

arm

Q3 FYE24 Results Presentation

Wednesday, 7th February 2024

Introduction

Ian Thornton

Head of Investor Relations, ARM

Thank you, everybody. My name is Ian Thornton and I'm the head of Investor Relations at ARM. I would like to welcome you to our earnings conference call for the third quarter of the fiscal year ending 31st March 2024. I'm joined today by Rene Haas, the Chief Executive Officer of ARM, and Jason Child, ARM's Chief Financial Officer. Hopefully, you will all have downloaded and read the shareholder letter. If not, it is available on the ARM Investor Relations website at investors.arm.com. The shareholder letter provides a rich update on our strategic progress in the quarter.

Before we begin, I'd like to remind everyone that, during the course of this conference call, ARM will discuss forecasts, targets and other forward-looking information regarding the company and its financial results. While these statements represent our best current judgement about the future results and performance as of today, our actual results are subject to many risks and uncertainties that could cause actual results to differ materially from what we expect in addition to any risks that we highlight during this call, important risk factors that may affect our future results and performance are described in our registration statement on form F-1, filed with the SEC on 14th September 2023. ARM assumes no obligation to update any forward-looking statements, which speak only as of the dates they are made. In addition, we refer to non-GAAP financial measures during the discussion. Reconciliations of certain of these non-GAAP financial measures to the most directly comparable GAAP financial measures, and a discussion of certain projected non-GAAP financial measures that we were not able to reconcile without unreasonable efforts, and supplementary financial information can be found in the shareholder letter that we released earlier today. The shareholder letter and other earnings-related materials are available on our website investors.arm.com. And with that, I'll turn the call over to Rene, who has some prepared remarks.

Highlights

Rene Haas

Chief Executive Officer, ARM

Thank you, Ian, and good afternoon and good evening, everyone. So I'd like to just make a few different comments about the quarter, and then I'll turn over to Jason for some specifics, and then we'll open it up to Q&A.

We had an outstanding third quarter. Inside the company, we could not be more pleased. Record revenues – we exceeded the high end of the range for the guidance. And extremely pleased about results overall. For Q4 we're expecting a – another record quarter. And to that end, we've also raised guidance, of which Jason is going to give more colour on. But a little bit regarding the why and how we got here. ARM is the most fundamental, foundational, pervasive compute platform really in the – in the history of digital design. Over 280 billion units, in the 30-plus years that ARM has been a company, have been built, and that has underpinned a software ecosystem and hardware ecosystem like no other. And given the fact that a CPU design is really driven by the hardware and the software, it creates a flywheel for continuous

development. That is, the more hardware that exists on ARM, the more software that's written for ARM; the more software that's written for ARM, the more popular the hardware.

So we're building off a fantastic base that, when we look at what happened in the last quarter, not only did we see growth driven by a number of factors, but growth that we think is long-term and sustainable. For royalties specifically around some of the products that shift in the quarter, we've seen a significant transition now, continuing from our v8 product to our v9 product. Our v9 product garners roughly 2x the royalty rate of the equivalent v8 product. And whereas in the previous quarter that was about 10% of our revenue for royalties, it's now moved to 15%. And that has seen growth in not only the smartphone sector, but also in infrastructure and other markets which drives growth. We are also seeing strong momentum and tailwinds from all things AI. From the most complex devices on the planet for training and inference – the Nvidia Grace Hopper 200, to edge devices such as the Gemini Nano Pixel 6 from Google or the Samsung Galaxy S24, more and more AI is running on more edge devices and – end devices, and that's all running on ARM. And what that has done is driven a very strong set of tailwinds for our licensing growth. When we look at demand for new products from a licensing standpoint, what we are finding from the end market is that we've reached nowhere near good enough relative to the capability of the technology, and end customers for new designs are needing more and more ARM technology to keep up, particularly with the AI demands. So, with that, our licensing growth has been very, very strong.

