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# EDITED TRANSCRIPT

ARM.L - Q4 2013 ARM Holdings plc Earnings Conference Call

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## OVERVIEW:

ARM.L reported 2013 YoY revenue growth of 22%, YoY normalized PBT growth of 32%, and 2013 YoY earnings growth of 40%.



## CORPORATE PARTICIPANTS

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## PRESENTATION

**Simon Segars** - *ARM Holdings plc - CEO*

Good morning, everyone. Welcome to ARM's full-year 2013 and Q4 2013 results. What we're going to do this morning, I'm going to talk about the business, the progress we've made towards our strategic objectives; and then I'm going to hand over to Tim, he's going to talk through some of the numbers; and then we'll go to Q&A.

I'll take as read the usual cautionary statement, and we'll start talking about the business.

I think it was a very exciting year for ARM in 2013. We achieved some great milestones in our business with our technology; I think one of the most significant being that our licensees sold over 10 billion chips containing ARM processors. That was a key milestone for us.

It takes the cumulative total now to over 50 billion chips containing ARM processors, since the Company was founded just over 23 years ago. That's a huge number, and it represents a massive diversity in the end markets in which ARM is designed.

We see ARM technology being used in big high compute performance applications, such as servers, in networking equipment, in phones and smartphones, and tablets obviously; and also, a growing proportion of ARM processors in very small, very low power, deeply embedded microcontrollers that are in a vast range of new and exciting markets.

Mobility, smartphones, tablets remains a very important market for ARM, and in -- well, a year ago, we were forecasting there would be about 1 billion smartphones sold in 2013; that, indeed, seems to have been the case. Our estimates show about 1.1 billion smartphones were sold, taking the total now in use around the world to about 2 billion.



The growth of smartphones, the growth of tablets has been very strong. We've seen tablets out-shipping PC notebooks in 2013, as well. These devices are the way in which people want to interact with the Internet, want to interact with each other. I think there's going to be a continued growth of these markets that we'll come back to.

In 2013, we also saw some key milestones in terms of our technology and the growth of new markets. As far as our technology goes, we saw the first ARM version 8 architecture products shipped. These are processors that add 64-bit processing capability, and we received our first royalty from those.

We saw our first royalties from 20-nanometer physical IP as our partners move to advanced processors.

We've also seen growth in new markets for ARM. There's a lot of buzz and hype at the moment around the category of wearable devices. Recently, at CES, you just saw a plethora of new devices, all based around ARM processors, which are exploring this product category. I think we're going to see a lot of growth there in years to come.

That is a sub-category of the Internet of Things, which, again, is in its infancy, but I think set to grow very, very strongly.

Right now, what people are using are ARM-based processors. They're using the chips that have been designed by our licensees; they're embedding them in devices, and are very quickly getting to market with new and exciting products. As these markets mature, we're expecting that, as the Internet of Things runs on ARM today, a vast, vast majority of that is going to run on ARM in the future.

At the other end of the computer spectrum, we've seen progress in enterprise networking and servers. All of this data that smartphones and tablets and IoT devices are producing needs moving around. It needs storing and processing, and we're seeing traction for ARM technology into these markets as well.

With the success of this business, that's led to record revenues, record profits. And we've been continuing to invest in our technology. We added over 400 people into the business in 2013 to help us capitalize on the new opportunities in front of us. So it was a very exciting year, a very busy year.

Q4 rounded off that year with great progress; a very strong quarter, again, in terms of licensing. We [sold] 26 processor licenses, and that helped create 121 licenses for the full year. Within that, there were 4 Mali licenses.

And in the quarter, our licensees shipped 2.9 billion chips; that's the most ever shipped in one quarter.

Now, there's a lot made at the moment of the slowing of growth in high end of smartphones, and indeed that appears to have been the case. But despite that, still we had record unit shipments because of the vast number of end markets in which ARM technology is used.

The performance of the licensing and the royalty growth led to 15% year-on-year revenue growth. Through that performance of the business, we're able to keep investing in the business, while we increase returns to our shareholders. We've just announced we've increased or dividend to -- by 27%.

