

Morgan Stanley Technology, Media & Telecom Conference

Company Participants

- Philipp Schindler, Senior VP & Chief Business Officer

Other Participants

- Brian Thomas Nowak, Research Analyst, Morgan Stanley, Research Division
- Unidentified Participant, Analyst, Unknown

Presentation

Brian Thomas Nowak {BIO 16819013 <GO>}

Good afternoon, everyone. Welcome to our afternoon discussion with Alphabet. We are thrilled to have Philipp Schindler with us this afternoon.

We have a series of disclosures and everything else to read. So first, I would remind, all important disclosures, including personal holdings disclosures and Morgan Stanley disclosures, appear on the Morgan Stanley public website at www.morganstanley.com/researchdisclosures or at the registration desk.

Now the safe harbor. Some of the statements made today by Mr. Schindler may be considered forward-looking. These statements involve a number of risks and uncertainties that could cause actual results to differ materially. Any forward-looking statements that Mr. Schindler makes are based on assumptions as of today. And Alphabet undertakes no obligation to update them. Please refer to Alphabet's Form 10-K for a discussion of the risk factors that may affect actual results.

Philipp joined Alphabet in 2005. You're Alphabet's SVP and Chief Business Officer. You oversee all of global and regional sales and business activities for Google Search, YouTube. You drive revenue across all services across all the countries. I think you landed probably about a couple of hours ago and was stuck in traffic. So thanks a lot for coming.

Philipp Schindler {BIO 21014597 <GO>}

Yes. We have a very nice weather here in San Francisco, as usual. So (not easy) if you fly in. We made it. We made it.

Questions And Answers

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Google Map got you here. So the first one I wanted to start with just because I think it's always interesting to sort of hear what happens kind of behind the scenes at the Alphabet machine. So maybe talk to us about the scope of your role, what you do kind of on a day in, day out basis and sort of your 1 or 2 top priorities for 2019.

A - Philipp Schindler {BIO 21014597 <GO>}

Look. So first of all, my #1 focus obviously has to be our revenue growth. And the way we achieve this is actually quite interesting because we cannot grow our business successfully unless we really made our partners, our customers, our advertisers successful as well. And just to dive really deep into this right away, take a look at most of our contractual structures. Most of our business structures are based on some form of CPC, ROI, CPV type of relationship. So unless we make our partners or our customers successful, unless we can help advertisers successfully transition to the digital world, unless we can grow our creator ecosystem, unless we can grow our app developers, we really cannot grow ourselves. And this is a very big part of the area I focus on, number one. The second one is all of our services business, I run our technical operations, consumer operations across the world. And we're a very, very large business. By now, we have over 90 products in 25 different languages. I think we have a service, call or chat per second at least across the world, not even counting all the online web interactions. So how do you get ready for a world of this scale? How do you deploy machine learning? How do you get your services operations ready for that type of user interaction? And obviously, the growth environment that we're in, that's the second big one. The third one, third area of focus is our country operations. I run our country operations across the world. So how do we efficiently, effectively run all of those countries? How do you put a lot of focus on high growth markets like India and Brazil that we have, for example? This is a very, very big pillar of our work. And the fourth one is really around, I'd say, leadership and operational rigor. We're undergoing all of those business at the moment with a pretty robust growth rate. And if you take a look at the level of leadership you need to be able to operate in such an environment, it takes a lot of energy. It takes a lot of effort. That's one. But also the operational rigor, I'm not sure that's something that is so known to the outside world. But we really try to run our world a little bit like mission control, like space shuttle control center, or I don't know, maybe it's SpaceX now or Blue Origin or whatever it's called. But we take a very data-driven approach to how we actually run our business. So we have incredibly detailed dashboards. We deeply understand not only the revenue distribution and composition across the world but all of the leading indicators that are necessary for us to predict where things are going. And we do a lot of what we call spread management. So because we run the business across so many different countries, we can exactly tell here's a certain part of the business that's doing well in some country. We can cut it down to country level. We can actually cut it down to team level. And we can see whether some of it is really successful and what the spread is between the best and the worst across the world. And so we can really try to learn from the best and we can just increase the worst. And we do this very, very consistently and in a really, really data-driven approach to help me run this. And maybe just to give you a simple example, we know, for example, that our customers will benefit if they move their bidding systems to the next generation of machine learning to what we call auto-bidding or smart bidding. So we have a very deep