We've also seen proof points around one of our strategies that we call compute subsystems. These are complete finished blocks of designs that we put together for our end customers that will save them significant time around validation of their engineering work and also around time to market relative to cycling products through the fab. One of the very first designs that was made public that uses this is the Microsoft Cobalt, which uses our Neoverse cores – 128 CPUs, to be specific. We work very closely with Microsoft around these designs using compute subsystems, and we see this trend only going to continue. So, between strong growth in royalties that are driven between v8 to v9, all things AI needing energy-efficient compute, and compute subsystems, we feel very, very strongly positioned for growth. And again, this is completely underpinned by a ecosystem of devices that are in the installed base and a very, very large software community that develops on ARM.

So with that, I will turn it over to Jason, and then we'll open it up for Q&A.

Financials

Jason Child

Chief Financial Officer, ARM

Thank you, Rene. I'm going to briefly touch on guidance for the fourth quarter and full year. Starting with revenues, for fiscal Q4 we are guiding to a range of 850 to \$900 million with a midpoint of 875 million. This represents a raise of over \$95 million compared to our prior implied guidance for the fourth quarter. When combined with our strong Q3 performance, the full-year revenue guidance rises to 3.155 to \$3.205 billion, an increase of 160 million at the midpoint versus prior. Within Q4 total revenue, we expect royalty revenues to grow mid-single digits sequentially and to be up over 30% year over year as we compare against the bottom of the industry-wide inventory correction that occurred in prior year at Q4. Royalty revenue

sequential growth is mainly coming from increasing penetration of ARM v9, where royalty rates are, on average, at least double the rates on equivalent ARM v8 products. Additionally, we are seeing an increasing amount of ARM technology and chips being deployed, and as the amount of ARM technology and chips increases, so does the royalty rate.

With around 35% of ARM's total – sorry, ARM's royalty revenue coming from smartphones, we have benefited from recovery in the smartphone market, but with 65% coming from markets beyond mobile, we are seeing more revenue growth from share gains and market share growth outside of mobile. Additionally, we are expecting another strong quarter for licensing, with revenue up sequentially to near record levels. As with recent quarters, we expect to sign multiple new ATA deals in Q4, and demand for our latest technology remains high as customers need access to AI-capable CPUs and related technology such as our compute subsystems.

Turning to expenses, we expect non-GAAP OPEX of approximately \$490 million in Q4 and 1.7 billion for the full year. On a like-for-like basis, our full-year guidance has increased by \$10 million, driven by slightly higher spend in R&A. As detailed in the guidance section of our shareholder letter, to increase transparency and improve the comparability of our results, beginning in Q4 the presentation of our non-GAAP measures will be modified to exclude employer taxes related to equity classified awards. These taxes are dependent on our stock price at the time of vesting, and, as a result, fluctuate independently of the operating performance of our business. The impact of this change has been factored into today's non-GAAP Q4 and full-year guidance for operating expenses and fully diluted EPS.

On an EPS basis, revenue strength will flow through to profit, driving Q4 non-GAAP fully diluted EPS up to between 28 and 32 cents and full-year non-GAAP fully diluted EPS to up between \$1.20 and \$1.24. In summary, we had an outstanding Q3 and expect our momentum to accelerate through Q4 and beyond. With that, I will now turn it back over to the operator to kick off the Q&A portion of the call.

Q&A

Operator: Thank you. As a reminder, to ask a question, you will need to press star, one, one on your telephone. To remove yourself from the question queue, please press star, one, one again. Please ask one question, then re-queue with any follow-up. Please stand by while we compile the Q&A roster.

Our first question comes from the line of Harlan Sur of JP Morgan. Your question, please, Harlan.

Harlan Sur (JP Morgan): Yes, thank you. Good afternoon, and congratulations on the strong results guidance and, of course, the execution. December quarter, as you guys mentioned, right, second consecutive quarter of strong licensing, second consecutive quarter of book to build greater than one, strong ACV. Sounds like many of your customers across all of your end markets are focusing on accelerated compute and AI and the requirements for more compute capability, and that's obviously being reflected in the strong licensing performance. How much of the expansion on recent licensing deals has been more about adding your AI-specific IT, right, like your Ethos NPU or taking advantage of some of your Helium and Neon vector extensions for AI workloads or compute subsystems adoption versus just buying up the stack

of more powerful cores, and then, more importantly, like, do you guys see the strong licensing momentum continuing into fiscal '25?

