

Q3 2021 Earnings Call

Company Participants

- Dave Wehner, Chief Financial Officer
- Deborah Crawford, Vice President, Investor Relations
- Mark Zuckerberg, Founder, Chairman and Chief Executive Officer
- Sheryl Sandberg, Chief Operating Officer

Other Participants

- Brent Thill
- Brian Nowak
- Douglas Anmuth
- Eric Sheridan
- John Blackledge
- Justin Post
- Mark Mahaney
- Mark Shmulik
- Ross Sandler
- Youssef Squali

Presentation

Operator

Good afternoon. My name is France, and I will be your conference operator today.

At this time, I would like to welcome everyone to the Facebook Third Quarter 2021 Earnings Conference Call. All lines have been placed on mute to prevent any background noise. After the speakers' remarks, there will be a question-and-answer session. (Operator Instructions) This call will be recorded. Thank you very much. Ms. Deborah Crawford, Facebook's Vice President of Investor Relations, you may begin.

Deborah Crawford {BIO 5934723 <GO>}

Thank you. Good afternoon, and welcome to Facebook's third quarter earnings conference call. Joining me today to discuss our results are Mark Zuckerberg, CEO; Sheryl Sandberg, COO; and Dave Wehner, CFO.

Before we get started, I would like to take this opportunity to remind you that our remarks today will include forward-looking statements. Our actual results may differ materially

from those contemplated by these forward-looking statements. Factors that could cause these results to differ materially are set forth in today's press release, and in our quarterly report on Form 10-Q filed with the SEC.

Any forward-looking statements that we make on this call are based on assumptions as of today and we undertake no obligation to update these statements as a result of new information or future events.

During this call we may present both GAAP and non-GAAP financial measures. A reconciliation of GAAP to non-GAAP measures is included in today's earnings press release. The press release and an accompanying Investor presentation are available on our website at investor.fb.com.

And now, I'd like to turn the call over to Mark.

Mark Zuckerberg {BIO 15103277 <GO>}

Hey everyone and thanks for joining today.

We made good progress this quarter across a number of product priorities, and our community continues to grow. There are now almost 3.6 billion people who actively use one or more of our services, and I'm excited about our roadmap to keep building great new experiences for them. As expected, we did experience revenue headwinds this quarter, including from Apple's changes that are not only negatively affecting our business, but millions of small businesses in what is already a difficult time for them in the economy. Sheryl and Dave will talk about this more later, but the bottom line is we expect we'll be able to navigate these headwinds over time with investments that we're already making today.

Before I get to our product update, I want to discuss the recent debate around our company. I believe large organizations should be scrutinized and I'd much rather live in a society where they are than one where they can't be. Good faith criticism helps us get better. But my view is that what we're seeing is a coordinated effort to selectively use leaked documents to paint a false picture of our company.

The reality is that we have an open culture where we encourage discussion and research about our work so we can make progress on many complex issues that are not specific to just us. We have industry-leading programs to study the effects of our products and provide transparency into our progress because we care about getting this right. When we make decisions, we need to balance competing social equities, like free expression with reducing harmful content, or enabling strong encrypted privacy with supporting law enforcement, or enabling research and interoperability with locking down data as much as possible.

It makes a good soundbite to say that we don't solve these impossible tradeoffs because we're just focused on making money, but the reality is these questions are not primarily about our business, but about balancing different difficult social values. And I've

repeatedly called for regulation to provide clarity because I don't think companies should be making so many of these decisions ourselves.

I'm proud of our record navigating the complex tradeoffs involved in operating services at global scale, and I'm proud of the research and transparency we bring to our work. Our programs are industry-leading. We have made massive investments in safety and security with more than 40,000 people and we are on track to spend more than \$5 billion on safety and security in 2021. I believe that's more than any other tech company, even adjusted for scale.

We set the standard for transparency with our quarterly enforcement reports and tools like our political ads archive. We established a new model for independent academic researchers to safely access data. We pioneered the Oversight Board as a model of self-regulation. And as a result, we believe that our systems are the most effective at reducing harmful content across the industry. And I think that any honest account of how we've handled these issues should include that.

I also think that any honest account should be clear that these issues aren't primarily about social media. That means that no matter what Facebook does, we're never going to solve them on our own. For example, polarization started rising in the US before I was born. At the same time, independent research shows that many countries around the world have flat or declining polarization, despite similar social media use there to in the US. We see this pattern repeat with other issues as well. The reality is, if social media is not the main driver of these issues, then it probably can't fix them by itself either.

We should want every other company in our industry to make the investments and achieve the results that we have. I worry about the incentives that we're creating for other companies to be as introspective as we have been. But I am committed to continuing this work, because I believe it will be better for our community and our business over the long term.

We can't change the underlying media dynamics, but there's a different constituency that we serve that has always been more important and that I try to keep us focused on, and that's people. Billions of people use our services because we build the best tools to stay connected to the people you care about, to find communities that matter to you, and to grow your small business. And the reason we've been able to succeed for almost two decades is because we keep evolving and building.

Facebook started in a dorm room and grew into a global website. We invented the News Feed and a new kind of ads platform. We became a mobile-first experience. And then we grew a whole family of apps that serve billions of people. And there is so much more to build.

Even with all the tools we have today, we still can't feel like we're right there together with the people we care about when we're physically apart. We can't teleport as holograms to instantly be at the office without a commute, or at a concert with a friend, or in your parents' living room to catch up. The creative economy and commerce tools are still

nascent and there should be opportunity for millions of more people to make a living doing the work that they love.