If we look into what's behind royalty at the moment, typically, you're used to hearing us talk about how ARM has outperformed the industry; and, indeed, through 2013 that was the case. The semiconductor industry only grew by about 1% in 2013, yet ARM's royalty revenues grew 19%. So we've continued to strongly outperform the industry.

In Q4, that outperformance was lower. ARM's royalties grew about 7% year on year. The industry grew about 2% to 3% in that time. But overall for the full year, another very strong performance for royalty growth.



Again, you're used to hearing us talk about progress within mobile and progress outside of mobile. Now, over half the chips that are shipped by our customers are used in applications that aren't mobile devices. They aren't smartphones, or basic cell phones, or tablets; they're in things such as consumer electronics.

And there was about 2 billion chips shipped into products like digital cameras, digital TVs, DVD players, a vast range of consumer electronics. And about 3.5 billion shipped into enterprise networking applications and embedded computing; these very small microcontrollers I was talking about.

Smartphones, though, remain a very important, and a very valuable, market to ARM, and one we're expecting to continue to grow. Growth in 2013 was strong. We're expecting 15%, maybe as much as 20%, growth in 2014. And long term, a compound annual growth rate of about 10%. So this market is going to continue to grow, and continue to be profitable for ARM.

Despite the slowing of growth in the high end, what we're expecting, over time, is a rapid growth of entry-level and mid-range phones, priced such that literally billions more people can get access to these devices. And that creates a very valuable opportunity for ARM.

If we look into that, you can see the graph on the right there showing our expectation of growth rates of these different market segments of smartphones. At the top, the premium end, we're predicting about a 4% CAGR out to 2018, with much higher growth rates at the entry level and at the mid range.

Now, right now, if you go out to buy a smartphone, about 95% of them have an ARM processor in the application processor. Almost all of those now are Cortex-A processors. You'd find it really difficult to buy any sort of phone that doesn't have an ARM processor in its modem. So, in combination, you're going to struggle to buy a phone that does not have at least one ARM processor in it, and usually many more.

And as these markets grow, we're seeing a greater opportunity. About 70% of the chips inside smartphones integrate both the modem and the apps processor, and that helps reach a lower price point that is helping enable growth of the entry level and the mid range.

Now, the common complaint we get is that, well, those devices are cheaper, you're going to take less money than you would at the high end. And while it would be a glorious thing if everybody on the planet spent \$700 on smartphones, it just isn't going to happen. The growth of the entry level, the growth of the mid range, is a great thing because they represent big opportunity for additional ARM content in these devices.

What they're replacing are very simple voice-only and feature phones, which have a single ARM processor. But they're going to be replaced over time by smartphones. Some of them may be more basic than the high end that we know today, but there's more ARM content in there.

Cortex-A processors, graphic scores, the chips are built on advanced processes, which often use our physical IP. As we go forwards, we'll see big, LITTLE configurations of processors, again increasing ARM's royalty; the adoption of 64-bit processors across the entire product range at some point in the future.

So this growth represents a very valuable revenue potential for ARM, and, we believe, mathematically, supports our estimated growth of revenues from smartphones out to 2018.

Now, the other side of mobile computing right now is tablets. And tablets had a very strong year in 2013, as we can see there, tablets and ultra mobiles, between them, out-shipping laptops.

Again, the growth rates expected in this category are very strong. We're expecting solid growth in 2014; and out to 2018 again, this five-year window that we look at, a 20% compound annual growth rate of tablets. And you see how the growth just starts to swamp conventional legacy laptops over time.

When you look at desktop PCs, again, you see the growth there very slow; minus 5% CAGR. Desktop PCs aren't going to disappear, there's always going to be a need for those. But the way in which most people are using computers most of the time is via smartphones, via tablets, and that's why the growth rate is so strong. Again, virtually all of those are using ARM processors today, and we expect that to continue.



As again the market splits into different categories there will be premium tablets. There will be low cost tablets. The low cost tablets are all using ARM, and that is enabling billions of more people to get access to this technology.