Rene Haas: Yeah. Hi, Harlan, and thank you for the – for the – for the kind words. I'll take the first part of your question and then – and then let Jason comment on the second half.

One of the – one of the new products that we released relative from a licensing standpoint is something we call ARM Total Access – what Jason referred to as ATA. That gives customers access to a broad set of ARM technology, including our most advanced CPUs and NPUs. And one of the things that we are seeing is exactly what you described. We're seeing demand for incorporating CPUs with anything that helps with AI acceleration, such as vector extensions. Additionally, the ATAs give customers access to the NPUs, which they can also use for an offload. What we are seeing anecdotally relative to when we engage customers is that the need for more compute, the need to be able to handle what I would call a bit of the unknown relative to these large language models that either run on an edge device or in the hybrid way is fundamentally driving a need for more compute than they had before. So they are looking to upgrade to give themselves flexibility on the design and also to maximise their ability to deliver the most efficient product, whether that's lots of different cores or a smaller set of devices that may or may not include an NPU.

So, in summary, yes, your question I think is accurate relative to the conclusion of AI demand is driving a need for a lot of different products, And I'll let Jason kind of comment to the – to the longer-term trend that we see.

Jason Child: Yeah. Harlan, I would say, on the looking forward – so obviously I only gave guidance for Q4, what – but, going beyond that, when you unpack licensing versus royalty, you know, because of the fact that we're largely, you know, almost entirely under contract for next year on royalties, we feel good about those trends. It's the – it's the license piece that's a little harder to forecast. You know, if I look at last quarter and this in Q4 that's coming up, we've definitely had some upside from AI and selling additional licences that were – you know, were just not in our plan and not anticipated. So I think we're going to need to work through this quarter to find out how much of that upside continues to – and that trend flows into next year, because we've seen this demand has been coming, I think a little shorter – a little shorter sales cycles than we had seen with – you know, typically before. So I'd say stay tuned.

Harlan Sur: Very helpful.

Jason Child: 90 days, we'll give you a better view.

Harlan Sur: Helpful. Thank you very much.

Operator: Thank you. Our next question comes from the line of Gary Mobley of Wells Fargo. Your question please, Gary.

Gary Mobley (Wells Fargo): Hi, guys, thanks very much for taking my question, and let me extend my congratulations to the entire ARM team for the strong results. Can't help but notice the strength in business from ARM China. Maybe if you can speak to, you know, what drove that strong result out of ARM China. And, besides ARM China, were there any other greater-than-10% customers in the quarter?

Rene Haas: Yeah, I would say, broadly speaking, we are seeing increased market share gains for our products across the board, particularly around automotive and infrastructure/data

centre. You know, inside China, those are very good growth markets. One of the things we've continued to comment on relative to the China market is that the China ecosystem tends to follow the global ecosystem. So, as we see the share gains across different aspects of the market, we're seeing that consistent and holding true relative to China.

And, Jason, you want to take the other part of that?

Jason Child: Yeah, just on the numbers, you know, to make sure it's clear. So when we announce, you know, related parties, I think, were about 30% of growth, ARM China is the largest portion of it. However, there are others. So ARM China was about 25% of total revenue, just slightly up from the 20% from a quarter ago.

Gary Mobley: That's helpful. The gains in the royalty rate per unit, if I can add a follow-on, certainly are accelerating. Is that all driven by ARM version 9, and should we continue to expect that upward inflection in the royalty rate per unit?