understanding what the percentage in our customer base, in our portfolio is when it comes to smart bidding or auto-bidding penetration. So we know exactly who's the best in the world. We know exactly who's the worst in the world. And we know exactly how much value can be generated for advertisers or how much value that over time has been generated for us by moving the worst to the best and by actually obviously also increasing the best a little bit more. So we do a lot of this spread management in a very, very rigorous way. The operational rigor is one of the biggest areas that I focus on.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Understood. That's a lot, irreplaceable. Yes, \$100 billion of revenue, plus or minus on an annualized basis. I guess when you mention all different products, I thought the automated bidding was a good example of kind of where we want to go. I'd be curious to hear about sort of the process that you take internally when you think about trying to push new advertising units or new monetization opportunities on the platform? And this is sort of a debate that we have a lot of time on Wall Street about the addressable market for ad dollars. How do you think about sort of the amount of dollars that are available to be captured by Alphabet?

A - Philipp Schindler {BIO 21014597 <GO>}

So a couple of different things there. First, the addressable market side, there's a lot of misunderstanding about it because people usually refer to the total above line advertising market, which is more or less the traditional television and a bunch of adjacent areas. It's usually being described as \$500 billion, \$0.5 trillion market in size. Let's not forget there's a huge different chunk, which is below the line market and there are different estimates of how high this is. There are a lot of people saying it's at least equal the size, if not higher. Actually -- I actually agree with this. Then you have to look at other.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

You agree it is bigger?

A - Philipp Schindler {BIO 21014597 <GO>}

Well it's equal to the size, would be above the line, if not bigger, potentially. Then there are adjacent markets that are slightly overlapping. But if you look at the fact that still 90% of commerce is offline, there's a big opportunity obviously in this environment. And in general, I don't think about it in the sense of traditional advertising. I think we are actually in the business of connecting businesses to consumers. And as long as the business generates a positive ROI and search advertising is obviously -- one of our main markets, is providing incredibly positive ROI for our advertisers and it's actually working. And I hope all of the other business that we invest in and represent are actually adequately investing and understanding the ROI that they generate for them. But the reality is it's working really well. So as long as the ROI is positive, I don't think we are really limited in the way we should look at our markets. And our market sizes. When we look at maybe the second -- first part defining of your question, when you look at our core business, I usually try to decompose our business, especially the Search business, into the different

components. So when you look, for example, at core search, #1 part of that decomposition would obviously be all queries. Maybe we'll park that piece for a second. The next big piece within that is obviously our ad coverage. If we go a little deeper of how we run it actually internally. Our ad coverage is obviously not at 100%. So we're trying to provide the best answers. We're trying to provide the most meaningful answers to consumers. But the reality is there's probably an interesting development path if you think about that metric. The next one is our -- what we call our customer -- our click-through rate as the next big part of that decomposition. On the click-through rate side, again, very, very similar question you should ask yourself, what's the upside? What's the improvement area? Are we telling about fixed rates somewhere towards 100%? Obviously not. What can we do to creative to make them better? How can we deploy machine learning to make CTRs better? Very, very interesting areas of development you see in this world. Then the last big driver of our core Search business is obviously the whole world of our CPC, our customer click, what are people willing to bid. And in this environment, one of the biggest drivers of the CPC is the world of conversion rate. So again, very, very similar development here. If you take a look at the world of conversion rates, what's the upside, I mean, you are investing in a lot of comparable business, probably you have a deep understanding of conversion rates. I don't think anybody would say we're coming in close to a world of 100% conversion rate. It's probably not even a fraction of that. But if you think about the upside of what can be done by accelerating mobile website, loading speed, by making payments easier, making transactions easier, making discoverability easier by using better UI, there's probably significant upside, which will then right away, basically, positively influence our CPC development. So I can look at it from a total addressable market perspective, connecting businesses to consumer. I can look at it from a detailed decomposition of our Search business. I think there's a lot of interesting potential there.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

On the point of Search, I have a few I wanted to ask you. So let's start with mobile search, where over the last few years, you mentioned the ad coverage. We've seen the number of ad units increase. Then in the case of mobile search, last couple of years, there's been a series of other innovations as well that at least we think have helped drive better mobile search monetization. As you sit in your seat, what are 2 or 3 of the products that you're most excited about to continue to drive the strong mobile search monetization as you go into '19 and '20?

