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**Q3 2016 Earnings Call**  
**October 27, 2016**

**Candice (Operator):** Good day, ladies and gentlemen, and welcome to the Alphabet Q3 2016 earnings call. At this time, all participants are in a listen-only mode. Later we will conduct question-and-answer session and instructions will follow at that time. If anyone should require operator assistance, please press star then zero on your touchtone telephone. As a reminder, today's conference call is being recorded. I would like to turn the conference over to Ellen West, head of investor relations. Please go ahead.

**Ellen West, VP - Investor Relations:** Thank you. Good afternoon, everyone, and welcome to Alphabet's third quarter 2016 earnings conference call. With us today are Ruth Porat and Sundar Pichai. While you have been waiting for the call to start, you have been listening to Dua Lipa, a rising new pop star from London whose most recent single on YouTube has found fans all over the world and cracked the top 40 in the U.S. ahead of her debut album release early next year.

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 10K for 2015 filed with the SEC. Any forward-looking statements that we make are based on assumptions 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](#). 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, CFO - Alphabet and Google:** Thank you, Ellen. Our revenue of \$22.5 billion in the third quarter underscores the terrific performance of our businesses globally. For the quarter, our consolidated revenue grew 23% in constant currency versus last year, notwithstanding a challenging year-on-year comparison. Once again, the primary driver was mobile search with ongoing strength in YouTube, and important contributions from programmatic advertising and Play.

I'm going to present to you in the following order. First, review the quarter on a consolidated basis for Alphabet. Second, review the results for each of Google and Other Bets. Finally, I will conclude with our outlook. Sundar will then review our business and product highlights for the quarter, after which we will take your questions.

Beginning with a summary of Alphabet's consolidated financial performance. Total revenue was \$22.5 billion, up 20% year-over-year and up 4% sequentially. We realized a negative currency impact on our revenues year-over-year of \$196 million, or \$91 million after the benefit of our hedging program. Holding currency constant to prior periods, our total revenue grew 23% year-over-year and increased 5% sequentially.

Alphabet revenues by geography highlight the strength of our business around the globe. U.S. revenue was up 22% year-over-year to \$10.6 billion. U.K. revenue was up 5% year-over-year to \$1.9 billion, reflecting the meaningful impact of the decline in the British pound relative to last year. In fixed FX terms, the U.K. grew 18% year-over-year. Rest of world revenue was up 22% versus last year, to \$9.9 billion. In fixed FX terms, revenues were up 25% year-over-year.

GAAP, other cost of revenues, was \$4.5 billion, up 30% year-over-year. Non-GAAP other cost of revenues was \$4.2 billion, up 29% 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.

GAAP operating expenses were \$8 billion in the quarter, up 15% year-over-year. Non-GAAP operating expenses were \$6.5 billion, up 13% year-over-year. On a GAAP basis, operating income was \$5.8 billion, up 22% versus last year. The operating margin was 26%. Non-GAAP operating income was \$7.6 billion, up 24% versus last year. The operating margin was 34%.

Stock-based compensation totaled \$1.9 billion, up 30% year-over-year, and up 24% sequentially, primarily reflecting the step-up from our annual equity refresh for employees at the start of Q3. Headcount at the end of the quarter was 69,953, up 3,378 people from last quarter. Headcount growth is typically seasonally highest in the third quarter as new graduates join. Consistent with prior quarters, the vast majority of new hires were engineers and product managers to support growth in priority areas such as Cloud.

Other income and expense was \$278 million. We provide more detail on the line items within OI&E in our earnings press release. Our effective tax rate was 16%. Net income was \$5.1 billion on a GAAP basis and \$6.3 billion on a non-GAAP basis. Earnings per diluted share were \$7.25 on a GAAP basis and \$9.06 on a non-GAAP basis.

Turning now to capex and operating cash flow. capex for the quarter was \$2.6 billion, the substantial majority of which supported the Google segment. Operating cash flow was \$9.8 billion with free cash flow of \$7.3 billion. We ended the quarter with cash and marketable securities of \$83.1 billion, of which approximately \$50 billion, or 60%, is held overseas.

Let me now turn to our segment financial results, starting with the Google segment. Revenue was \$22.3 billion, up 20% year-over-year, which includes the impact of FX. In terms of the revenue detail, Google Sites revenue was \$16.1 billion in the quarter, up 23% year-over-year and up 4% sequentially. Year-on-year growth reflects strength in mobile search. We continue to have decent growth from desktop and tablet search.

YouTube revenue continues to grow at a very significant rate, driven primarily by video advertising across TrueView, with a growing contribution from buying on DoubleClick bid manager.

Network revenue was \$3.7 billion, up 1% year on year and flat sequentially, reflecting the ongoing strong growth of programmatic and AdMob offset by the traditional Network businesses.

Other revenue for Google was \$2.4 billion, up 39% year-over-year, and up 12% sequentially. year-over-year growth was driven by Play and Cloud.

Finally, we 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. Let me remind you that these metrics are affected by currency movements.

Total traffic acquisition costs were \$4.2 billion or 21% of total advertising revenue, up 17% year-over-year and up 5% sequentially. The increase in both Sites TAC as a percentage of Sites revenue as well as Network TAC as a percentage of Network revenue 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 slightly sequentially as a result of higher TAC for mobile search, offsetting the benefits of a revenue mix shift from Network to Sites.