Rene Haas: Yeah, I think that's the right way to think about it. So, as mentioned, ARM v9 was 10% of our royalty revenue last quarter, now 15%. We see that accelerating. The other thing we are seeing is that the mixes of devices that might have a mix of v8 and v9 cores are increasingly moving to more v9 cores. And the reason for that is, back to the AI comment, the compute needs of the end applications only continues to increase. And what we're seeing is customers looking to put more and more technology into their devices – perhaps even more than they originally planned for when they had licensed the technology. So it's a compounding effect of growth. We see growth from royalty happening from v8 to v9 transition and more ARM technology being used in the same devices, so it's a bit of a compounding effect that helps us with growth.

Gary Mobley: Thank you.

Operator: Thank you. Our next question comes from the line of Thomas O'Malley of Barclays. Your question, please, Thomas.

Thomas O'Malley (Barclays): Hey, guys, thanks for taking my question, and congrats on the nice results. I just wanted to add a question to the v9 pile here. You guys are talking about traction in AI, smartphones, infrastructure. You're saying that that percentage as a – as a percentage of total revenue grows into the next fiscal year. Where are you seeing the most of that traction? You called out AI a couple times here early in the call, but is that coming more from the smart – the smartphone side or the AI side? And just maybe talk about the cadence of where you see that penetration rate growing as you get into the next fiscal year. Thank you.

Rene Haas: Yeah, so thanks for the question. So, a couple ways to think about it. There – there's definitely growth coming from the data centre side. So proof points such as NVIDIA's Grace Hopper, the Microsoft Cobalt design, the work that AWS has been doing with Graviton – what we are seeing is more and more AI demands in the data centre, whether that's around training or inference. And, because the ARM solution in the data centre in particular is extremely good in terms of performance per watt, and the constraints that are on today's data centres relative to running these AI workloads puts a huge demand on power – that's a great tailwind for ARM. If we move to the edge devices such as a smartphone, we've seen – and I think the recent launches, as I mentioned, with Gemini Nano and the Galaxy S24 – increased AI workloads being pushed to the phone. And what we're seeing from the design standpoint is

more and more compute technology being pushed into those phones, such that they are AI-capable and AI-ready, because this field is moving very, very fast. You know, a year from now who knows what the type of AI applications that might be able to run on a smartphone. So what we're seeing is a shift to more and more high-performance-capable technology to capture a wave to ensure that they can run these AI workloads. Nobody wants to be caught behind with not enough performance when the new application comes out. So that is – that has accelerated the v9 adoption, both from a standpoint of more devices using it and more devices using more of it. And to your question, you know, where is it coming from, it's coming from everywhere. It's coming from certainly the data centre, certainly from the edge devices, and we think, over time, even AI PCs. So it's a huge growth vector.

Thomas O'Malley: Super helpful. And then, if I could just ask a follow-up as well. If you look at kind of the seasonality, at the close of the year you obviously saw, you know, really strong results in both the December and the March quarter. You know, obviously you're not perfect with units, but if you look at June and the smartphone ecosystem, you're kind of seeing a little bit of a pause in the Android ecosystem and kind of some cautious data points from the – from the supply chain in general. Could you talk about what you expect in terms of seasonality to start your fiscal year? Any tidbits there would be helpful. I know you're not guiding June, but any way to help think about how we – how we begin the next fiscal year would be helpful. Thank you.

Rene Haas: Yeah, I – I'm not going to comment in terms of too far forward on the seasonality component to what we're doing, but what I would emphasise is that we're a bit of a different company to think about relative to how you think about other companies in terms of their specific exposure to a market. We are involved in just about every single end market, and every single end market is moving from v8 to v9, which have, as I said, double the royalty rates, and just about every single one of these markets is putting more compute into their devices. So sometimes when we've had questions from folks saying, 'Well, wait a minute. I'm trying to figure out how units match up to numbers', we're operating on a little bit of a different plane because of our broad, broad adoption and, as I mentioned at the start of the call, the pervasiveness of the architecture. It's just driving a whole different set of growth vectors.

Thomas O'Malley: Thank you very much, guys.

Operator: Thank you. As a reminder, please limit yourself to one question. Our next question comes from the line of Vivek Arya of Bank of America Securities. Your line is open, Vivek.