Our three product priorities remain our focus on creators, commerce, and building the next computing platform. A big part of our work with creators is our focus on Reels. Reels is already the primary driver of engagement growth on Instagram. It's incredibly entertaining, and I think that there's a huge amount of potential ahead. We expect this to continue growing and I am optimistic that Reels will be as important for our products as Stories is.

We also expect to make significant changes to Instagram and Facebook in the next year to further lean into video and make Reels a more central part of the experience.

One aspect of this is giving all our apps the goal of being the best services for young adults, which we define as ages 18 to 29. Historically, young adults have been a strong base and that's important because they are the future. But over the last decade, as the audience that uses our apps has expanded so much and we've focused on serving everyone, our services have gotten dialed to be the best for the most people who use them rather than specifically for young adults.

And during this period, competition has also gotten more intense, especially with Apple's iMessage growing in popularity and more recently, the rise of TikTok, which is one of the most effective competitors that we have ever faced. So, we are retooling our teams to make serving young adults their North Star, rather than optimizing for the larger number of older people. Like everything, this will involve tradeoffs in our products and it will likely mean that the rest of our community will grow more slowly than it otherwise would have. But it should also mean that our services become stronger for young adults. This shift will take years, not months, to fully execute, and I think it's the right approach to building our community and company for the long term.

Our next product priority is commerce. Helping people discover new products that they're interested in and reach customers inside our apps is going to unlock a lot of opportunity. As Apple's changes make e-commerce and customer acquisition less effective on the web, solutions that allow businesses to set up shop right inside our apps will become increasingly attractive and important to them. We've built solutions like ads that can dynamically point to either a business's website or their Shop on our platforms depending on what will perform better for them, and that will help more businesses navigate this challenging dynamic -- environment.

Building a full-fledged commerce platform is a multi-year journey. Marketplace is already at scale and lots of people rely on it, especially now with supply chain issues that make it harder to get new products. Shops are getting more developed, and we have an exciting program planned for this holiday season where we're working closely with a number of the businesses that have invested the most in Shops to identify what works to find new customers and grow their business even faster. Our plan is to then scale those solutions even more broadly in 2022.

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Beyond Reels and commerce, I also want to share some thoughts on our longer-term efforts to build the next computing platform and help bring the metaverse to life. This is a major area of investment for us and an important part of our strategy going forward. And I view this work as critical to our mission because delivering a sense of presence, like you're right there with another person, that's the holy grail of online social experiences.

Over the next decade, these new platforms are going to start to unlock the kinds of experiences that I've wanted to build since even before I even started Facebook. Along with those social experiences, I expect a massive increase in the creator economy and amount of digital goods and commerce. If you're in the metaverse every day, then you'll need digital clothes, digital tools, and different experiences. Our goal is to help the metaverse reach a billion people and hundreds of billions of dollars of digital commerce this decade. And strategically, helping to shape the next platform should also reduce our dependence on delivering our services through competitors.

Building the foundational platforms for the metaverse will be a long road. We just released the 128GB Quest 2, replacing the 64GB model for \$299. With EssilorLuxottica, we released our first smart glasses, and they're off to a strong start as well.

But bringing this vision to life isn't just about building one glasses product. There's a whole ecosystem. We're building multiple generations of our VR and AR products at the same time, as well as a new operating system and development model, a digital commerce platform, content studios, and of course a social platform.

So, to reflect the significance of this for our business, today we're announcing a change to our financial reporting. Starting next quarter, we will begin disclosing financial metrics for Facebook Reality Labs separately from our Family of Apps. This will provide investors with additional visibility into the investments that we're making in augmented and virtual reality.

In 2021, we expect these investments to reduce our overall operating profit by approximately \$10 billion, and I expect this investment to grow even further for each of the next several years. Dave will share more about this later, but I encourage you all to tune into Connect on Thursday to hear more about our vision and our work here in more detail.

I recognize the magnitude of this bet on the future, and I am grateful for the support of our investors, the creative community, and the thousands of talented people working on this effort inside our company to bring this inspiring future to life.

And with that, here's Sheryl.

Sheryl Sandberg {BIO 15339456 <GO>}

Thanks Mark, and hi everyone.

This quarter our total revenue was \$29 billion, up 35% year-over-year. We saw solid revenue growth across all regions and we continued to grow our user base. We felt the impact of some big external factors in Q3. I want to explain some of the revenue softness we've seen, and what we're doing to mitigate the headwinds and help businesses over the crucial holiday period and beyond.

To start, let's take a step back. Over the past decade, we've seen more and more businesses shift online. When the pandemic hit, this digital transformation accelerated. We've invested in tools and products over many years to help businesses make this shift. So this acceleration drove very strong growth for us throughout the last few quarters.

We've been open about the fact that there were headwinds coming and we've experienced that in Q3. The biggest is the impact of Apple's iOS14 changes, which have created headwinds for others in the industry as well, major challenges for small businesses, and advantaged Apple's own advertising business. We started to see that impact in Q2, but adoption on the consumer side ramped up by late June, so it hit critical mass in Q3. As a result, we've encountered two challenges.

One is that the accuracy of our ads targeting decreased, which increased the cost of driving outcomes for our advertisers. And the other is that measuring those outcomes became more difficult.

On targeting, we're focused on improving campaign performance even with the increased limitations facing our industry. We're building commerce tools to help businesses reach more new customers and get more incremental sales. And over the longer term, we're developing Privacy Enhancing Technologies in collaboration with others across the industry to help minimize the amount of personal information we process, while still allowing us to show relevant ads.

Progress in these areas will take time and will be a focus for us throughout 2022 and beyond.