A - Philipp Schindler {BIO 21014597 <GO>}

Yes. So first, you have to keep in mind, we are launching roughly around 100 enhancements to our core search product probably per quarter. So that's a very, very significant number. Then the second part of the question that I'll talk about are really the things I'm the most excited about. So what is really the upside? Again, we'll talk about, first, potentially a little bit later in terms of the overall development. But how can I drive ad coverage? What is the upside on CPCs? What's the upside in click-through rate? How can you help all partners, the ecosystems, the advertisers, agencies, other partners that we work with to be better in all of those things. And we have pretty significant investment in all of those areas because of what I just described. I feel there's a lot of room for improvement there.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Is it from the desktop side? Because the desktop is -- sometimes we focus on all these tech companies as I'd like to think about. How are you doing in your oldest business? And we think for the desktop search business, that's a 20-year-old business. That's about \$40 billion annual revenue, still growing. We think high single, maybe even low double digits in some quarters. That's pretty impressive. How have you been able to do that from just a monetization perspective? And as we transition towards mobile and into voice, how do we think about the desktop monetization potential?

A - Philipp Schindler {BIO 21014597 <GO>}

That's a great question. Always keep in mind, just because a new platform comes along does not mean that the other platform fundamentally disappears. And there is no doubt that obviously mobile and the mobile revolution has significantly increased the amount of interactions with mobile devices. But the reality is also that desktop is still a very robust business. Just to give you a feel, there's a lot of use cases, which are mostly high involvement use cases where you want to do complex travel bookings, where you look for a new life insurance, other insurance types and so on, where the desktop business is actually very, very robust. And my expectation level is that it will actually -- is here to stay for quite a while. When you take a look at the future, you're exactly right, the next revolution, evolution, whatever you want to call it, after the mobile one or in parallel to the mobile one kicking in is obviously everything that has to do with Voice Search or Assistant in the broader context. And if you look at our efforts in this area, we have an Assistant products that is roughly on 1 billion devices. At the moment, we have 20% of our queries in the U.S. on Android - on the Android mobile app coming already from voice. So it's definitely a trend that is not only emerging but is also already happening at a very, very significant scale. It's happening across multiple different surfaces. It is the expectation level that the amount of interaction with digital devices by having a much easier to use voice-controlled interface, that this level of interaction will increase. You can probably assume that this will be the case. Will more things that you've done historically in the offline world transition to those easier user interfaces across all those different surfaces? And with that, I mean whether it's your mobile phone, whether it's your mobile device, whether it's your speaker, whether it's your car, whether it's your smart device and different other types. Yes, of course, I mean, that's a very interesting development. The challenging part about this is in general, that the smaller the surface areas, the surface area, the higher the expectation level from the consumer for very high-quality results, whether it's organic or an advertising result. But that's something we're actually historically very good at. So very simple example, you look at desktop, you have (10 billion links). You have a look at mobile, you have a lot less. You look at our system, that only gives you one single answer. The consumer expectation level for the quality of this answer will be significantly higher. The obvious follow-on question would then probably be, well, in a voice in, voice out world, where you only have one single answer, how do you build your monetization model? And I think it's really important to understand in that context that Assistant does not only mean that you have a voice in, voice out model. But for so many use cases going forward, especially commercial use cases, I think we will actually see voice in, display out as a much more interesting use case. And you can see already smart speakers emerging. You can think about a lot of other areas where you actually

talk to some sort of digital assistant. But you get a visual back and very simple example, right, if you're interested in buying a new nice jacket and you ask the Assistant, "Hi. show me the nicest, whatever, blue jackets that are available in my site category," like would you want the speaker to say to you, "Well I have blue jacket A and B and C," or would you rather have a really nice picture being displayed? Then we're in a world, I think, that we're very comfortable with where you have visual results, where you can really do amazing discovery experiences and then where you have room for advertising, of course, or call them really interesting commercial experiences as well. So this business is roughly how we think about the evolution from desktop to mobile to Assistant, different surfaces, different output factors, by the way, different input factors as well. Voice does not need to be the only input factor for an Assistant. You can think about a world where you use something like Google Lens, video, pictures as an input factor to an Assistant. So it's different input and actually different output, depending on what users actually feel more comfortable with.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

That jacket example actually may have -- you might have answered the next question. But I don't -- perhaps not. So you've been investing in shopping search for quite some time between the Shopping Actions, Google Express, the Product Listing Ads. And now you mentioned Voice Search. So is the next steps really to capitalize on shopping? Do you need a visual interface? Or how do you really deliver more value to advertisers from a search shopping perspective?

