PLAs, a really acceleration with the third ad link. And I'm just wondering, maybe you could talk about what excites you. Or do you think there's still a lot to go on Search monetization or coverage? And then from Ruth, obviously so many areas you can invest in. You could cut price on Cloud. You could really ramp up engineers in the core or Cloud. Just a lot you can do. And just how does the management team think about balancing profitability versus driving market share and long-term growth? Thank you.

## **Sundar Pichai - Alphabet, Inc.**

On Search, I continue to get surprised by the kind of things users reach out to us for and how that keeps evolving and changing. And with the Assistant now, too, just exposes a whole new surface area. And so I think there's a lot of innovation ahead. In terms of monetization, I think about it – it still looks like there is a lot of – for example, if you just look at retail, 90% of retail is still offline. So there are many, many secular trends like that, which we look at and we see a huge opportunity to help connect users to the information they are looking for. So, structurally, I do think we still have lots of both innovation and growth ahead for the long term, and that's how we think about it.

Maybe to Ruth on the second part?

## **Ruth Porat - Alphabet, Inc.**

Yeah, and really actually building on that, to answer the second part of your question. When we look at the ongoing momentum that you've seen here in Sites revenue, it really does go to innovation. No one change tends to drive

results, it's really the combined benefit of all that we're doing across the franchise, continuing to invest in the business and the benefits that we see there. And that's the way we look at it, is we have tremendous opportunity continuing in mobile search and in YouTube across the business there. And as we're looking at these newer opportunities, all that we're doing in Cloud, in hardware, YouTube subscription businesses, we analyze each one of those individually, working very closely with the leaders and the milestones that are established there.

We do very much across the business have an operating principle that too many resources and too few can lead to suboptimal decisions and execution. And so what we're looking at over a multiyear period is the pace of innovation that's appropriate, given the sizable opportunity. But the key point – and I've said it on so many different calls – is that we remain focused on long-term value creation. And we're excited about the growth opportunities, not just within Google but across Alphabet with all that we're doing in Other Bets. And so we're looking at these, again, individually, over a multiyear period, looking at milestones, and appropriately calibrating the pace of investment that is logical. And at the same time, we continue to have a focus on enhancing efficiencies where we can. But overall, as I keep saying, our main priority remains revenue and profit dollar growth.

**Operator**

Thank you.

**Justin Post - Bank of America Merrill Lynch.**

Thank you.

**Operator**

Our next question comes from Michael Nathanson of MoffettNathanson. Your line is now open.

**Michael B. Nathanson - MoffettNathanson LLC**

Thanks. I have two for Sundar. The first is, now that you've launched YouTube TV, I wonder if you'd tell us about the advertising opportunity there. And then what are you going to do, given all the assets, to maximize an inventory for marketers? And then secondly, I wonder, with that focus on brand safety you hear now from agencies and the bigger marketers, what's going to be the long-term impact, do you think, to YouTube programmatic from a more focused view on finding the right places to advertise?

**Sundar Pichai - Alphabet, Inc.**

On your first question about YouTube TV, we're just getting started. I think the product is really intended for the YouTube generation. It's really great to see a take on how to consume TV, which is mobile first for that generation. And I think – I've been using the product and enjoying it. And I think that gives – as (50:50) we rethink that experience and make it work better and scale it up, I think it's – your question is valid. The delivery of ads on TV has also not evolved at the same speed as the delivery of ads and media content on the Internet. So I think – we think we have a significant opportunity to improve their experience, and especially for advertisers to be able to think across all these surfaces. So I think there's a lot of opportunity, but I think we are very focused on the consumer experience first.

On your second question around longer-term impact, look, these types of issues are not new for us. Over the past many, many years, as we've built services, scaled it up on the ramp, (51:37) constantly things evolve. We adapt to it, be it from spam in email or how we do search ranking, and all the efforts we put into it. These are the classes of problems our engineers are really, really good at working. These are large-scale system problems, and especially with machine learning and AI, over time I think we can really put in the right systems in place. And our teams work very thoughtfully with the external ecosystem, with our advertisers, agencies, and partners. And I think that balance will help us get it right for the very long term.

**Michael B. Nathanson - MoffettNathanson LLC**

Okay, thank you.

**Operator**

Thank you. And our next question comes from Anthony DiClemente of Nomura. Your line is now open.