On measurement, as we wrote in a recent blog post, we believe we are underreporting iOS web conversions. This means real world conversions, like sales and app installs, are higher than what's being reported for many advertisers, especially small advertisers. We're making good progress fixing this. We think we'll be able to address more than half of the underreporting by the end of this year. And we'll continue to work on this into 2022.

Another external factor is slowing e-Commerce growth. The strong e-Commerce growth in recent quarters was driven in part by the acceleration of the digital transformation that is now tapering off. I think most people see this in their own lives. There was a period of time when many people who were able to, stayed at home and ordered things online much more. But now in many places, things have opened up, and people are increasingly making purchases in person.

That doesn't mean e-Commerce has stopped growing. Businesses are still making the shift online. But e-Commerce is no longer growing at the pace it was at the height of the pandemic. These factors have been compounded for many advertisers by major global supply chain issues and labor shortages, which have left many consumer businesses with less inventory. This has reduced their appetite to generate demand from consumers, which has impacted advertising spends.

Businesses in every region and across a range of verticals have been affected. At the same time, we've also seen some impact from Covid surges around the world in places like Southeast Asia.

Overall, if it wasn't for Apple's iOS14 changes, we would have seen positive quarter-over-quarter revenue growth. And while we and our advertisers will continue to feel the effect of these changes in future quarters, we will continue working hard to mitigate them.

Despite the headwinds, we remain confident about our future. We believe Facebook and Instagram are the best place for people to connect with their friends and families, build communities, and start and grow businesses. And we believe they're still the best platforms for advertisers to reach people where they are and get measurable outcomes. Our focus remains where it always has been, building products that help people connect and businesses grow.

Mark talked about video a moment ago. Not only is this a growing area for us overall, but we're also continuing to get better at monetizing it. More than 60% of video revenue now comes from mobile-first video, meaning videos that are shot vertically or are under 15 seconds. Over 2 billion people per month now watch videos that are eligible for In-Stream ads, which are ads shown before, during or after videos. And we're expanding access to Reels ads on Instagram to more advertisers with automatic placement and new creative formats.

Another area we're seeing good progress is in lead generation. Our products help businesses generate quality leads at scale and meet customers where they are on their preferred channel of communication, whether it's messaging, forms, or calls. In April, we started rolling out a new Conversion Leads optimization goal for higher quality leads, and advertisers can also integrate their CRM with Facebook via our Conversions API.

Our tests show that on average advertisers see a 20% increase in lead to sale conversion rate when they use both the optimization goal and the integration.

Q4 is the most important quarter of the year for many businesses, large and small. As always, we're focused on making the holiday season a success for them. We're working to fix the measurement issues they're experiencing, and deliver the tools and products they need to grow. And we're rolling out a range of holiday shopping experiences to help people find great deals, support small businesses and good causes, and shop with local and Black-owned businesses.

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We're bringing exclusive gifts to Shops that will be available when people checkout on Facebook or Instagram, like 20% off your first purchase and free shipping. Starting next week, we'll host daily Live Shopping experiences with companies large and small, brands like Walmart, Macy's, Benefit Cosmetics and Paintbox Nails, to educate shoppers and share exclusive deals. And we're bringing back one of my favorite campaigns ever, Buy Black Friday, to showcase Black-owned small businesses during the holidays. It includes things like Buy Black collections in the Facebook and Instagram Shop tabs, and a weekly Buy Black Friday show with Live Shopping segments from up and coming Black-owned small businesses.

I want to close by saying how grateful I am to our partners around the world. And to our incredible teams who are working so hard to help people and businesses throughout this period. Now, here's Dave.

Dave Wehner {BIO 2419389 <GO>}

Thanks Sheryl and good afternoon, everyone.

We delivered solid results in the third quarter in the face of a challenging mobile platform landscape and an evolving macroeconomic environment. Let's begin with our community metrics.

Our global community continued to grow even as we lapped elevated user growth in the third quarter of last year related to the pandemic. We estimate that approximately 2.8 billion people used at least one of our services on a daily basis in September, and that approximately 3.6 billion people used at least one on a monthly basis.

Facebook daily active users reached 1.93 billion, up 6% or 110 million compared to last year. DAUs represented approximately 66% of the 2.91 billion monthly active users in September. MAUs grew by 170 million or 6% compared to last year.

Turning to the financials. All comparisons are on a year-over-year basis unless otherwise noted.

Q3 total revenue was \$29 billion, up 35% or 34% on a constant currency basis. We benefited from a currency tailwind and had foreign exchange rates remained constant with Q3 of last year, total revenue would have been \$259 million lower.

Q3 ad revenue was \$28.3 billion, up 33% or 32% on a constant currency basis. On a user geography basis, year-over-year ad revenue growth was strongest in Rest of World at 50%. Europe, North America and Asia-Pacific grew 35%, 31%, and 28%, respectively. Europe, Asia-Pacific and Rest of World benefited from currency tailwinds, though to a lesser degree than in the prior quarter.

In Q3, the total number of ad impressions served across our services increased 9% and the average price per ad increased 22%. Impression growth was driven primarily by

developing markets, especially in Asia-Pacific. Pricing growth benefited from advertiser demand and lapping of Covid-related pricing weakness during the third quarter of last year.

Though, as Sheryl noted, growth was hindered by three primary headwinds: First, advertising spend was negatively impacted by performance and measurement headwinds related to Apple's ATT changes. Second, we are seeing some macro headwinds as growth in online commerce has moderated from the elevated levels experienced earlier in the pandemic and businesses face supply chain disruptions. Third, Covid resurgences in Southeast Asia have led to additional lockdowns and a curtailment of economic activity.

Other revenue was \$734 million, up 195%, driven by strong Quest 2 sales.