A - Philipp Schindler {BIO 21014597 <GO>}

Well I mean, on the mobile device, we have -- on the desktop and on the mobile device, we have a pretty visual interface, right? That's already working well. And we have a lot of really nice shopping products. If you look at our Product Listing Ads as one, we have Shopping Actions, for example, that we've launched, where we've seen a 7x increase or something in the number of merchants participating, including a number of very, very big merchants, Nike, Best Buy, Sephora and so on, really nice development. We have obviously the ability to measure sales lift at a much different scale now. I think we're talking about somewhere in the area of 10 billion-plus transactions that we've measured already in this environment. We talked about Google Lens that you can use as an input factor into all of these. So we have a lot of really, really interesting products in this area. The reality is also now if you look at an existing PLA product, which is probably the biggest product that we have at the moment, the Product Listing Ads in this environment. And if you look at a shopping query and if you look at how you -- left and right, swipe through a little carousel, would I describe it as the best discovery experience ever developed in the world of mobile shopping? Probably not. So we're spending a lot of time and energy in thinking about how can we make this a bigger, better, richer visual experience, better consumer experience overall. So I'm actually pretty excited that there is, to put it positively, upside in the UI development and the user experience there.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Let's go back to the Voice Search point, you -- voice, there's a lot to talk about Voice Search and services. Is it a threat to Alphabet? Is it an opportunity for Alphabet? How

do you think about kind of Voice Search and sort of the steps that it needs to kind of make it -- the chasms it has to cross to actually be a real monetization opportunity?

A - Philipp Schindler {BIO 21014597 <GO>}

Well I think about Voice Search in the context of the Assistant development that I just talked about, well knowing there's a tiny little difference, depending on how you define it. But if you look at the evolution again from the platforms, from desktop to mobile to the more assisted interactions with computing interfaces, that's where something that Voice Search fits for me. So my assumption is if this Assistant environment with computing interfaces becomes easier to use and more ubiquitous, we will see a lot more of it. We will see it be a lot richer. We will see a lot of visual output factors. Again, the use case -- we'll go even to the simplest use case, what's the weather forecast for the next 10 days. Do you really want the Assistant to read to you it's going to be rainy on Monday and Tuesday and Wednesday and go on and on? Or do you just want to have like some sort of projection or picture or something on your mobile device triggered or something that is on the television in the nearby room because you're aware that it's in the nearby room in a privacy-sensitive way, obviously. So there's so many different ways of how you can think about Assistant services and very rich answers and then we're exactly in the world that we deeply understand, which is very similar to the monetization models that we actually run today.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Got it. The other thing in search I want to talk to you about is the idea of the Discover feed and the activity cards to your point of making search more visual. What have been sort of the early learnings of those products? And how do you think about sort of building advertising and really helping advertisers buying demand through those products?

A - Philipp Schindler {BIO 21014597 <GO>}

Yes, I mean, those are great products. I think we have -- on Discover feed, we have like 800 million monthly actives at the moment. So that's a nice number. And it's a feed that tries to understand the consumer well obviously and give really relevant results for you. And whenever you understand the consumer well. And you can create also interesting commercial experiences around it. So that's definitely something we're thinking about and something we're excited about. I would think about it very comparable to how we run some of our traditional search systems at the moment.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

YouTube, you do have a video product through YouTube that is on a certain number of TVs. So you're well positioned from that perspective. We still think based on our (authorized) data, YouTube is still destination #1 when it comes to online ad-based video. Strong reach, strong engagement. Maybe talk about some of the recent ads you've rolled out on TrueView that -- around YouTube, we've heard about TrueView for Reach, TrueView for Action. How has that changed the advertiser discussion

around YouTube? And talk to us about the real drivers of YouTube's revenue growth from here.