Operating income excluding SBC was \$8.4 billion, up 19% versus last year for an operating margin of 38%. Google stock-based compensation totaled \$1.6 billion for the quarter, up 28% year-over-year. Operating income reflecting the impact of SBC was \$6.8 billion, up 17% versus last year and the operating margin was 30%.

capex for the quarter was 2.4 billion, reflecting investments in production equipment, facilities, and data center construction.

Turning to Other Bets, as we've said previously, we think it remains most instructive to look at financials for Other Bets over a longer time horizon because, as you have seen, quarterly revenues and expenses can be lumpy for three primary reasons. First, the Other Bets are early stage. Second, they represent an aggregation of businesses operating in different industries. And finally, they may be impacted by one-time items like partnership deals.

For the third quarter, Other Bets' revenue was \$197 million, primarily generated by Nest, Fiber and Verily. Operating loss excluding SBC was \$665 million in the third quarter. Including the impact of SBC, operating loss was \$865 million.

Other Bets capex was \$324 million in Q3, primarily reflecting ongoing investment in our Fiber business.

I'd like to close with a few observations on our progress since the creation of Alphabet just over a year ago as well as a review of our key themes.

As we've frequently noted, our move to Alphabet was motivated by our belief that revolutionary ideas drive the next big growth areas. Long-term success requires a commitment to making bets, putting the right talent and resources behind those bets, and remaining flexible and dynamic as we pursue them.

We believe our structure provides the transparency and oversight need to make smart choices about our investment opportunities, both within Google and across Other Bets.

As we reach for moonshots that will have a big impact in the longer term, it's inevitable that there will be course corrections along the way, and that some efforts will be more successful than others. Over the past year, for example, you have seen us make progress and accelerate our efforts in some areas while repositioning or taking a pause in others. We are taking the steps necessary to lay the foundation for a stronger future.

Looking ahead, first regarding revenue. Our revenue growth reflects our sustained investment in innovation. Within Google, this relentless focus has led to innovations across our advertising platforms that have driven continued strong growth on a very large base, while at the same time we're building new businesses to serve as sources of future revenue growth.

Most notably, Google Cloud is generating substantial revenue growth reflecting the ongoing momentum in the business as well as the enormous opportunity in this area.

And earlier this month, we launched a new line of hardware devices that, for the first time, brings consumers the best of Google through both hardware and software developed by Google.

As discussed previously, because most of our Other Bets are pre-revenue, the Other Bet revenue line provides only partial insight regarding our progress which we aim to supplement with insight regarding product progress. For example, at Nest, product innovations and improvements including the new outdoor version of the Nest cam are leading to increased consumer adoption of its suite of products for the home.

Our self-driving car team is making terrific progress in transforming mobility with our fleet of test cars recently passing the 2 million mile mark of autonomous driving. We are now testing our cars in four cities, enabling us to experience varied weather and driving conditions.

Second, as to expenses. As I mentioned last quarter, there are a number of factors driving higher TAC in both our Sites and Network businesses, and those factors persisted in the third quarter. The shift to mobile in Q3 remained the largest driver of the increase in Sites TAC as a percentage of revenue. We expect Sites TAC to continue to increase as a percentage of Sites revenue.

The growth in Network TAC in Q3 was due to the ongoing adoption of programmatic platforms by advertisers, which are subject to a higher TAC rate, a trend we expect to continue. Furthermore, with respect to Google's operating expenses, we remain committed to investing in the compelling opportunities we've identified.

Turning to Other Bets. We're building out these businesses systematically and thoughtfully, investing commensurate with requirements given the opportunities we see.

Before moving on from expenses, one reminder regarding the fourth quarter. As discussed in prior years, our marketing costs are typically weighted more heavily toward the back half of the year due to the holiday season. Relative to last year, we have an expanded portfolio of hardware products and, therefore, expect marketing costs to increase in the fourth quarter to support the line.

Third, regarding capex. At Google, the team continues to drive meaningful efficiencies in planning and operations for our technical infrastructure. With regard to capex investments for Other Bets, our fiber investment remains the primary driver.

Fourth, our balance sheet. Our balance sheet remains a powerful tool reflecting the strength of our cash flow, and thereby giving us the ability to invest aggressively to support our long-term growth. Our primary focus is just that, investing in the breadth of opportunities across Alphabet.

As discussed previously, our capital allocation framework begins with our outlook for the businesses, including a sensitivity analysis regarding potential capex and M&A, as well as a view regarding working capital and a prudent liquidity buffer. This framework further considers complementary uses such as a share repurchase. As announced today, our board has authorized us to commence a repurchase of our Class C capital stock of up to \$7,019,340,976.83.

In conclusion, in the third quarter we again delivered strong revenue growth while broadening our portfolio of products and services. Thanks to all of our colleagues around the globe for their ingenuity and passion for pushing the frontier.

I will now turn the call over to Sundar.

**Sundar Pichai, CEO - Google:**

Thanks, Ruth.

I don't think I can remember a busier time in Google's history than the past few months. We introduced the world to the Google Assistant, powered by our state of the art machine learning technology.