Vivek Arya (Bank of America Securities): Thanks for taking my question. I just wanted to clarify, Rene, is this – on the v9, is the 10 to 15% related to number of customers, number of chips or revenue related to those chips? Because I think, in the shareholder letter, it's qualified as, you know, v9 of 15% of royalty revenue, rather than – I guess a bigger question is – just so that we have an apples-to-apples sense of – how many of your smartphone units are actually using v9 right now versus, you know, the ones that used v9 in in the last quarter? Is that a better way to track v9 adoption? And –

Rene Haas: Yeah, so –

Vivek Arya: – where does it go from here, I guess?

Rene Haas: Yeah, so let me – let me try to answer your question, and maybe, Jason, Ian, if I – if I’m missing some facts, you guys can fill in. First off, the number – when we say 10% and 15%, that’s percentage of our overall royalty revenue. So that’s the way to think about that. When you think about the number of units that are moving from v8 to v9, I don’t think we have anything specific that I can give you on this call, but what I can tell you is, just as a – an example or an anecdote, is that v9 is being used extensively and almost exclusively now in all the premium smartphones, and the premium smartphones such as the Galaxy S24, those are actually part of the segments that are seeing a little bit better growth than their compatriots. So, given the fact that virtually all the premium smartphones have now moved to v9, and, as I mentioned before, people are trying to put as much v9 technology in that smartphone to capture the AI wave, I think that’s maybe one way to think about proportionally where some of the growth comes versus units. What we – what we tend to see with the smartphone market, for example, is typically a waterfall over time where what was in the premium unit finds its way into the high end, then into the mid-range. But that’s the way I – maybe a good way to think about it in terms of, you know, where the percentages are. There certainly is a lot of v9 in the premium smartphone, and we’re seeing a lot of premium smartphones being sold.

Vivek Arya: Thank you.

Operator: Thank you. Our next question comes from the line of Mehdi Hosseini of SIG. Your question, please, Mehdi.

Mehdi Hosseini (SIG): Yes. Thanks for taking my question. Just actually as a follow-up, is there any way you could elaborate on the mix of v9 by end market, like a smartphone versus cloud compute? And I have a follow-up.

Rene Haas: I’ll attempt to answer that, and again, maybe, you know, Ian and Jason. As I said, premium smartphone is almost exclusively now v9, and virtually every high-end data centre chip is v9. When you look at Grace Hopper, when you look at Graviton, when you look at Microsoft Cobalt, these are all v9-based designs.

Jason Child: And the only thing I would add is on a – in terms of, you know, royalty revenue and then chips that have actually been deployed in the – in the market, we are overweighted towards smartphones on v9, primarily because it’s an annual refresh cycle, and so I would think of that being a bit ahead. Over time, I think the other lines of businesses will catch up, but it’s predominantly or definitely weighted more towards smartphone, for the reasons that Rene just pointed out on premium mix.

Mehdi Hosseini: Got it. Thank you. And my follow-up has to do with the market share. I think, end of FY24 – I’m sorry, end of FY23, cloud was about 10% market share for you and networking was 26%. Is there any way you can give us an – some colour as to how, as you close FY24, how those market shares are changing?

Rene Haas: Yeah, not – not today. We’re not prepared to give that. When we give the updates for next year, the next quarter, we can – we can do that. But I can say we’re very pleased about the direction of travel, and AI has only helped that grow faster.

Mehdi Hosseini: Got it. Thank you.

Operator: Thank you. Our next question comes from the line of Vijay Rakesh from Mizuho. Your question, please, Vijay.

Vijay Rakesh (Mizuho): Yeah, hi. Congratulations again on a great quarter. Just a quick question on the cloud compute side, if you could give us some way of how to look at what you think would be the growth in 2024, given, you know, you have some [inaudible] customers and Graviton and Cobalt 100 now. And a follow – I have a follow-up.

Rene Haas: Sorry, didn't catch the – you're asking about projected growth for next year in cloud?

Vijay Rakesh: Yeah, yeah. Just for calendar 24, how do you see the growth with those on the cloud compute side with some [inaudible] customers there now? How do you see that growth?