Turning now to expenses. Q3 total expenses were \$18.6 billion, up 38% compared to last year. In terms of the specific line items: Cost of revenue increased 38%, driven mostly by consumer hardware costs, core infrastructure investments, and payments to partners. R&D increased 33%, driven primarily by hiring to support our core products and consumer hardware efforts. Marketing & Sales increased 32%, mainly driven by marketing spend and hiring. Lastly, G&A expenses increased 65%, driven primarily by higher legal-related costs and employee related costs.

We added over 4,700 net new hires in Q3, primarily in technical functions. We ended the quarter with over 68,100 full-time employees, up 20% compared to last year.

Third quarter operating income was \$10.4 billion, representing a 36% operating margin. Our tax rate was 13%. Net income was \$9.2 billion or \$3.22 per share.

Capital expenditures including finance leases were \$4.5 billion, driven by investments in data centers, servers, network infrastructure and office facilities. Free cash flow was \$9.5 billion and we ended the quarter with \$58.1 billion in cash and marketable securities.

We repurchased \$14.4 billion of our Class A common stock in the third quarter and had \$8 billion remaining on our prior authorization as of September 30th. Today we announced a \$50 billion increase in our stock repurchase authorization.

Turning now to the outlook. Starting with our results for the fourth quarter of 2021, we plan to break out Facebook Reality Labs, or FRL, as a separate reporting segment. As we have discussed, we are dedicating significant resources towards our augmented and virtual reality products and services, which are an important part of our work to develop the next generation of online social experiences. The new segment disclosures will provide additional information on the performance of FRL and the investments we are making.

Under this reporting structure, we will provide revenue and operating profit for two segments: The first segment, Family of Apps, will include Facebook, Instagram, Messenger, WhatsApp and other services. The second segment, Facebook Reality Labs,

will include augmented and virtual reality related hardware, software and content. As Mark noted, we expect our investment in FRL to reduce our overall operating profit in 2021 by approximately \$10 billion. We are committed to bringing this long-term vision to life and we expect to increase our investments for the next several years.

Ahead of the fourth quarter earnings call, we will share additional details about the reporting format of our segmented financials.

Turning now to the revenue outlook. We expect fourth quarter 2021 total revenue to be in the range of \$31.5 billion to \$34 billion. Our outlook reflects the significant uncertainty we face in the fourth quarter in light of continued headwinds from Apple's iOS14 changes, and macroeconomic and Covid-related factors. In addition, we expect non-ads revenue to be down year-over-year in the fourth quarter as we lap the strong launch of Quest 2 during last year's holiday shopping season.

As previously noted, we also continue to monitor developments regarding the viability of transatlantic data transfers and their potential impact on our European operations.

Turning now to the expense outlook. We expect 2021 total expenses to be in the range of \$70 billion to \$71 billion, updated from our prior outlook of \$70 billion to \$73 billion. We anticipate our full-year 2022 total expenses will be in the range of \$91 billion to \$97 billion, driven by investments in technical and product talent and infrastructure-related costs.

We expect 2021 capital expenditures to be approximately \$19 billion, updated from our prior estimate of \$19 billion to \$21 billion. For 2022, we expect capital expenditures to be in the range of \$29 billion to \$34 billion, driven by our investments in data centers, servers, network infrastructure, and office facilities. A large factor driving the increase in CapEx spend is an investment in our AI and Machine Learning capabilities, which we expect to benefit our efforts in ranking and recommendations for experiences across our products, including in Feed and video, as well as improving ads performance and relevance.

We expect our Q4 2021 tax rate to be in the high-teens. Absent any changes to U.S. tax law, we would expect our full year tax rate in 2022 to be similar to the full year 2021 rate. Please note that our outlook for 2022 expenses, capital expenditures and tax rate, are preliminary estimates as we have not yet finalized our 2022 budget.

In closing, this was another solid quarter for our business despite facing some headwinds and we believe the investments we're making in our current services, as well as new products and experiences, will enable us to remain the best place for people to connect and for businesses to advertise, both now and in the years ahead.

With that, France, let's open up the call for questions.

Questions And Answers

Operator

(Question And Answer)

Thank you. We will now open the lines for question-and-answer session. (Operator Instructions). And your first question comes from the line of Brian Nowak with Morgan Stanley. Please go ahead.

Q - Brian Nowak {BIO 16819013 <GO>}

Thanks for taking my questions. I have two. The first one on Reels. It sounds like it's a pretty important part of long-term adoption. Curious to hear about anything you'll share about current user adoption, current engagement, or more color on the demographics of people who are using Reels now.

Then the second one, just a little more question on Apple and the ATT changes. I appreciate the color on accuracy and measurement improvements. Any more specifics you can share about where you've made the most progress from your investment to-date and sort of some of the areas where you're seeing more challenges, you need to continue to invest to really improve to navigate through this more challenging environment? Thanks.

A - Dave Wehner {BIO 2419389 <GO>}

Yes. Sure, Brian. On Reels, that's been a bright spot for Instagram. And currently, we're seeing good growth globally -- strength in a number of different markets, but we've been making a lot of progress on Reels and have been happy with it on Instagram. In terms of launch on Facebook, that's earlier stage. On the monetization front, we're just starting to roll out ads in Instagram. So it's earlier on that front, and we really haven't gotten to a monetization point with Reels on Facebook.

Sheryl, do you want to take the iOS 14 question?

A - Sheryl Sandberg {BIO 15339456 <GO>}

Yes. I can take that. I mean when you start at the top of this, you really have to think about what personalized ads are. And we think they're better for people and businesses, and they're especially important to small businesses. They also can be delivered, can be done in a very privacy safe way.