We unveiled a beautiful line-up of new hardware devices, including Google Home and the Pixel phone, which is getting great reviews. We launched a new messaging app, Allo, and a new video chat app, Duo. It's been an incredible quarter.

Through it all we are laser focused on the priorities I outlined earlier this year, and in the next few minutes, I'll quickly go through our progress this past quarter.

We feel well positioned as we transition to a new era of computing. This new era is one in which people will experience computing more naturally and seamlessly in the context of their lives,

powered by intelligent assistance and the Cloud. This transition is as significant as the move over the last decade from desktops to mobile devices.

As we have rolled out products like the Google Assistant, Pixel, Google Home, and Allo, we have gotten a glimpse of that future. And with our growing Cloud business, we are helping our enterprise customers take advantage of this new era of computing as well.

Today, I want to walk through our progress across Google's key focus areas and the success of our growing advertising business.

First, making knowledge and information accessible to everyone. We have long aimed to help people find the information that they want right when they need it, and sometimes even before they think to ask for it. We reached an important milestone in the journey this quarter with the launch of Google Assistant, which allows you to type or talk with Google in a natural conversational way to help you get things done, regardless of the device you're using.

We first introduced it in our smart messaging app Allo which lets you chat with the Assistant. You can even add it to a group conversation to help you and your friends decide where to go for dinner. Early adoption of Allo and Duo has been great and has exceeded our expectations.

And the Assistant is core to the Pixel phone and Google Home. With Google Home, you can ask the Assistant to cast a song to your living room speaker or turn on the lights in your kitchen. And with Pixel, by simply holding the home button, you can ask the Assistant to send a text to your mom or pull up pictures of your cat in Google Photos. I hope you all get to try them out soon. The Assistant is simple, easy to use, and it is just the beginning. It's going to get so much better. We are excited to bring new features to you across more of your contacts soon.

The Assistant is all possible thanks to our years of investments in computer science and machine learning. Our Knowledge Graph now understands our 70 billion facts about people, places and things in the real world. And just last month we announced our latest research on neural nets which has given us a huge leap in translation quality. This breakthrough will help us provide even more accurate translations for people around the world.

And before I finish talking about access to information, I want to highlight the important work that our teams are doing to help American voters stay informed about the upcoming election.

We've launched improved search tools to help voters get registered, find key deadlines, and learn how to vote early or by mail. We launched these in both English and Spanish. I don't speak Spanish, but I checked Google translate and I want to remind everyone "No se olviden de votar."

Second, moving to our efforts to bring more content to more places. Key to making information accessible is helping people find more great content across platforms like the Web, YouTube, and Google Play. Just recently, one of our key efforts to make the mobile Web faster, the open source project AMP, celebrated its first birthday. It's been embraced by a very broad range of publishers and sites around the world, covering more than 700,000 domains. One example, tens of millions of WordPress sites now have AMP pages with page load speeds up to 90% faster than normal in some

cases. We're also working on an initiative called AMP for Ads, a new approach to creating and serving ads with speed at the heart of the experience.

On YouTube, we continue to invest in bringing engaging content to the platform. We worked with many news organizations to livestream all three U.S. presidential debates, and we saw record-breaking interest from the YouTube community. In fact, the three debates rank as the three most viewed political live streams of all time on YouTube with over 8.5 million hours watched live, a 5x increase from the 2012 debates.

Election related searches on YouTube are also at an all-time high, with searches for U.S. election content up almost 550% compared to this time in the last election. And YouTube Originals, like the recently released *Single By 30*, remain incredibly popular and continue to drive subscriptions for YouTube Red. And in Google Play, earlier this summer we introduced Family Library, a way for up to six family members to share app, game, movie, TV show, or book purchases.

Third, powerful computing platforms and hardware. We have long been committed to building powerful computing platforms like Android, Chrome, and now Daydream in VR, so that people can have great experiences regardless of their device.

Taking a step back, we have always believed that an open, horizontal free platform like Android breeds more innovation, more options for users and better business models for partners. We open source our code, we build the most open APIs possible, and we work to create a sustainable, open ecosystem. With over 4,000 distinct Android devices, we are really proud of how so many partners are having success on the platform.

This quarter we began rolling out our newest update on Android called Nougat and shared that we are bringing Android apps to Chromebooks. We can't wait to see all of the incredible experiences that developers will build on Daydream, our newest platform for high-quality virtual reality experiences via smartphones. We also think there is an opportunity for us to more deeply integrate software and hardware together to deliver great experiences that we hope will also contribute to future innovation and development of the ecosystem.

Earlier this month, we launched a family of hardware products Made by Google, which, in addition to the Google Pixel and Google Home, include the Daydream View headset and controller; our premium TV-streaming device, Chromecast Ultra; and a new connected Wi-Fi system called Google Wi-Fi. This portfolio of products is an example of how we can marry the best of hardware and software to deliver the best Google experience to people.

Fourth, our increasing momentum in Cloud. As we focus our efforts in the Cloud, we continue to see strong customer engagement. Last month at our Horizon event we introduced a new business unit, Google Cloud, our unique and broad portfolio of products and services that let our customers operate easily in a digital world at the performance they demand.