Jason Child: Yeah, as Rene just mentioned on the – for the last question, we'll provide our market share update on – specifically on compute, which is for us almost all cloud in infrastructure, and we'll provide some views where we expect that to go next year. So, give us 90 days.

Vijay Rakesh: Got it. And then on the – on the mobile side, obviously you mentioned good traction with v8. Just wondering what the penetration rate on v9 is now. When you look at the premium phones, I guess all of it, but how – what the – you know, what the prediction on that is through the year, I guess. [Inaudible] you save it for later.

Rene Haas: Is your – is your question what percentage of smartphones are v9?

Vijay Rakesh: Yeah.

Rene Haas: Yeah. As I mentioned earlier, the numbers are somewhat skewed relative to the premium segment versus the broader segment. If you look at overall units, most of the premium, if not all, smartphones have moved to v9, and the rest of the – the rest of the segments have been – have been slower to adopt. But the premium segment draws a very, very large mixture of lots of cores and lots of royalty-rich cores. So it tends to – it tends to weigh out the numbers relative to overall units. We expect v9 – and, Ian, keep me kind of comfortable on this – usually the next three, four years to kind of find its way throughout the entire smartphone category.

Ian Thornton: Yes. If you go back to how v8 sort of took over from v7, it took about three years to get from just where we are here to about 80, 90% penetrated.

Vijay Rakesh: Got it. Thanks.

Operator: Thank you. Our next question comes from the line of Ross Seymore of Deutsche Bank. Your question, please, Ross.

Ross Seymore (Deutsche Bank): Hi, guys. Thanks for letting me ask a question, congrats on the strong result and guide. I wanted to go back to the ARM China conversation, so a clarification on the main question. The clarification was that 25% that I think, Jason, you mentioned – was that of total revenues or just of royalties? And then the main question is, could you just help us break down a little bit how that's so strong – you know, whether it's total revenues or just of royalties, that was a significant driver of growth and, you know, depending upon the answer to the clarification, it could have been more than all of the sequential growth. So I just wanted to get my arms around what was really driving the growth and how much of it came from ARM China.

Jason Child: Yeah, China was 25% of total revenues in Q3, and that's up from 20% in Q2.

Ross Seymore: And then what was driving that? Because again, by that math, it seems like the China side was up, you know, I don't know, 30%, and everything else kind of went down a little bit sequentially. Was that just the China handset market coming back to life? Was it more goodness beyond that? Just any colour you could give on what drove that China growth that was so impressive.

Rene Haas: Yeah, we don't – we don't break down the individual customers, but, as I said, the China ecosystem tends to follow the rest of the world relative to the growth. So when we talk about growth in data centres and we talk about growth in automotive, and, to your comment, you know, certainly recovery in the smartphone market helped.

Ross Seymore: Thank you.

Operator: Thank you. Our next question comes from the line of Charles Shi of Needham and Company. Please go ahead, Charles.

Charles Shi (Needham): Hey, thanks. My congratulations to ARM management team on the very strong results. Very impressive. I do want to dig into a little bit more on the – on the China and the related party side of the – of the revenue, because, when I look at your historical numbers, your ARM China contribution tracks almost identical the related party transactions. There seems to be a little bit of a gap seems to be expanding a little bit over the last quarter, and, maybe related to that, you have very strong bookings in the last quarter, and this quarter the booking actually comes down a little bit, but licensing revenue actually was stronger than you expected. Was that the result of some of the earlier commencement of the licensing contracts that used probably signed a little bit earlier in the year, maybe in the prior quarter? And is that the more of a timing that kind of surprised you to the upside? Thanks.