There are two big challenges coming from this iOS changes. The one is targeting and one is measurement. I'm taking the second one first. On measurement, we think we can address more than half of that underreporting by the end of the year and make more progress in the years ahead. We estimate we're underreporting iOS web conversions. We believe that real-world conversions like sales and app installs are higher. And so we have to do the work to help clients measure these properly in order for them to really understand the outcomes they're getting and improving performance. And again, we think we can get a good chunk of that done this year and more in the next year.

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Targeting is a longer-term challenge. Our direct response products are built on user level conversions. And as a result of the iOS changes, we don't see the same level of conversion data coming through. So we have to rebuild our targeting and optimization systems to work with less data. So this is a multiyear effort. We are developing privacy-enhancing technology to minimize the amount of personal information we learn and using more aggregate or anonymized data while still allowing us to show those relevant personalized ads and measure ads effectiveness.

In order for this to really work and benefit all businesses, it can require some cross-industry collaboration and more commerce tools, and those are going to be longer term efforts.

A - Dave Wehner {BIO 2419389 <GO>}

Operator, we can go to the next question.

Operator

Our next question is from Eric Sheridan with Goldman Sachs. Please go ahead.

Q - Eric Sheridan {BIO 22465717 <GO>}

Thanks so much. Maybe two, if I can. Maybe Sheryl, following up there, in terms of thinking in terms of quarters or years on both the targeting and the measurement piece, can you help us just go one level lower in terms of what you're building in terms of what's in your control to put out into the advertising ecosystem versus 11 what might just take time for advertisers to adopt and get comfortable with and better understand the data that drive their business outcomes and how they allocate advertising budget? That would be for you.

And then, Dave, maybe if I could follow up on OpEx and CapEx. Just how should we be thinking about the elements of core Facebook versus some of the things you're trying to build against Mark's vision for the long term with Reality Labs and how that might be a driver of permanence versus transient nature of OpEx and CapEx in the years ahead? Thanks so much.

A - Sheryl Sandberg {BIO 15339456 <GO>}

So some of the technology we can build ourselves. We build AI. We make continued investments in AI that help us maintain or improve long-term performance data. We're building some of our own commerce tools, and those are tools we can build that we need other people to adopt. And then some of the targeting opportunities we see have to take tools we can build or tools we can build in industry collaboration. We're really working as part of several industry collaborative groups on what those tools will look like and how those get adopted. So those obviously take more partnership and are less in our direct control.

A - Dave Wehner {BIO 2419389 <GO>}

Bloomberg Transcript

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Hey, Eric, on the outlook on expenses in 2022, it's obviously early, but we wanted to give an initial outlook of our expected expense range since we typically do that in Q3. Mark outlined we have a lot of priorities that we're investing against across the business that includes a lot of areas in the core sort of Family of Apps. But also in FRL, we've got a lot of priorities in advertising, AI, commerce, privacy. So when you kind of pull all these things together, we've got a pretty robust spending plan next year.

The primary driver is going to be accelerating headcount growth in 2022. So that's going to be something you'll see headcount coming in above 20%, obviously, that we had this quarter. And we also expect to have higher expenses from office operations and travel once larger parts of the workforce are returning to the office in 2022. We're not providing a specific breakdown at this point for segment expense.

And France, you can go to the next question.

Operator

Our next question is from Doug Anmuth with JPMorgan. Please go ahead.

Q - Douglas Anmuth {BIO 5591566 <GO>}

Great, thank you. One for Mark and one for Dave. Mark, just given the significant investments in both P&L expenses and CapEx, and clearly, you're talking about the heavy focus on metaverse over the long term, I was just hoping you could help us recap kind of the 1-year, 3-year and then 5-year aspirations from a product perspective as you've done in the past? And then, Dave, just on the 2022 expenses, which is about 29% to 38% growth, do you have any commentary on revenue growth in '22 to go along with that? Thanks.

A - Mark Zuckerberg {BIO 15103277 <GO>}

I can talk about the metaverse and Reality Labs part of this. So for the next 1 and 3 years, especially, I think what you'll see is us putting more of the foundational pieces into place. This is not an investment that is going to be profitable for us anytime in the near future. But we basically believe that the metaverse is going to be the successor of the mobile Internet, that it's going to enable social experiences that are the ultimate expression of what we try to build, which is allowing people to feel really present with the people they care about no matter where they actually are.

And we think it's going to unlock a massively larger creative economy of both digital and physical goods than what exists today and allow millions of people to be able to do work doing what they love and enabling a whole different economy around that, that I think is going to be another important pillar of our business, over the next decade.

So on the next 1 to 3 years, I mean, I almost -- wouldn't focus on the sort of business outcomes there quite as much as I would just -- the products and infrastructure that we're putting in place. So there's -- there are new platforms, there's hardware components. There's the whole virtual reality product line. There's the augmented reality product line.

We're kind of starting to put those pieces in place. There's the operating system and development model for all these new creative tools. There's the commerce parts of what we're doing around this and how they tie into broader commerce effort across Family of Apps. And then there's all the social platform work that we're doing with our Horizon effort that touches a bunch of different areas of what we're doing. But I think you'll see all of those pieces start to get built out and start to mature a bit over the next few years.

And then if we do a good job on this, and I would say later in this decade, is when we would sort of expect this to be more of a real business story. But I think what we kind of think about for the near term is are we delivering the product experiences that are completely groundbreaking and that people try this, and they just think this is amazing and can see a glimpse of where this is going, and that will pave the way for the future. The sort of the business North Star that I mentioned in some of my opening remarks are, we hope that by the end of the decade that we can help a billion people use the metaverse and support hundreds of billions of dollars of digital commerce. And I think if we can do that, then this will be a good investment over the long term.