Google Cloud includes Google Cloud Platform, our user-facing collaboration and productivity applications now called G Suite, all of our data analytics and machine-learning tools and APIs, and

the enterprise-ready Android phones, tablets, and Chromebooks that access the Cloud.

Our Cloud team has also been busy delivering new capabilities for our customers. We announced plans to expand to eight new Cloud regions in 2017, from Mumbai to Singapore to Sao Paulo to Frankfurt, with more to come.

We announced an enhanced video conference experience in Google Hangouts with an updated user interface, instant screen sharing, support for 50 participants, and a seamless integration into calendar. We've been using the same technology to power meetings at Google and are so excited to share the improved experience with our customers.

We also significantly upgraded Google BigQuery, our fully managed data analytics warehouse, and made Google Cloud machine learning available in beta to help businesses easily train quality machine-learning models.

In addition to building the best products and infrastructure, we are partnering with great companies. This quarter, we forged new partnerships with Okta, Box, and Accenture.

Our investments in machine learning continue to be a very clear advantage for Google Cloud, and we are helping customers apply ML in very concrete ways. For example, Ocado, the world's largest online-only grocery retailer, is using machine learning to categorize and prioritize customer emails which will help their support center respond to customers faster.

As we officially move into the Google Cloud era, our goal remains the same. We want to build a most open Cloud for all businesses and make it easy for them to build and run great software. The team is firing on all cylinders to create the best Cloud products in the industry for our customers.

Now moving on to growing advertising business, which is thriving in a mobile world. Our proposition to marketers on mobile is simple and is resonating. Our mobile properties, like Search, YouTube, Maps, and Google Play, are where people turn when they are actively interested in something. They are using our services because they want to actively watch something they are passionate about, or because they want to know, go, do, or buy something. They are super attentive and engaged. It's just like people used to be glued to their TV screen during primetime. Our services are primetime for the mobile world.

This matters for marketers because those prime time moments when people are actively interested and attentive are the perfect time for a brand to place their ads. For instance, hotel chain La Quinta now sees a third of their website traffic coming from mobile, and they use their hotel ads to help them reach travelers right when they are looking for hotel stays. They found conversion rates to be twice as high with Hotel Ads compared to regular mobile traffic, which is helping them capitalize on those primetime moments when travelers are on their phones and ready to book.

In video, YouTube continues to shine. More than a billion monthly users are watching hundreds of millions of hours every single day. YouTube has become the platform of choice for major brands, with a highly engaged audience, the best formats, and industry-leading measurement tools. Recent



research found that nearly half of U.S. adults between the ages of 18 and 54 say that at least once a month YouTube helps them in making a decision about buying something.

One format that's been working really well for advertisers are Bumper ads, which are snackable, six-second videos that help brands drive incremental reach and frequency. Brands like Universal Pictures have been pairing these shorter videos with their standard length ads on YouTube and they are seeing great results, especially on mobile.

We also recently announced expanded capabilities to show marketers how TV and YouTube campaigns increase Google and YouTube searches for their brand. From early tests, we have seen that YouTube generates almost twice as many searches per impression than TV generates. In fact, across our advertising business, measurement is a critical investment. We want to give marketers the best tools out there to close the loop between television and digital, online and offline.

For example, global retailer IKEA, with their agency iProspect UK, used our store visits measurement tool to see how effective their digital marketing campaigns were at bringing shoppers into their stores. By incorporating store visit data, they realized that more than 10% of the people who clicked on their search ads went on to visit a physical store, and that their ROI from online ads was actually five times higher than they had previously estimated.

We introduced even more measurement solutions at this year's Advertising Week in New York, helping marketers close the loop with new tools like location extensions and store visits measurements for the Google Display Network.

We have thousands of great partners who are getting terrific results from our products. I'm really pleased with how our business teams are working closer than ever with our advertising partners, agencies, marketers, and publishers. We can't succeed unless they do, and we have made a huge push to develop deeper partnerships and long-term win-win relationships. It's a big focus for us.

The wrap-up. It's been an incredibly exciting few months and a very successful quarter. We feel extremely confident as we move into a new era of computing and are thrilled to be working with our partners as we embark on the journey together.

I want to thank all of the Googlers around the world who worked tirelessly to turn ideas into reality for our users and partners. It's an honor to work alongside you every day. With that, I'll turn it back over to Ruth.

**Ruth Porat, CFO - Alphabet and Google:** Thank you, Sundar. We will now take your questions.

**Candice (Operator):** Thank you. Ladies and gentlemen on the phone lines, if you would like to ask a question at this time, please press star followed by the number 1 key on your touchtone telephone. If your question has been answered or you wish to remove yourself from the queue, you may press the pound key. Again, to ask a question at this time, please press star 1. And our first question comes from Eric Sheridan of UBS. Your line is now open.

**Eric Sheridan (UBS):** Thank you so much for taking the question. Sundar maybe for you, on the enterprise, thanks for laying out all the vision for the medium to long term on enterprise and Cloud. I think one of the big questions we get from investors all the time are where are the key areas you need to invest going forward in both capabilities to go to market and how those might evolve over the next couple of years.

And then maybe a second question for Ruth, which more housekeeping matter. Ruth, with highlighting the increased marketing expense on the product launches this year, were you referencing quarter-over-quarter or compared year-over-year when you also launched products a year ago? Thanks so much.