Rene Haas: Yeah. So, first on the – on the related parties. So, yeah, typically China has been most all of it. We did have an additional licence deal, you know, that was roughly 5%, I guess, of total revenue – the difference between, you know, ARM China and the rest. That deal did come through this quarter. And so you're right, that's not something that's been continuous, but was a deal that came in this last quarter. In terms of the makeup of licence revenue in general, you know, we typically run somewhere around 40 to 50% of our licence revenue is from backlog, so deals previously signed that, you know, relate to technology milestones that are delivered within the quarter. And then the remainder are new deals that are signed within the quarter. Clearly we have good visibility into backlog and what our delivery's going to be, and we have a pretty good insight into, you know, renewals or deals that have relatively long lead times. I think the one thing that we saw a little bit unique, both last quarter and this quarter, is with the increased kind of focus in AI and, you know, there just is a lot of focus on investing and building designs in AI. And I – you know, I said it – so there's been some shorter-cycle deals that have come up, kind of, I would say, a little bit unique versus what we've seen in the past. And that's the primary reason why we do need to spend a little more time this quarter to get our arms around how much of that momentum will we continue to see next year. Does that answer your question?

Charles Shi: Yes, thanks. If I may add, the China piece, your IT peers seems to be a little bit more cautious about what – what's going to happen, I mean, in this year, and actually the – the kind of cautious you cited that, late last year, that your China revenue is still going very

strong. How do we reconcile the differences here? I mean, this is my last question. Thank you so much.

Jason Child: Well, I wouldn't say that we're less cautious. I think our numbers have been strong, but from a forecast perspective, we – you know, we – we've been forecasting that China likely goes down into the teens as a percentage of total revenue. You know, this last quarter and the quarter before, you know, we've just seen stronger recovery than we had previously expected. And – you know, and that's been certainly, you know, a, a nice positive surprise. In terms of, you know, going forward we feel good about the progress we expect to deliver this quarter, and, you know, in 90 days, we'll let you know if we think that progress is going to continue into next year.

Charles Shi: I appreciate the colour. Thanks.

Rene Haas: Thank you.

Operator: Thank you. Our next question comes from the line of Matt Ramsay of TD Cohen. Please go ahead, Matt.

Matt Ramsay (TD Cohen): Thank you very much, guys. Good afternoon. I wanted to go back to the ARM v9 conversation on a couple of points. I noticed that this is the first time – and maybe I'm just dumb and didn't see it, but I think this is the first time you had explicitly put in the shareholder letter and in writing that you were at least double royalty rates from v8 to v9. And I guess I wanted to ask about that in a broader sense. Does – is that sort of across the board, across end markets and also across customers that are traditionally processor licensees and also ones that are traditionally architectural licensees and do the systems themselves? So I guess that's the first part of the question: is that a blanket statement across the board? And the reason I ask it, if you go back to lots of conversations around the IPO time frame, there were some aggressive ramps of loyalty rates across your mobile business, and I think we were all trying to figure out whether the v8 penetration to v9 would drive those kind of expansion and results, or if you would need some significant contributions from sort of total system licence and the like to get those results. And so any context there about the applicability and breadth of the – of that comment on doubling royalty rates on v9 would be really helpful. Thanks, guys.

Rene Haas: Yeah, thanks, Matt. So I'll, I'll attempt to answer it and let Jason and – Jason wants to chime in. Yes, you're right: This is the first time we've done it, although we only have done two of these letters, so we don't have a huge installed base to refer to. We wanted to provide some specific clarity, because we had – you know, had been receiving some level of questions around the thing you just asked about relative to how to think about v8 versus v9. The double – the v9 rate for the equivalent – double v9 for the equivalent v8 is sort of a rough guidepost, but in some cases it's quite a bit more. The Neoverse royalty rates have their own unique tables. The automotive royalty rates have their own unique tables. And some of the most high-performance CPUs that we ship into the client section have very, very significant lifted rates over version 8. So double is a – is a good rule of thumb for like-for-like, but in some cases it's even better than that. So that's – but we did want to sort of provide just some clarity because we thought, when folks looked at the numbers in the absence of that context, there would just be a question of just, 'Help me work out how you got here'.

So, Jason, anything you want to add on to that?