A - Philipp Schindler {BIO 21014597 <GO>}

Yes. So YouTube has always been a really interesting platform for brand advertisers. And what we've really tried to develop over the last few years is also the ability for YouTube to cater to performance advertisers. And we've invested in this pretty meaningfully over the last few years. And it's actually worked really well. And the reason for that is if you look at what consumers are actually using on YouTube, I mean, there's a significant amount of how to do something, how to learn something. Incredible. I mean, let me ask you, I mean, who here in the room -- I can just see who is paying attention, who here in the room has actually, at one point, used YouTube to either search for something they want to get better at or to research a certain product? Yes. So just for everybody on the audio, I think that's probably 90%-plus, how to become a better financial analyst, whatever. I mean, there's a lot, how to become better at running a Google business guide also probably out there. But the reality is there's a lot of really, really, relevant information out there, which obviously, once you get some of the systems infrastructure right, we have some challenges around conversion tracking and so on. So it wasn't an easy path. But the reality is, I mean, it is working. It's working extremely well for performance advertisers. I think we have over 30% of our advertisers are new to -- the ones who are now using our performance product to YouTube and so on. I'm actually very excited about that part of the development. Then obviously, let's not forget YouTube is still great for brand advertisers. I think we have more 18 to 49-year-olds on YouTube than the top 10 primetime shows in the U.S. combined. I mean, those are pretty meaningful numbers. So brand very well established the performance business. And I mean, this is not something that just had happened like this. I mean, with Universal App Campaigns, I think we started in 2015, roughly, tapping into the performance and then the TrueView for Action, which we launched, I think, in March 2018, if I remember correctly, about a year ago, is exactly the discussion that we just talked about. So yes, it's a very exciting environment.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

And new group of advertisers. The map that probably got you here, sometimes I say it's the most under-monetized asset that I cover, it's the Google Map. It's almost like a utility we're just kind of waiting for you to put the switch on. And I guess there's been some early map monetization experimentation over the last couple of years via the sponsored links, via the promoted pins, et cetera. Talk to us about sort of the early learnings of the map monetization products. And what are the puts and takes that you make internally to decide how quickly to push the cadence of monetization on that?

A - Philipp Schindler {BIO 21014597 <GO>}

Yes. So Maps, there's a lot of different angles how you can look at Maps. And I think the easiest way to do it is by differentiating between the different consumer use cases. And there's obviously the angle where you use Maps to basically get to a certain destination very, very quickly. And that's the very much utility use case. And you need to be really cautious that you don't interfere with the consumer experience

on this one because the consumer wants to get really quickly to their destination and wants that information quickly. But once they have an understanding of the destination, then there's obviously an interesting monetization model that you can develop around this. The second big one is when you have people who are asking something around near me. Is there something near me? Is there something around it? And if you look at some of our latest products that we've developed like our local campaigns, by the way, based on a lot of machine learning and then using some of the advertising products that you just described, I think that's quite an interesting area if we think about it like this. The third one is really the more broader discovery element. I want to discover something around me, not directly near me. But in the broader sense, you could think about personalized recommendation. You can think about, again, in a privacy-sensitive, opt-in way, basing it on places you've already visited historically, make your recommendations and then take this into a completely different world. And I think the fourth area to think about is the world of what we call Google My Business, the SMB world, the discovery for all of the small businesses that are around you. How do you tie this into it and make it a really seamless, easy experience? So I think if you think about Maps monetization, from those 4 different angles, a little bit more caution obviously on the first one, not disrupting the utility aspect. Then all the other 3, I think, really, really interesting playground going forward.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

There's sort of talk about how machine learning almost is overused buzz phrase. I'm saying it, not you. But I guess just sort of to simplify it for someone like me, can you just give us some examples of how you use machine learning internally to improve the overall user experience, the advertiser offering and then even the value you bring to partners and publishers? Just give us some examples of what goes on internally to use machine learning.

A - Philipp Schindler {BIO 21014597 <GO>}

On the user experience, there's so many examples. I mean, everything from how Google Photos operates to what we do under the hood for spam detection and so many other things. I mean, there's a gazillion examples of how we use it on the user experience. So let me focus on the monetization side and the -- at the advertiser and partner experience. The most interesting areas are probably where we've completely revolutionized some of our apps products like Universal App Campaigns. This is fundamentally built around machine learning. You have it with Smart Shopping Campaigns today. You had something which we've launched a while ago, which we call responsive search ads, where we're now trying to tackle the creative problem and try to basically be much better at predicting what are good creatives, rewriting creatives completely as rethinking the world of creative in the digital environment, which by the way, goes back to some -- remember when I decomposed at the beginning our core business and talked about CTRs and so on. You can think about when those things come together, what those developments could be. So those are all different products. You can also uplevel a little bit and you can just ask yourself, okay, how can I use machine learning to either be better at finding audiences in general so I have the right message for the right audience, the right creative disposition to react to a certain advertising message obviously on the audience side. Again, you can think about it from a creative perspective. The other big color in

advertising, I just talked about it. Then the big third one is obviously bidding because the fact that the machine learning algorithm should be significantly better and is significantly better at bidding than most humans, most traditional systems is pretty obvious. So if you think about it from an audience creative or bidding perspective, those are also really, really interesting areas where we applied and frankly where we've applied it for quite a while. Our advertising team is very, very sophisticated in using our latest machine learning developments to basically then apply them to those different areas. And I see a lot of interesting things there to come.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