**Sundar Pichai, CEO - Google:** You know, on Cloud, let me talk about a few areas. You know, we have stepped up our partnering considerably so that we can offer our customers everything they want, and we have more vehicles for going to market. So scaling up through partnerships is a big area of focus and investment for us. We are also establishing a large Cloud machine learning group so that we can take advantages of working with our Cloud customers and make machine learning more accessible to all of them. I would say other areas are hiring across sales, engineering, and marketing. And as we head into 2017, I expect Cloud to be one of our largest areas of investment and headcount growth.

**Ruth Porat, CFO - Alphabet and Google:** And then on your second question, there are really two parts to the statement. One, pretty obvious, is that sales and marketing is seasonally higher whenever we go into the holiday season, and so year-on-year, I wanted just to accentuate the point that we expect this trend to be pronounced this year because we're expanding -- we're launching an even more expanded suite of hardware products. So it's really emphasizing the fact that the fourth quarter is higher, and even more so this year with the expanded suite.

**Eric Sheridan (UBS):** Thank you.

**Candice (Operator):** Thank you. And our next question comes from Heather Bellini of Goldman Sachs. Your line is now open.

**Heather Bellini (Goldman):** Thank you. Yes, I also wanted to ask a follow-up on the Cloud. I guess I was wondering, Sundar, if you could share with us kind of what milestones should we be watching for in this business? And then also, if you had to characterize -- you mentioned a couple different ones, but I'm wondering what type of workloads are you having the most success with in GCP and kind of what's on your customers' wish list? What are the things -- What's the top one or two things that your enterprise customers for Cloud might be asking for? Thanks.

**Sundar Pichai, CEO - Google:** Thanks, Heather. In general, you know, like, the way we see is that customers don't want to be locked in, and they want to make sure their workloads can work in and be managed by containers that run on any platform. So, you know, our virtual machines and containers, including, you know, excellent open sourced container management Kubernetes, which was developed by Google, offers that solution. So Kubernetes manages the provisioning, reliability

and auto-scaling of workloads. So we want to pursue a hybrid strategy, including on prem, and in all public Clouds. So from a customer standpoint, they will want to use an open-source workload management product, and Kubernetes can work with multiple customers. So that's broadly how we -- how we think about it.

**Candice (Operator):** Thank you. And our next question comes from Ross Sandler of Deutsche Bank. Your line is now open.

**Ross Sandler (Deutsche Bank):** Thanks, guys. Two questions. Sundar, first on the Alphabet kind of structure, high level. So there's been some incredible innovation that's come out of Alphabet, the various businesses, but if we look at something like Otto, which was acquired by Uber, or Niantic, which was the old Google Maps team, those were teams that were inside of Google that left Alphabet to start a new company and could have been, potentially, wholly-owned businesses of Google in a parallel universe. So do you think this structure is ideal for entire companies or is it just new products and new technologies that you see as the vision here for Alphabet long term? And then, Ruth, the second question, just on core operating margins for Google declined a little bit versus the prior quarter trend of increasing. Can you just give us some color on how much of that was due to mix towards Cloud and other things that might carry lower margin versus margin compression within the advertising business? Thank you.

**Sundar Pichai, CEO - Google:** Ross, on the first question, you know I would say, overall, when I look across Google and Alphabet, the number of areas where we've been able to build, you know, world class products and achieve scale and success, we today have over seven products which serve a billion users each. So I think our track record speaks there. And we generally want to encourage a culture of innovation, and that's what we focus on, and I think it is fine that some of them happen outside. So we don't view it as a zero sum game and we are very comfortable with how we approach it.

**Ruth Porat, CFO - Alphabet and Google:** And then in terms of the margin trends, so overall, operating margins year-on-year are up modestly on both the GAAP and non-GAAP basis, and that primarily reflects trends in Other Bets. I think your question was probably more within Google. The operating margin on a non-GAAP basis is down modestly year-on-year. That's primarily to other cost of sales as distinct from TAC.

The Google GAAP operating margins year-on-year and quarter-on-quarter do reflect the impact of the equity refresh that we called out last quarter that I talked about. I think one of the core things to your question is just is how we're looking at it, and our view continues to be that given the breadth of opportunities and our commitment to long-term revenue growth as we've talked about, quarter after quarter we do remain committed to investing in this growing set of opportunities, and we spend a lot of time trying to manage, you know, that revenue growth and, as I've said, manage expense growth with kind of the utmost respect for the resources deployed in getting the best return on those resources.

So there are a number of different factors in here. I think I mentioned one of the things as you're looking forward was the sales and marketing. And just to make another point, which I said in my

opening comments, we do expect ongoing gross margin pressure from higher TAC associated with mobile search and with programmatic. That does still result in more revenue and gross profit dollars but at a lower margin, and that's the other really important point with, you know, our starting point. We are continuing to invest, and we will point to the revenue and the gross profit dollars that come from that.

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

**Mark Mahaney (RBC):** Thanks, with the Google Home and the Pixel phones, are you rethinking at all your go-to-market strategy in terms of distribution and marketing? Google over the years has put out different hardware products. Have there been learnings from that that make you approach those two particular areas in Google Home and the Pixel phone line-up differently? Thank you.