Now, one area I've been particularly pleased with progress on in 2013 is the adoption of ARM technology into enterprise networking. This is a big market today, and will grow to about a \$20 billion silicon TAM in 2018. And that's about the same size as smartphone application processors. So this is a big semiconductor market. And it's for products that form the infrastructure of the cloud and the high-performance switches that are required to move all the data around the Internet.

This is a market that's served by a relatively small number of semiconductor companies. And almost all of them have already announced products based on ARM technology, and in fact four of them are shipping and paying royalty.

What that's led to in 2013 is about a 5% market share for ARM in enterprise networking. And that may not seem like much, but that's 70 million chips. And that's about twice what it was in 2012. So the growth rate is strong.

We've been working with our partners. Our partner's been working very hard on designing the right technology, winning the sockets in the enterprise networking equipment companies. And we're starting to see growth. And we expect to see more products brought to market, based on the Cortex-A15, based on ARM version 8 architecture in 2014. So this is a market we've had good success in 2013, and one we expect to continue to grow.

Similarly, in servers, I think 2013, and very recently, has been a good time for progress for ARM technology in servers. This was a strategy that was always going to take a long time to play out. There is a discontinuity that comes from the changing workloads of servers, and that creates an opportunity to change the way in which servers are built; to move to much more customized chips that are specific to the task that the server is trying to process.

And that is what the ARM partnership does very well; taking high performance processing technology from ARM, integrating it with IP and know-how in our customers to produce a tailored solution that's optimized for the workload.

If we look back over the last couple of years, prior to 2013, we're in a very early pioneering phase, where some of our partners were looking at this discontinuity and looking at how to take advantage of the opportunity that came from that discontinuity.

Through last year, there were about 15 different companies building chips and looking at designs based on ARM technology. What we're expecting this year is that growth to accelerate, units start to ship, and, based on all the software work that we're doing, [real] servers actually deployed.

I think what was one of the most exciting developments very recently was last week. We announced a partnership with about 12, 14, other companies that really demonstrates the ARM eco-system in action.

What we've been looking at for a long time now, this activity's been going for about one year, is how to ensure some degree of standardization to make it much easier to port software to an ARM-based server. And so in conjunction with some big companies that play in this space, people who build servers, people who buy servers, people who write software for servers, a collaboration has formed to create a standardization effort called the Server Base System Architecture that many ARM-based server designs will conform to, and, therefore, make it easier to support and run software.

And a couple of announcements recently, AMD just announced their Opteron A1100 series that's compatible with this new standard. AppliedMicro, similarly, their designs are compatible with this standard. And that's going to make it easier for the industry to adopt ARM-based servers, and get software running more quickly.

So this is a great demonstration of the kind of thing ARM can uniquely do; help work with people who compete with each other to solve common problems, and make it more efficient to deploy new technology.



Now, the other end of the computing spectrum are these very small microcontrollers. Through last year, in this embedded space, there were over 3 billion chips sold containing ARM-embedded processors. A lot of those are based around the Cortex-M series. This is a series of products that we've designed specifically with this market in mind, and is now about 160 companies with licenses to Cortex-M technology.

What many of them are doing are building devices that integrate a sensor, which is largely an analog device that's sensing something from the environment, be it temperature, or humidity, or the road shaking; integrating those sensors with a processor that can make sense of the data that's coming from the sensor and then, with a radio that's performing some form of connectivity, up to the cloud.

ARM's share in MCUs is about 20%, over 20% now. And what we've seen over the last few years is a migration from very, very simple what's called 8-bit processors to much more sophisticated 32-bit processors, i.e., ARM, and that gives more compute power; it makes it easier to write software; it makes it easier to maintain software.

Because we're able to deliver 32-bit performance and all those benefits at very, very, very low cost, there's -- the fastest-growing segment of MCUs is 32-bit, and we're very well placed to take advantage of that.

Similarly, with the radios, from our heritage in mobile, many of ARM's partners are using ARM processors in their radio devices; processing the protocol stack; processing the data that comes in; and forming the connectivity of this sensor MCU combo up into the cloud.

There were many examples of how these devices are being used on deployed at CES a couple of weeks ago; everything from basketballs to watches and wearable devices, just a whole plethora of end devices that are being made. And this category, I think, is going to grow very, very strongly.