With the CTR, the ROI for advertisers, a lot going on. One of the assets that, I think, almost doesn't enough attention sometimes, this is my view, is the Google Play store. This is an asset that you power up billions of Android users. You're taking, depending on the structure, 15% to 30% cut on the transaction. I think that's a pretty good business. A couple of the big debates that go on, your perspective. First, what are 1 or 2 of the biggest areas of innovation that's needed in the app store? Then number two, how do you think about the potential to restructure some of those commission rates and maybe even lower them to help publishers get more exposure or kind of get out with a lower take rate?

A - Philipp Schindler {BIO 21014597 <GO>}

Look, the way I think about it is that developers or publishers or however you want to refer to all our partners here, they're getting an actually pretty significant amount of value from our investments here. And we're investing very heavily in this world, whether it is in the whole world of security and safety, massive developments to create a really clean and safe ecosystem. That's a very big area. If you look at all of our different developer programs that we're running, play the best console and so on, massive, massive investments on our side, really value creating for our developers out there. That's a big area. If you look at the whole world of payment, payment infrastructure, facilitating payments, making them easy, seamless. Another big world. If you look at, #4, the whole world of Discovery, recommendation engines, promotions of app, really appreciated by the developer ecosystem as well. So if you look at all those 4 big areas, I think there's a lot that they're getting back from this. So I actually feel we have a pretty good, pretty interesting setup here.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

You mentioned payments. And I would argue over the last few years, Alphabet's payment strategy has evolved somewhat. And as time goes on, as you sort of think about the importance of better linking transaction to an advertising dollar spent, payments is probably only going to get more important. So maybe talk to us about some of the learnings as you sort of rolled out Android Pay and different iterations over the past couple of years. What are sort of the 1 or 2 areas you really focus on for payments going forward?

A - Philipp Schindler {BIO 21014597 <GO>}

Yes. So what's really interesting, you mentioning it part of linking transactions to the advertising piece, which is what a lot of people refer to. I actually find the most interesting piece from the payments perspective sitting in the -- facilitating the transaction piece, accelerating it, making it easier. And again, this goes back to what we said at the beginning, if you start decomposing how our business really works, if you really want to drive up conversion rates, one of the biggest drivers at the moment, I mean, who of you here in the room has abandoned some sort of shopping cart process or similar purchase process simply because it was too difficult to use your payment credentials, right? So if you think about how you could drive, for example, conversion rate by just approving, simply payment flows in themselves, I think that's actually very interesting upside in all of this. So that's one. I think the other way of thinking about payment is it's really worthwhile spending time in emerging markets when it comes to payments. At the moment, I'm not seeing the most exciting development in the traditional established markets. I see a lot of really exciting things happening in emerging markets. And this goes even for ourselves. So one of our most successful -- one of our really interesting payment product that we have actually launched was in India, where we've taken a totally different look at payments. We created a conversational UI around payments. We call it Google Pay now. We used to call it Tez at the time. And it's a very interesting development because when you look at just the numbers at the moment, I think we're at the 40 million monthly actives on that product. We are processing on a run rate, I think, 60 billion in transaction processing at the moment. So I can see us actually developing payment in emerging markets and then taking them to more mature markets and then obviously thinking about value propositions to the user that actually goes significantly beyond traditional payment. There's so much more you can do, whether it's on the loyalty site, whether it's in a lot of different other areas. But I think to really make payments be successful, you need to create new value propositions in that environment. We work very closely obviously with banks and financial institutions. And yes, that's how we think about it. So interesting learnings from emerging markets on this one.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

And UPI has certainly helped a lot in India. I have a couple more questions. But we are going to open it up for Q&A. So if you do have questions for Philipp, raise your hand. There will be mic runners running. There's one over there. On the emerging markets point, completely agree with you from the advertising side, on the payment side. Alphabet's been a pretty, I would argue, aggressive investor to sort of make sure that you're well positioned in all of these emerging markets. Are there any other nonpayment, advertising opportunities that you see in emerging markets that potentially are just not being appreciated by the Wall Street community?