**Sundar Pichai, CEO - Google:** Thanks, Mark. And as you point out, we've done hardware products over the years, but, you know, we saw an opportunity to bring all our disparate hardware efforts together in a thoughtful structure. I'm glad Rick is here, and we have been very focused on how we approach everything end-to-end so that we can bring together software and hardware for a great user experience. So along those lines, both Google Home and Google Pixel are important new efforts for us, and I think we will thoughtfully evolve our go-to-market strategy as well. These are important areas, and you already see with the Google Pixel, we have a deep partnership with Verizon, with which we are going to market in the U.S. And so we are constantly thinking about how to do this well, and you will see new approaches as we go through it more.

**Mark Mahaney (RBC):** Thank you, Sundar.

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

**Doug Anmuth (JPM):** Thanks for taking the question. Sundar, you talked about a lot of products across advertising and hardware. I think one thing we did not hear about was Maps, and I think you talked about it in the past as a billion-plus users and pretty massive engagement. So can you talk a little bit more about the monetization strategy here and how you can, you know, really sell more advertising here but also preserve the user experience at the same time and maybe talk about kind of the time frame that we could see more here? Thanks.

**Sundar Pichai, CEO - Google:** That's a good question. I mean, today, you know, a big part of -- you know, part of what you're seeing with our, you know, transition to mobile that's working really well, you know, the reason mobile search and mobile monetization works really well for us is because a lot of it is inherently local by nature. And the thing which helps us deliver a great local search experience is Maps, and so that's the direction we've always pointed in. We want it to be a great experience for consumers as Google Maps, but in terms of also, you know, really enhancing the local search experience. And I think you'll continue to see us pursue it that way. And over time, to the extent there are opportunities to create value within the application itself, we'll pursue that as well.

**Candice (Operator):** Thank you. And our next question comes from Peter Stabler of Wells Fargo Securities. Your line is now open.

**Peter Stabler (Wells Fargo):** Good afternoon. Thanks for taking the question. I wanted to ask one about Voice. Sundar, you talked about the success you've had in improving your natural language recognition, and we know that voice queries are growing quickly. I'm wondering if you can share your thoughts on how the increase in voice queries may or may not impact monetization going forward. Is it a risk or is the growth of voice queries much more skewed to less commercial activity? Just any thoughts there. Thanks so much.

**Sundar Pichai, CEO - Google:** Thanks, Peter. You know, from my standpoint, I look at it as, you know -- and if you look back in time, all this is -- you know, computing is becoming more and more important to people and so they are engaging with it more and more. So as we went from desktops to mobile, it's not like one replaced the other. The sum total of all of this, you know, it expanded the pie. I approach this the same way. I think as I see people using Voice, et cetera, they are interacting more with computing and with Google -- Google, too. So we view this as providing users more access across many different surfaces, many different contexts, being there for them when they need it. So in that -- in that view, I think it will all be a big positive for us, you know, going forward.

**Peter Stabler (Wells Fargo):** Thank you.

**Candice (Operator):** Thank you. And our next question comes from Brian Nowak of Morgan Stanley. Your line is now open.

**Brian Nowak (Morgan Stanley):** Thanks for taking my question. I have two. Just to go back to the voice search question, Sundar can you talk a little bit about if we do continue to migrate toward a world of voice search, just talk about infrastructure, potential building you need to put in place to kind of continue to monetize search in a voice world as well as you do in a phone or a desktop world. And then, secondly, could you just talk a little bit about where you are in the rollout of expanded text ads? I know you talked about a 20% bump to click-through rates. I'm just curious where you are now, kind of a pushout and is there any update on the click-throughs? Thanks.

**Sundar Pichai, CEO - Google:** On the first question, I think I briefly answered it before. In terms of, you know, we are thinking about the voice experience deeply end-to-end. You know, a lot of it is going -- you know, because of how we are approaching, you know, our core investments, both from a software and hardware standpoint. So we leverage it all to make it better. You know, so, for example, you know, even things like TPUs, which we talked about Google I/O, play a role into something like voice search you're talking about. And as we evolve the Google Assistant, I think Voice is going to play a major role that way as well. So we are in the very early days of all of this in relation to our overall volumes we see, and so I think we will be thoughtful about it. For example, the Assistant team talked about, you know, conversational actions as a way by which we can integrate third parties into the Voice experience.

So it's early days. And I think we'll evolve it a lot in the coming years. In terms of your second question around expanded text ads, you know, I would say, again, it's early. It's being adopted by advertisers across the board. We see both large and small advertisers using. For us, we find advertisers who actually spend their time being thoughtful about the ad creatives and extensively testing and optimizing for this new format. They find strong performance. So we're pleased with the progress so far, but the transition is going to take some time as advertisers get comfortable with it. But we are excited about it.

**Brian Nowak (Morgan Stanley):** Great. Thanks.

**Candice (Operator):** Thank you. And our next question comes from Anthony DiClemente of Nomura. Your line is now open.

**Anthony DiClemente (Nomura):** Good afternoon. Thanks for taking my questions. First one for Ruth. Heading into this quarter's results, you had called out the ad format change in the third quarter of last year, which had driven a step up in the year ago growth rate. I wonder, is there anything specific on the revenue side that you'd like to call out in terms of comparisons versus the fourth quarter of last year as we try to calibrate our revenue expectations for the fourth quarter, either in terms of mobile search, YouTube, or ad tech programmatic?