We're seeing lots of experimentation in wearables; which ones take off, which ones fail is hard to say. But I think what's really interesting right now is just how much experimentation is happening, and it's enabled because the access for the technology is very low cost. The access to cloud-based storage and processing is very low cost. All of this is coming together to create an environment where many product experiments can be run simultaneously, and we will find out which ones are the most successful more quickly.

So, this is a really interesting space. Wearables is going to grow to a very large market; more than 200 million units is our expectation in 2018, and we expect that ARM will have a very large market share of that.

As we look generally at the expanding opportunity for ARM, we see within smartphones, application processors, that's a large silicon market today, about \$13 billion, growing to about \$20 billion in 2018. And there are multiple opportunities for ARM royalties within that segment. We have a very large market share today, but, as the market grows, there are more opportunities for ARM royalty-bearing units as these devices move to 64-bit, and as they become more sophisticated.

Enterprise networking, as I mentioned earlier, grows to a market that's about \$20 billion in 2018 as well, from about \$13 billion today. We have a very low market share there right now, but, as I explained earlier, that's grown from about 2.5% year before.

As those devices are built out, again, there's more opportunities for ARM royalty; Cortex-A15 moving to version 8 architecture, multiple processors in these very sophisticated devices.

And then within embedded, this is a market where we have pretty respectable market share today, about 22%. The size of that market today is about \$14 billion of silicon. Now, these devices are very, very low cost, so that's literally 10s of billions of different devices.

The semiconductor TAM grows again to about \$20 billion out in 2018. And we expect to see ARM's market share grow; again, generating a very profitable royalty stream from that market as it grows.

These are the three ways that we look at the expanding opportunity for ARM. The ARM content in all of these devices is different, but represents a big opportunity for ARM's royalty streams to continue to grow.



In summary, I think 2013 was a very exciting year for ARM. We made great progress on a number of fronts, in delivering our technology, in working into these new and exciting growing markets, and that has led to a very strong performance of our business.

Right now, the smartphone market may be slowing at the high end, but it's still a very large and very valuable market. I've explained how as the entry level, as the mid range grows, that represents a valuable royalty stream to us, despite that growth slowdown at the premium end in the second half of the year.

The design wins that we've been working towards in enterprise networking particularly and servers, starting now, are a great opportunity for future royalty growth. And that embedded market is growing very, very fast. The uptake of Cortex-M at that end of the market has been really, really strong, and we're seeing just lots of devices start to ship.

So all of this blends together, I think, to a great opportunity. ARM's fundamental business model is intact. We're able to respond quickly to new opportunities as they emerge, and I think that creates a great potential for future very strong business, as we've had in the past.

So, with that, I'll hand over to Tim.

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**Tim Score** - *ARM Holdings plc - CFO*

Thank you, Simon. Good morning, everybody. If I look a bit miserable, I've developed a little bit of a lurgie over the last 12 or 18 hours. So if you see me sprinting from that platform out that door, it's not because I don't like you, or I'm not enjoying myself, but I think we're in -- I think we're okay for the next hour, or so.

As usual, I will be fairly brief. There's a lot of financial information in the release. There's a lot of financial information in the slide deck to help you with your models. I'm just going to focus on the brief highlights of Q4; talk a little bit about the exceptional item that most of you might have noticed going through the Q4 results; look at the full year; and then focus in on the outlook.

For Q4, you've read the headlines, revenue growth at 15%.

Again, very strong licensing; well ahead of expectation.

Royalty, slower growth; a little bit behind expectation. So, combination, about 10 ahead in dollar terms on the market.

Despite the normalized OpEx in Q4 being a little bit higher than we, and you, were expecting, that's driving PBT growth of 19%. In that GBP88 million, you've got some mark-to-market impact of the normal revaluation of the monetary items and the forward contracts, etc.; and a little bit of bad debt provision; some triuing up of bonuses and commission payments, so it's a little bit higher.

But most of that is not run rate, so that when we look into Q1, despite the fact that obviously there's some wage inflation coming in from January 1, which is when most of our folks get there pay increases, the guidance for next quarter's OpEx is, obviously, somewhat lower than the Q4 outturn in the GBP84 million to GBP86 million range.