A - Dave Wehner {BIO 2419389 <GO>}

Hey Doug, it's Dave. We're not at this point providing a specific revenue outlook for 2022. We continue to see opportunities to grow both impressions and price next year, but we're obviously coming off an incredibly strong year of revenue growth in 2021. 13 So we do expect deceleration in growth in 2022 from the full year 2021 rate. And this -- there's sort of uncertainty implied in our range for Q4 revenue, and I think that holds true for the 2022 outlook as well. There's a lot of factors at play, including advertisers working their way through the impact of the Apple platform changes. We're obviously navigating a challenging macroeconomic environment. We'll have a better sense of how these things work together as we get through the holiday season. But given the expense growth that we outlined, which is implied in the 30 -- north of 30% we don't expect revenue growth at that level. So we would expect 2022 margins to be lower than 2021. France, you can go to the next question.

Operator

Our next question is from Justin Post with Bank of America Merrill Lynch. Please go ahead.

Q - Justin Post {BIO 3469195 <GO>}

Great. Thank you. Maybe one for Mark and one for Dave. Getting 18- to 29-year old users is not easy. I wonder if you could maybe outline some of your strategies to kind of get some progress there. I know it's multi-quarter. And then, Dave, in your guidance for Q4, can you help us on the IDFA impact? Is it contemplated to be about the same as 3Q, a little bit better as you work on your measurement? Or is it a little bit more of a headwind in Q4? Thank you.

A - Dave Wehner {BIO 2419389 <GO>}

Yes, Justin, I can take the -- I can actually take both of those questions. In terms of the younger demographics, our products are obviously widely used by young adults. And we remain focused on building out those product capabilities and continuing to focus on

making our products relevant for that audience. I think Reels is a big part of that strategy. And we've now got that -- we've got that rolled out in over 100 countries since launching in August of last year, and we're continuing to invest in that experience and make ongoing product enhancements. And so that's probably one of our big focus points that I would point to. In terms of the IDFA --

A - Mark Zuckerberg {BIO 15103277 <GO>}

Maybe I'll just add something on Reels. Yes. I think that this is going to be a very meaningful qualitative change in how people use a lot of different products across the Internet. I mean I think every once in a while, a format comes along that allows new types of content, right? So we saw this with News Feed. We saw it with Stories. And I think Reels is -- from everything I've seen has the potential to be something of that scale where there are different flavors of it and different apps. But I think as a format, it can be very fundamental.

And I think we're still closer to the beginning of that journey than we are to its maturity in terms of just having rolled out some of the initial tests and experiences and rolled it out in Facebook. And I mean you mentioned all the countries that it's in in Instagram, but it's just continuing to grow very quickly. So I think that, that's going to be a big part of the focus here. And I think we'll -- I'm excited over the next year or two to see how that grows into something that I would bet will be like Stories in our product today. Sorry, Dave, go for it.

A - Dave Wehner {BIO 2419389 <GO>}

Yeah, Justin, on the iOS question as it relates to Q4 versus Q3, the bulk of iOS 14 updates were completed as we entered Q3, which contributed to the step up in the impact from Q2 to Q3. Since iOS 14 is now widely adopted, we don't expect a similar step up in Q4. But importantly, we haven't gone through a holiday season with these changes and prices are higher during the holidays, given strong demand. And so there's uncertainty how that will intersect with the challenges on targeting and measurements coming from the iOS changes. So, I think that brings some uncertainty into the Q4 outlook that's reflected in our guidance range.

You can go to the next question, France.

Operator

Thank you. Our next question is from Youssef Squali with Truist Securities. Please go ahead.

Q - Youssef Squali {BIO 1506420 <GO>}

Great, thank you very much. Two questions for me. Mark, it's the week of Facebook Connect, so I was hoping you can provide us an update on Horizon. This is the -- that social app where people can create games and experiences to share together. When will that finally come out of the closed beta? I think it's been in for the last two years. It seems to us that to move Facebook into the metaverse successfully, you really need to have a VR social app that's obviously cool and successful. And the other question is around, again,

this focus on the 18 to 29. Can you maybe just speak to the current trends in engagement at both Facebook and Instagram among millennials and younger audiences? I know you're speaking about a focus on it going forward, but how has it been trending of late? Thank you.

A - Mark Zuckerberg {BIO 15103277 <GO>}

I'll take the first, and then Dave can talk about whatever numbers you want to share. So first, let me say, I think we have -- on Thursday, at Connect, we're going to -- be going into quite a bit of detail about our vision for the metaverse and how we think we can help contribute to building this. So I encourage all of you to tune in. Part of that, that we are going to talk about is Horizon, how that fits into this. And we've been steadily working on this and onboarding more creators and more people to it, and we're adding more worlds all the time.

I think you're right, this is going to be a critical part of at least our platform and the work that we're doing here. We released Workrooms recently. I'm really excited about how that experience has come together.

And I think to your point, you mentioned it's important to have a VR social experience. I actually think it's important to have an experience that goes across all of the platforms, right? I don't think what you're going to end up with is just a -- something that's like a VR social network. I think you want to be able to have these experiences where you can feel present with people and have this immersive experience that's going to be best if you're in VR or in AR and you're a hologram, but it needs still to work everywhere, right? It needs to be able to work across our whole Family of Apps. It needs to be able to work on the web and on phones and on computers.

So there's a lot to do. And whether we call it beta or not, I think the reality is we're going to be -- this is kind of similar to the question before about where we're going to be in a year or 3 years. There's a lot of foundational infrastructure that just needs to get built up here. And part of what we're trying to reflect in the segment reporting and all that is we're committed to doing this work. It's going to be a big investment. We want to be transparent about it. But we think it's very exciting. It's a huge opportunity for the future, and I encourage you to tune in on Thursday to hear more.