And then my second question is either for Ruth or Sundar. Can you just talk about the decision to pause efforts for Google Fiber. I'm wondering, was that decision more about financial discipline as you, I think, explained, Ruth, in your prepared remarks for the Other Bets or does it more have to do with the shift to wireless internet technology or point-to-point wireless which ultimately can take the place of a fiber or facilities-based infrastructure over time? Thank you.

**Ruth Porat, CFO - Alphabet and Google:** Okay. Great. Two good questions. So in terms of Sites revenue, we are very pleased by the strength. It was broad based. It had two real drivers. First, you know, our ongoing focus on improving the experience for advertisers and users. And we introduced a number of enhancements, including format changes in ad tools. I think the most important point is that no one enhancement came close to the magnitude of the changes that we made in the third quarter of last year. You know, that's why we kept calling out the 2015 change, and what's been gratifying is in the aggregate, the results reflect the benefit of ongoing innovation. But, you know, very importantly, it wasn't one particular item.

The second contributor is the secular shift to mobile, and we continue to benefit from that, be an important part of enhancing opportunities for engagement. As we look forward to the fourth quarter, I think that was part of your question as well. You know, I think the only thing to point out is that in looking at growth rates, we're obviously at a higher revenue base versus last year. So just that, to us, is an important point to -- maybe obvious, but important to note there.

You know, in terms of Fiber, the impetus for it was really about the opportunities that we see to focus on innovation and what does that mean if the objective with Other Bets is really these 10x opportunities. And when you go back to the initial impetus for creating the business, it was the Founders' view that there's a sizeable opportunity given the need for abundant connectivity on

networks that are always fast and always open, and we do continue to be committed to that vision.

The team had some important breakthroughs in new technologies. You noted the most important in our view, all that we're doing with wireless, but also technologies that are key to implementation, and we believe that both of those -- you know, a number things they're doing enhance both our effectiveness and efficiency. And so we wanted to focus on the potential with these efforts before we re-accelerate deployment. And it was about ensuring that we can take advantage of those before, again, pushing forth.

We are very active in a lot of cities. In the third quarter alone we rolled out four new cities, so that brings us to twelve cities across the U.S. where we are deployed, in construction or development, and we're making great progress in those cities. We remain very committed to growth across those cities. And then we also have a presence in six cities with our wireless acquisition Webpass.

So we're pausing for now our work in eight cities where we have been in exploratory discussions, but very much to your question, it's to better integrate some of the technology work we have been developing. And, you know, there's more detail on the cities on the Fiber site to the extent you want to go into those.

**Anthony DiClemente (Nomura):** Great. Thanks, Ruth.

**Candice (Operator):** Thank you. And our next question comes from Stephen Ju of Credit Suisse. Your line is now open.

**Stephen Ju (Credit Suisse):** Thank you very much. So, Sundar, it seems like from the outside looking in, the pace of product development and release seems to have accelerated while at the same time it seems like you're gaining efficiencies with the assets you are deploying to run your business and as your capex growth is moderating. So I'm wondering what concrete steps you may have taken to increase productivity or focus at the company and what you are doing now to continue to drive those gains going forward.

And separately, as you called out earlier, you are shipping an unprecedented amount of hardware devices. So as you think about what your portfolio, product portfolio might look like over the next five years or even the next decade, has the Pixel phone marked a change in direction for Google to become maybe more of an integrated software and hardware company? Thanks.

**Sundar Pichai, CEO - Google:** Thanks, Stephen. On the first thing, I would say, you know, we are very focused on our core mission, and we see a huge opportunity to do that, you know, in a unique way, thanks to what we view as a point of inflection with machine learning. So refocusing the company on a set of initiatives, recognizing that point of inflection is what has helped us really focus on things. And, you know, things like the Google Assistant are a manifestation of that, and you will see us continue to stay focused and innovate in a way that way.

In terms of hardware, you know, I think -- you know, in our vision, computing is becoming more and more integral. It's going to be there for users in many different contexts. And so to really think and

evolve it, you need to think about software and hardware together. That's where a lot of innovations happen. And so for us to push the paradigm, push the boundary, we're very committed to doing that.

So it's a thoughtful effort from us, but overall, as I said in my remarks, we deeply remain committed to building an open ecosystem because at the end of the day, we want Google to be there for every user everywhere. And to do that well, we want to work with partners and build a great ecosystem to make it happen.

**Ruth Porat, CFO - Alphabet and Google:** And just to add a bit more to Sundar's first answer, first response to your question about efficiency and as it's expressed through capex spend. I think it's probably helpful to add, you know, the pace of spend reflects the ongoing success of the team driving meaningful efficiencies in planning and operations for our technical infrastructure, and that's enabled us to support growing demand but at the stable investment level. We've talked about that on prior calls as well. But I think we're proud of what they have been doing there.

Some examples of efficiencies include improvements in server utilization and the use of machine learning that Sundar has talked about, and the deployment of innovations like our Tensor Processing Units that he's commented.

So the main thing is we're building greater productivity with existing machines. And what's important to note is that's not only good for Google products generally but it's also valuable to our Cloud offering for our enterprise customers.