Jason Child: No. I think, you know, to Rene's earlier point, we're – I understand we're a little bit hard to model because we don't really track to other companies. And, you know, because of – you know, we're, what, getting paid royalties on roughly 8 billion chips a quarter, and just the slightest bit of mix either to, you know, more premium handsets or to more v9 versus v8, that turns out to be a pretty sensitive variable. And, you know, when you look at the growth from last quarter to this quarter and what we're expecting from this quarter to next quarter, unit growth is very, very small. It's really almost all coming from rate growth increases, and, as we said back at IPO, we're, you know, almost 100% on contracts for next year, so really we're just seeing the manifestation of the work that was done in the last two years. We wanted to provide this v8 to v9 ratio as one way to help you guys be able to kind of see the progress and be able to model it, so hope it's helpful.

Matt Ramsay: No, it's super it's helpful.

Rene Haas: Yeah, I can say that, you know, one thing – one thing that we had high confidence in when we started looking at the transition was, v8 to v9, we knew we had increased rates and we knew that the royalty picture would be better than what we were accustomed in in the – in the past. I think one of the benefits we're getting – and I would use AI as sort of a driver for all this – is that the amount of v9 cores, or the mix of v9 cores, has been stronger than anticipated because people are putting more CPUs down where they were not planning on putting as many, or they may be putting a higher mix of v9 and v8, so that – that's all driven, I think, good forward momentum for us.

Matt Ramsay: No, that's super helpful, guys. Just a quick clarification. Any comment on – I mean, the base rates may be different, and obviously different customers have different contracts, but all of that commentary at least directionally applicable to your architectural licensees as well? Thanks.

Rene Haas: Yes. Yes, it is.

Operator: Thank – excuse me. Thank you. Our next question comes from the line of Andrew Gardiner of Citi. Your question, please, Andrew.

Andrew Gardiner (Citi): Thanks very much for taking the question. I had one on the licensing side. You guys have spoken about, you know, how strong it was in the quarter and the – you know, sort of being surprised at the quicker sales cycle time on some of these licences. A point that you haven't brought up on the call yet, but that was in the shareholder letter, was that you also saw three of the five ATA licensees in the quarter be upgrades from the ARM Flexible Access programme, and you said that was the first time that had happened. Did that take you by surprise, or were these customers that were, you know, getting to be particularly, you know, large for an AFA and so it was natural for them to upgrade? Yeah, is it – was it a surprise, and is this something that might actually continue to surprise positively? Like, is there a portion of that – you know, that cohort that is sort of natural to be upgrading from AFA to ATA and therefore contribute more in terms of licence dollars?

Rene Haas: Yeah, thank you for the question. We didn't bring it up in our comments. We've got a lot of good stuff to talk about this quarter. I was trying to keep it as concise. But the AFA transition to ATA – thank you for calling that out. That's a great trend for us. When we designed the programme a number of years ago, that was absolutely the intent is that customers that launched into an AFA would ultimately go on to a Total Access licence. What

largely drives that, quite frankly, is, you know, does the company that took the AFA start to get commercial traction in their business. Some of the AFA customers are early-stage companies. They – you know, may have an early exit or get acquired. As they get larger and mature, we expect them to embrace ARM technology in a broader way. So I wouldn't call it a surprise. I would actually call it an expected outcome that we have, and we're happy – we're really happy to see it. It's great.

Andrew Gardiner: Thanks very much.

Operator: Thank you. I would now like to turn the conference back to Rene Haas for closing remarks. Sir?

Rene Haas: Thank you, and thank you, everyone, for the kind words on the quarter and the good set of questions that we had. We're thrilled about Q3 and we're very, very excited about Q4. I think what you're seeing coming to life are all the strategies that we've been working hard on over the last number of years: investment in the v9 technology, the diversification of our business into data centre, into automotive, and of course IOT, and then now the – what I think is probably the most profound opportunity in our lifetimes, which is around AI. And I think, regarding AI, particularly when you think about artificial general intelligence, that's going to drive the need for more compute in a way that we've never seen before. So, as good as the last couple quarters were, we're just at the beginning. I could not be more excited about the growth that we have going forward, and thank you for all your time and questions.