A - Dave Wehner {BIO 2419389 <GO>}

And Youssef, just on overall, the engagement trends, our products are widely used by teens, but we are facing tough competition from the likes of TikTok particularly and Snapchat. And we're focused on obviously continuing to innovate and roll out products like Reels and attract the younger demographics and retain the younger demographics for our products. And that's why we're continuing to build and invest in those areas.

Operator

Our next question is from Mark Mahaney with Evercore ISI. Please go ahead. Mr. Mahaney, your line is open. Please proceed.

Q - Mark Mahaney {BIO 3027058 <GO>}

I apologize. Two questions. On the iOS changes, is it fair to say that, that's the majority -- that accounts for the majority of the headwinds that you saw in Q3 and expect to see in Q4?

And then secondly, a question for Mark. Just on the application of artificial intelligence to kind of help moderate content is the wrong word, but to try to make sure that inappropriate content is removed from Facebook and Instagram, et cetera. Where do you think you are in terms of getting that to be where you want it to be? I know it's been a multiyear investment journey experience. Here we are several years later, is this a Sisyphean in task? Do you think you've been able to show success in using AI constructively? Thank you.

A - Dave Wehner {BIO 2419389 <GO>}

Hey Mark, it's Dave. On the first question, yes, the Apple platform changes were the largest factor in terms of Q3 headwinds. I mean it was really the first full quarter impact of those new ATT policy changes following just the increased consumer adoption ramp of the iOS updates. And if it really weren't for that, we would have expected sequential growth Q2 to Q3. So that was the largest headwind in the quarter.

A - Mark Zuckerberg {BIO 15103277 <GO>}

Sure. I can speak a bit to AI. So my answer is, yes, I think it's made a big impact. We issue these quarterly transparency reports, which I should add we're industry leading on this both in terms of defining this and in terms of the depth of what we outline so that people can hold us accountable and kind of see the breakdown of how we're actually doing. But what we measure in those reports and disclose is what percent of the content that we act on is our AI or our internal systems finding rather than people having to report it.

Because we have a lot of people who use our products if they find something that's problematic and they report stuff to us. And it used to be before the last several years that most of what we did for community integrity was just respond to incoming reports, but we decided, hey, we should really try to get in front of this and build really sophisticated systems so that we're not just relying on people to tell us when there are issues, but we can proactively go address that. And in most of these categories and we've basically gotten to the point now where 90-plus percent of the content where we're basically -- that we act on, we're identifying largely through the AI system.

It varies a bit by category. So for categories like nudity where it's relatively easier to train a computer to identify that, the numbers are very high. Some of the categories like hate speech that have been harder because, first of all, we're operating in, I think it's around, 150 languages around the world. I also think it's -- there's a lot of cultural nuance in this where you want to be able to make sure you understand the innuendos in all those languages and that you want to make sure that people can say -- can denounce racism, right?

If someone is saying something racist to encourage someone to do something hateful, that's bad. But if you -- if someone wants to basically say, hey, I saw this person doing this and people shouldn't be doing that, then you don't want to sensor people doing that. So it is being a very challenging problem.

And for the first couple of years working on this, we're still at a relatively low recall rate where our AI systems had 10%, 15% of the content that we were addressing, we were dealing with proactively. But in recent years, the AI progress has been very impressive. We're now above 90% of the content that we take an action on there, is also proactive even with hate speech. So overall -- I mean, look, let me take this question in a slightly different direction, which is I know that there is a lot of scrutiny of our efforts. And I guess I just want to say to the team and the people who work on this that I'm really proud of the progress that they make. I think we have the best people in the world, and we're doing the best job of this, I believe, across any company in the industry. And I think this is an important area. There should be scrutiny on it, but I also think that any honest account of what's actually going on here should take into account that a huge amount of progress has been made and will continue to be made by a lot of talented people who are working on this

Operator

Our next question is from Ross Sandler with Barclays. Please go ahead.

Q - Ross Sandler {BIO 15948659 <GO>}

Thanks. Dave, one nitpicky question on the guide and then one kind of big picture for Sheryl maybe. So since we're now all focusing on the 2-year CAGRs for the guidance for the high end of the fourth quarter revenue actually has an acceleration on the 2-year CAGR. So I know we're talking about headwinds and IDFA and supply chains and everything like that, but the sequential growth looks normal, and then that 2-year CAGR is accelerating. So I guess, where is the strength coming from? And would you call that a strong 4Q environment? And then, Sheryl, you talked about overhauling targeting longer term to have less focus on users or user-based targeting and more contextual and kind of other things. I guess, high level, how do you think that will impact the overall return on ad spend compared to pre-IDFA levels? And as you look at Facebook's competitive position in the digital ad market versus some of the other large platforms, like any impact on the long term as you kind of retool the targeting? Thanks a lot.

A - Dave Wehner {BIO 2419389 <GO>}

Hey Ross, it's Dave. We're giving sort of specific quantitative revenue guidance on Q4. I think if you look at the range, it's from a sequential growth basis on a seasonal basis Q3 to Q4, it's lower sequential growth than we've seen historically. So I do think that reflects some of the uncertainty that we're seeing out there as it relates to how IDFA -- sorry, with the iOS 14 and ATT and IDFA impacts play into pricing during the holidays and also the macroeconomic factors like the supply chain issues. So I do think that kind of the seasonal sequential growth is lower than we've seen in the past. And with the range, I think that reflects that uncertainty.