**Stephen Ju (Credit Suisse):** Thank you.

**Candice (Operator):** Thank you and our next question comes from Ken Sena from Evercore SI. Your line is now open.

**Ken Sena (Evercore):** Thank you. Sundar, you mentioned a point of inflection within machine learning. Can you talk a bit more about the tradeoffs in the productization and sale of that inflection through Google Cloud versus leveraging that innovation yourself through Google Assistant.

And maybe for Ruth, any thoughts on potential future disclosures around the Cloud business? That would be great. Thank you.

**Sundar Pichai, CEO - Google:** On -- On the first one, look, I mean, I think we are -- I mean, this is -- you know, it's a big platform shift, and, you know, it has to be available for everyone. So, you know, we've always, just like we have done with things like Android, when we see platform shifts, you know, we provide Android to everyone. So, you know, that's the way we think about Google Cloud. We want to make sure that the -- this -- that all these new capabilities for machine learning and AI are available through Google Cloud to all our partners. We don't see it as a zero sum game. I think, internally, core to our mission, we see areas where we can execute, and we will continue to do that. But, you know, we want to do both, and we can do it thoughtfully well.

**Ruth Porat, CFO - Alphabet and Google:** And then on your second question, you know, we



constantly look to assess, you know, if or when additional data makes sense, given specific performance. And when we went through the third quarter results, that was -- has been our intent with all of the color commentary, you know, on Cloud. I guess the only other thing to add is the largest percentage growth year-on-year in our Other revenue line, and actually even across all of our revenue lines, was in our Google Cloud platform and that reflects the significant momentum in compute and storage.

**Ken Sena (Evercore):** Thank you.

**Candice (Operator):** Thank you. And our next question comes from Justin Post of Merrill Lynch. Your line is now open.

**Justin Post (BofA-Merrill Lynch):** Great; thank you. Sundar, I apologize if I missed it, but could you talk about machine learning in Search and how much it's making a difference over the last few quarters and how much you still have to go, how important that is to the revenues.

And Ruth, a couple questions. Any thoughts on whether hardware sales can make a difference to margins going forward? And also on the stock-based comp, how Google thinks about that expense internally. Thank you.

**Sundar Pichai, CEO - Google:** You know, on machine learning in areas like Search and even ads, you know, on Search we've had an effort called Rank Brain which is bringing Google Brain in the context of Search, and we made great progress on it but I would still -- you know, I would characterize it as very early stages in terms of the long-term impact we can have.

And generally, and similarly, we are in very, very early stages of incorporating machine learning, the newer machine learning systems in ads and again, that's the beginning of a long journey as well.

Overall, I think all of these systems are, you know, incredibly complex systems, you know, and they are hand-crafted systems over many, many years. Any, you know, so over time, I think machine learning will surface newer approaches and newer insights, and so we see it as a huge area of opportunity, but it will play out over -- over a period of time.

**Ruth Porat, CFO - Alphabet and Google:** And then in terms of the hardware family, I think Sundar has given a lot of color on that. It's still early days with rollout of some of these newer lines that we're super excited about, and so early to make a call on that, but certainly investing meaningfully in the line given the importance we see in this.

And then in terms of stock-based compensation, you know, we've always said we're going to remain focused on long-term revenue growth and that does require investing in talent, and we do believe equity ownership is a really valuable part of overall compensation consistent with alignment of interest. It's something we keep an eye on, and we're mindful of the full cost of equity-based compensation and certainly look at that as the part of the overall cost that we're investing in and across the businesses.

**Justin Post (BoA-Merrill Lynch):** Thank you.

**Candice (Operator):** Thank you. And our final question comes from Dan Salmon of BMO Capital Markets. Your line is now open.

**Dan Salmon (BMO):** Hi, guys. Good afternoon. Thanks for taking the question. Sundar, last month, Google was part of the founding group the Partnership for AI. And I was just curious to hear your thoughts on what your goals are for the group and how you may take lessons back to your leadership at Google. Thanks.

**Sundar Pichai, CEO - Google:** Look, I think, you know, I'm very, very glad to see the group come together. You know, we are in extraordinarily early days for AI, and it's super important that we approach it thoughtfully as an industry. I am encouraged to see the commitment across these companies. You know, our goal is to promote open collaboration, help the public understand AI and establish best practices in R&D, you know. Without something like this, I think ideas would develop in silos. So I think it's good to do this to promote and inform dialogue on AI.

And so I am pretty excited. You know, all along, just like with TensorFlow where we are doing this in an open way, and all the other things that we have done at Google, I think it's important as we work on new technology to contribute and to give back. And so in that context, I think all of this is personally very meaningful to me.

**Dan Salmon (BMO):** Thanks, Sundar.

**Candice (Operator):** Thank you. And that concludes our question-and-answer session for today. I would like to turn the conference back over to Ellen West for any further remarks.

**Ellen West, VP - Investor Relations:** Thanks to everyone for joining us today. We look forward to speaking with you again on our fourth quarter 2016 call. Thank you and have a good day.

**Candice (Operator):** Ladies and gentlemen, thank you for participating in today's conference. This does conclude the program and you may all disconnect. Everyone have a great day.