**Anthony DiClemente - Nomura Instinet**

Thanks for taking my questions. I have one for Ruth and one for Sundar. Ruth, Sites TAC as a percentage of revenue grew sequentially and year over year. I totally understand that mobile search is contributing meaningfully to the profit dollars, but as we look at the Sites TAC as a percentage, is there a quarter or is there a point in time looking forward where that sort of elevated TAC growth rate will anniversary or fall back into line with Sites revenue growth as a growth rate? Is there anything you can do to proactively manage that TAC growth?

And then for Sundar, on YouTube, as the competition out there for video content really intensifies, to what extent is YouTube providing more favorable economics to its content creators in order to ensure that YouTube

remains the leading platform and, importantly, in a lot of cases, an exclusive platform for your most popular channels? Thank you.

**Ruth Porat - Alphabet, Inc.**

So on Sites TAC, as we've often discussed, and as you said in your question, there are a number of factors that affect Sites TAC as a percentage of Sites revenue, and the primary driver has been the strong growth in mobile and the fact that more mobile searches are subject to TAC. The other factors include the mix of paid versus organic, as well as changes in partner, mix, or agreement terms. And when we look year over year, the primary driver of the increase is – very much to your question – the strength in mobile search. And we do expect Sites TAC to increase as a percentage of revenues. But, again, our focus continues to be on growing profit dollars. And I think the main point is we're very pleased to have a very strong business in a rapidly growing area. And that's benefiting our profit dollars even as the TAC percentage increases.

**Sundar Pichai - Alphabet, Inc.**

And on YouTube, when I look at it from a content creator standpoint, I think there are a lot of factors which are working well. So, for example, when we recently invested in original shows, we find that like over half the time people spend watching originals is on their mobile phones. We find that creators who are featured in originals experience a significant boost in YouTube subscribers and watch time on their main channels as well, often from new fans. So all of this shows us that the enthusiasm which is there for the platform, how creators can do unique things which are different from what they can do on other platforms. And I think that's what gives us the differentiation here. And in these areas, we are just getting started, and so there's a lot more to come. And I think that will help us provide better economics for them, better engagement for them, and I think positions us well.

**Anthony DiClemente - Nomura Instinet**

Thank you both.

**Operator**

Thank you. And your next question comes from Ben Schachter of Macquarie. Your line is now open.

**Benjamin Schachter - Macquarie Capital ([USA](#)), Inc.**

Sundar, when we think about virtual reality and augmented reality, from your point of view, what are the key steps that are needed to see more mass market appeal and usage? And could you help quantify the amount of investment that you are willing to place in this area before you expect to see a payoff? Thanks.

**Sundar Pichai - Alphabet, Inc.**

So I think obviously you're seeing we are very happy with the progress we have seen with Daydream. Just like we built Android, we are good at building platforms and ecosystems, and I think we are taking the right first steps with VR there as well. When I broadly look at VR and AR, I think all of us clearly understand the potential, and technically we are making the breakthroughs that are needed. And all of it needs to converge, from a hardware, software, services standpoint, to a stage where it has mass-market appeal. And I think that is still some ways away.

The thing which gives me excitement is all these changes start happening with a set of early adopters and moves mainstream, and so we're engaging at that level with the early adopters. And that's where Daydream is working well. We are learning how to write great content on top of VR. YouTube, Google Earth VR, Tilt Brush – these are all great examples. So underlying technology wise, be it all the kinds of sensors and tracking you need to do, the machine learning and AI you need, things like voice recognition, everything – it's just a computing evolution, so everything we are investing today in machine learning and AI, as well as what we're doing in our computing platforms, transitions well. So I think we're already well-positioned to play this, and so I think we'll thoughtfully approach it. And we'll approach it more holistically.

**Operator**

Thank you. And our final question comes from the line of Colin Sebastian of Robert Baird. Your line is now open.

**Colin Alan Sebastian - Robert W. Baird & Co., Inc.**

Thank you. I guess just as a follow-up to the question on voice interfaces and personal assistant, something that Larry also called out in his founder's letter. It appears there are more tests around monetization, including transactions and integration with Shopping Express. I wonder if there's a view internally now as to how best to make that transition in a voice-first world towards monetization, towards voice and less tech spend and video-centric? Thank you.

**Sundar Pichai - Alphabet, Inc.**

We are very focused, actually, on the consumer experience now, and it's a good question. And we've always had these questions, be it the early days of Search or when YouTube was first built out. How do I see (58:09) experiences created, like will YouTube ever make money? And so I think if you go and create these experiences in a way that works at scale for users, the monetization will follow. And obviously – and the models will be different than what we have today, but I think we are squarely focused right now on delivering a world-class experience through voice and through Assistant.