A - Sheryl Sandberg {BIO 15339456 <GO>}

In terms of the overall targeting, I think it's hard to sit here and decide exactly where we're going to end up at the all of this. It is going to be a multiyear effort. We've definitely seen a hit already, and we're definitely focused on tools to help advertisers. We think we have opportunities to strengthen targeting ourselves, both by the work we do ourselves and as part of industry consortium. You're right in your question in that advertisers have to make a choice of where they advertise. So the question for us is, how good can our targeting be compared to others?

I think our targeting can suffer compared to others like Apple who have the direct data themselves, but I think our targeting still remains, I think, in very, very many ways, very good for advertisers. When you compare us on ROI, we've always performed well. We still do even though we've taken a hit, and we're focused on continuing to do that for businesses.

Operator

Our next question is from John Blackledge with Cowen. Please go ahead.

Q - John Blackledge {BIO 7387802 <GO>}

Great, thanks. Two questions. First on the macro, are you already seeing supply chain issues impacting 4Q ad revenue or do you expect them -- the issues to be more impactful later in the quarter? And then second question on Instagram. Given the rise of Reels, is it cannibalizing engagement on the other Instagram services? Thank you.

A - Dave Wehner {BIO 2419389 <GO>}

Yes, John. I mean it's -- look, we're not the macroeconomic authority on all things. I would tell you that what we're hearing from advertisers is they are seeing supply chain issues. That was true in Q3 and had an impact there as well as we expect that to continue to carry over into Q4. They're also -- obviously that intersects with the challenges with the targeting and measurement headwinds from iOS 14. So it's hard to parse exactly how the platform issues and the macroeconomic factors will play into Q4, but I think those are the two biggest factors driving the range of potential outcomes that we've outlined in our guidance. In terms of Reels and other IG services, I can take a crack at that, and then if Mark and Sheryl want to add anything. Whenever we launch new experiences, this was true with Stories, it was true with Facebook Watch. It's -- you're always going to see some amount of shifting of people's time and attention to the new areas. And we do think that, that benefits the experience overall, and we think that makes the overall experience more engaging over time. And we do think that it's -- we're able to with Reels drive incremental engagement with Instagram and Facebook. So that's why we're investing to do that. You can go to the next questions.

Operator

Our next question is from the line of Mark Shmulik with Alliance Bernstein. Please go ahead.

Q - Mark Shmulik {BIO 21311083 <GO>}

Yes, hi. One for Sheryl, specifically around kind of on-platform commerce and that pivot, and I know previously you've shared kind of merchant and user adoption metrics, but any progress you could share on that front as it relates to activity? Are users embracing it? And then the second question kind of more broadly around recruiting. I know the recent post to create kind of 10,000 jobs tied to the metaverse in Europe. Any particular kind of rationale for how you're thinking about recruiting kind of globally? Thanks.

A - Sheryl Sandberg {BIO 15339456 <GO>}

So on commerce, we have a lot of commerce activity on our platform already. People are discovering lots of products through our Feed and Stories ads. This is our largest ad vertical, and COVID really accelerated it. But it's also been one of the fastest-growing verticals over a 5-year period. We believe we drive hundreds of billions of dollars of off-site e-commerce gross merchandise volume today through our ads business. And we think commerce tools will be built and layered on top of that to help businesses reach more new customers and drive more incremental sales. In those commerce efforts, we're focused on three areas, continuing to be the best place to advertise, making it easier to sell on the platform, and improving the customer experience. And I think we're in different places on those. In the first, in terms of continuing to be the best place to advertise, we are a great place to find customers. We think the ROI is very strong, and it continues to be competitive. In terms of making it easier, the second, to sell on the platform, here, we're catching up to other mobile and web shopping experiences. And I think we have some work to do there. And then the third, improving the consumer experience to encourage people to shop, I think we're also making progress there, but we've got some room to grow.

A - Dave Wehner {BIO 2419389 <GO>}

And Mark, on the recruiting front, obviously, we've got a big investment year planned in 2022. That's going to be largely driven by recruiting. We're going to have to do that globally. We're looking to build technical talent. We're going to be hiring people to do more remote work and focusing on that. We're going to be investing in headcount outside of the Bay Area and continuing to focus on building our technical and product capabilities across the globe. Europe is an important part of that, and that's why it was outlined in that announcement.

A - Deborah Crawford {BIO 5934723 <GO>}

Operator, we have time for one last question.

Operator

Very good. Our last question then will be from the line of Brent Thill with Jefferies. Please go ahead.

Q - Brent Thill {BIO 1556691 <GO>}

Thanks. Dave, just on the CapEx at the midpoint over 70%, there are a lot of questions just as it relates to what the surge is related to there. Is there any more detail you can help us

better understand that investment?

A - Dave Wehner {BIO 2419389 <GO>}

Yes. Sure, Brent. I mean I mentioned in my prepared remarks, our 2022 outlook really reflects a significant increase in our planned investment in areas like AI and machine learning. And a lot of that will be dedicated to investing in areas where we can use machine learning to improve ranking and recommendations to power experiences across our products in areas like Feed and in emerging areas like Reels.

We'll also be dedicating that to ads as we work to improve ads relevance and leveraging machine learning and AI to help balance out the loss of signal that we've experienced from some of the platform changes. So we think that we can, as part of sort of making our ads even more effective, make up for that loss with the large investments on the machine learning and AI side. And I think our position gives us a good ability to do that. So that's really part of the logic behind the big increase in the CapEx budget next year.

A - Deborah Crawford {BIO 5934723 <GO>}

Great. Thank you again, for joining us today. We appreciate your time, and we look forward to speaking with you again.

Operator

And this concludes today's conference call. Thank you for joining us. You may now disconnect your lines.

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