A - Philipp Schindler {BIO 21014597 <GO>}

It's interesting you asked this. Think about it slightly differently. Like I actually think like my #1 focus when it comes to emerging markets is actually making our existing core products successful or even more successful in the emerging markets because if you think about the upside from a Search perspective, from a YouTube perspective, from a Maps perspective, from an Android perspective and so on and so on, it is actually -- I think, it's pretty significant. Then, of course, we have differentiated investments in emerging markets. We talked about the payment example in India. To

give you another one, we created a product called Files, Files by Google, which also we launched in India and is actually now coming back to the U.S. And it's getting -- I think we're also in the 40 million monthly active range. And this one is coming back to the U.S. Really interesting, really interesting development as well. So this is just from a product perspective. But don't underestimate the role of our existing products in emerging markets, number one. Then to the monetization aspect, the advertising potential in emerging markets is also very interesting. When you look at most of those markets, it depends a little on the definition. But we're seeing transition growth rates from offline to online or digital growth rates by themselves in the 30%-plus rate in the overall market, not talking about ours specifically. But in the overall market. But don't discount or don't bet against that transition opportunity. Don't bet against all the SMBs in emerging markets that want to be connected to their consumers. Again, similar to the first point I made, we're in the business of connecting businesses, big focus on SMBs to consumers over time. So that's -- and then there's obviously local monetization opportunities that are probably evolving differently than in the mature markets. And that's why we have teams on the ground. That's why we have a lot of investments there because we want to make sure we don't miss them. And in many -- or in some cases, we might actually take them back then to the more mature markets. So yes, that's exciting but don't bet against our mature product and the traditional monetization systems there.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Got it. Last one I have, Jim and Ellen, like this discussion, regulation and privacy. There's never a shortage of topics. I sometimes joke and tell my boss I need to have a lawyer on my team just to sort of keep up with everything that's going on. So maybe just to your perspective, talk us through what you've seen in Europe from GDPR, pre-GDPR, post-GDPR, how have things changed or not changed and maybe any potential comments around potentially the copyright law in the EU.

A - Philipp Schindler {BIO 21014597 <GO>}

Yes. Look, I mean, we have been working with data protection authorities for many, many, many years. And we have been closely involved in obviously working through the GDPR challenges. Very, very interesting developments. We are -- of course, we're extremely pro privacy. We want to create a very privacy safe environment for consumers. Not a single doubt about it. So we were supportive of GDPR in that context. I think the most interesting observation in this environment was not so much the amount of time we had to invest. And we have invested a lot of time and energy in getting our systems ready for GDPR. But I think the most interesting observation was the amount of time and effort. And we maybe even underestimated that a little bit, how long it took us to help all of our partner ecosystem to get ready for GDPR, whether it's on the advertiser side, the publisher side, ad tech platform side, other industry consortiums and so on and so on. So I think we touched over 12,000 different players through the 1.5 years, two years that it took us to get ready for GDPR. I think the overall investment was something like 400 person years or something. So very, very meaningful. But we feel very comfortable with the effort we've done there. We've always valued privacy. We put it on an extremely, extremely high level. So that's GDPR development. You asked about the copyright piece as well. So on the copyright reform side, we've always been very clear that we're supportive of copyright reform if it's beneficial to a broader ecosystem, which means

it needs to be beneficial to users, it needs to be beneficial to creators, it needs to be beneficial to platforms, of course. The current development, I would say, that creates a certain level of uncertainty. It's far from clear how the implementation -- first, it still has to be ratified fully. Then it's far from clear what the detailed implementation on the member state side will be. So there's definitely some uncertainty around it. But I would say we're pretty good at managing uncertainty. And if you look at how we've managed through GDPR, where there was a lot of uncertainty at the beginning, I think we've done pretty well. I would say I trust our ability to do the right thing for the user and manage through large-scale complex uncertainties.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Questions for Philipp? There.

Q - Unidentified Participant

I want to go back to YouTube for a minute. Can you just tell us very roughly, let's say, look at the United States as a metaphor, how many people go on YouTube in this country every day? How much time, on average, those users spend on YouTube every day? And how would you measure your revenue per user as compared to traditional mass media with respect to time spent and revenue conversion?

A - Philipp Schindler {BIO 21014597 <GO>}

So if I recall the latest public numbers correctly, I think we have somewhere in the range of 8 -- 1.8 billion logged in users at the moment around the globe. That's the global number. I don't think we break out the U.S. number for YouTube. We have -- actually, it's really interesting. We have a very significant percentage of the watch time of those users by now on mobile devices. It's over 50% of the watch time that's actually sitting on mobile devices. Just to give you a few of the facts that we publicly shared. Our fastest-growing product, from a watch time perspective, at the moment on YouTube is our living room product. So watching -- you referred to it briefly, watching YouTube on a big television screen. And of course, we have a good understanding of our revenue metrics and what do you call marquee metrics or there's a lot of different ways you can look at it. So yes, we do understand those metrics quite well.

I think your microphone is off. I can't hear you.

Q - Unidentified Participant

We'd like to understand them also. I mean, how many people -- how do you measure -- how do we measure how much potential there is in YouTube? I know a simple example. My grandson doesn't watch TV. He's 12 years old, okay. He's either on YouTube or Netflix. He spends 2 or 3 hours a day using one or the other for 100 different reasons. So it's a lot of people. And that's the future. So what I'm asking you is help me in understanding what it means to your business. I'm sure you know that we like to understand that because we've got to make the investments.

A - Philipp Schindler {BIO 21014597 <GO>}

First of all, I'm very grateful for your grandson to be a passionate YouTube user. So thank you so much. The observation that you're sharing is an observation we're hearing quite often. And it's probably reflected in the numbers I just gave you. So I think the YouTube business is a very interesting business, if I look at exactly what you just explained. So thank you for giving us those insights. I feel that's a trend that is going to continue, what you're describing.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Question?

Q - Unidentified Participant

Google sits obviously on a lot of data that you mostly use now to monetize through advertising. So how do you think about using that data also towards other direction. So for example, in finance or other fields where that data could be monetized quite well as well?

A - Philipp Schindler {BIO 21014597 <GO>}

So let's be very clear. Our #1 priority is to keep our users' data safe and secure and handle it in the most privacy-sensitive way possible. And for this, we've invested really, really heavily not only in the last few years but for many, many years in the most -- one of the most sophisticated, I personally think the most sophisticated, privacy systems out there when you look at it from a transparency and control perspective, if you look at products like Google Privacy Dashboard, if you look at products like Google Takeout, which we launched, respectively, in 2009 and 2011 and so on. So that is our #1 priority. Of course, some of the data is used in our advertising systems. No doubt about it. There's nothing specific we have to announce at this time when it comes to using it in different environments. I cannot see us yet doing anything ever as a company that would violate the #1 principle I talked about, making sure everything we do is being used in a very privacy respectful way.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

(One more). I know you've been patiently waiting.

Q - Unidentified Participant

How do you think about...

A - Philipp Schindler {BIO 21014597 <GO>}

I can't hear you without the microphone, I'm sorry.

Q - Unidentified Participant

How do you think about the changing competitive landscape with Amazon and Instagram increasingly moving into e-commerce and product listings advertising within the last year or so?

A - Philipp Schindler {BIO 21014597 <GO>}

Whenever there's a new inventory pool that is being made available for advertisers that generates positive ROI for them, they usually take a look at this. And it's something they're interested in. That's healthy competitive dynamics. What we can see, especially in the cases that you mentioned, especially on the Amazon side, is a lot of the budgets that are being addressed at the moment are more trade promo type of budgets, budgets that historically have actually not shifted at the same rate and speed into the online world, even budgets that we didn't access so much historically. So that's actually something where you could say it's -- the discussion we had at the beginning around the total addressable market and how you think about it that this actually might accelerate the shift of offline towards online, which would be beneficial for the broader ecosystem, including ourselves. So that's how you should look at it. The interesting part of it is that a very, very significant percentage of all consumer journeys are still starting from a shopping discovery perspective on Google. So that's something we feel very comfortable about. Then we briefly talked about the fact that there's a lot more we can do in terms of UI and creating really amazing commercial experiences for users in such a shopping environment. So overall, I think we're in a pretty good position on this.

Q - Brian Thomas Nowak {BIO 16819013 <GO>}

Great. All right. Thanks a lot. Philipp, thank you so much.

A - Philipp Schindler {BIO 21014597 <GO>}

Thank you. Thank you. Very much appreciate it, thank you.

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