The combination of those two factors has driven earnings growth of 30%, benefiting, to some extent -- the difference between the 19% and 30% is, to a large extent, made up by tax. Because we're now getting, if you like, the first 60% of the benefit of the Patent Box regime that was introduced last year, so our tax rate is down from late 20s% to around about 20%. And we will look about -- we'll talk about the full year a bit later on that.

You may have seen in the release, in the IFRS numbers, there was an impairment charge, exceptional item, non-cash, and I just wanted to give you the context.



Briefly, cast your mind back to this time a year ago. Many of you will recall that MIPS Technologies had an activist shareholder on their register, and it was very clear that, that business was going to change its shape, and really the headline value in MIPS was the patent portfolio. That is a patent portfolio that had been developed over the last 20 years, very close to our heartland, 32-bit processors.

And we, along with other companies, were not very keen about the notion of that portfolio getting into the hands of, for example, a patent troll, because over the long term that could have caused quite a lot of disruption to the ARM eco-system. We felt it was very important to neutralize the potential impact of that, and we clubbed up with a couple of handfuls of other major technology companies and acquired rights to that portfolio for \$350 million.

Our share, you may recall, was \$167.5 million. And we viewed that, and how we told you about it last year, was effectively that was a lifetime insurance policy, as far as we were concerned, against costs that would have been incurred down the road had that patent portfolio got into the wrong hands.

The way that was accounted for was in the balance sheet split between a \$67 million intangible asset, as it says there, which is being written off eight years, which is the average life of the patents; and an available-for-sale financial asset, which represented the fact that typically these trusts that hold these patents often embark on licensing programs that yield cash, and the cash is returned to the participants.

Obviously, given ARM's contribution, we were well placed to receive that cash. So rather than it being written off at that point, or a larger intangible asset, it was an available for sale.

During this year, for a number of reasons around the participants in the consortium, and around discussions of what the parameters of a licensing program might look like, and they're not the type and size of companies who might take licenses, it was decided by the Trust to not license the program; to not do a license program, but to put it up for sale.

For us, we see incremental long-term strategic benefit in owning those patents outright than having the rights to license them. So, for a fairly nominal incremental cash outflow of GBP4 million, we have now brought that patent portfolio inside of ARM; and it's adding, broadly, 500 patents to an existing portfolio that was about 3,000.

It has the effect of, in accounting terms, impairing that financial asset. But in cash terms, what's actually happened is the lifetime insurance policy we bought for \$167 million, for an extra \$4 million, we've now improved. Because there are lots of things you can do when you own patents in terms of defending your position out into the future that you can't do if you only have rights to them.

So, that's the detail on the exceptional item, non-cash and non-recurring.

For the full year, briefly, 22% revenue growth overall; 32% licensing.

Licensing, as we all know in here, is a revenue stream that, in the history of ARM, has grown closer to 10% than 30%. But for the last four years it's grown at 30%, which I think represents the fairly dramatic increase in ARM's addressable market, and the fact that a very wide range of semiconductor companies now feel as though they have the opportunity to deploy our technology in multiple markets. That's been driving very strong licensing growth.

And we have been, I know, fairly [serially] beating licensing expectations, but it remains a lumpy concept. We only do 20 or 30 licenses a quarter, but it looks strong, and we'll cover that in the -- when we look at the outlook.

Overall for the full year, as Simon says, another strong year for royalties overall. Clearly, as Simon said, we've seen some slowdown in the back end; and again, we'll look at that we come to outlook.

So, 22% revenue growth.



32% growth in normalized PBT, in spite of the fact that this is probably the singular biggest year of investment that we've made in the business. We've increased our overall headcount by over 400 people this year, and we've invested in the business infrastructure that is absolutely crucial to supporting this rapid growth that we're enjoying.

So it's been a big year of investment, but the operating margin has gone up from about 46% to 49% notwithstanding that investment.

Again, because of the tax, a 32% increase in PBT becomes a 40% increase in earnings.

Effective tax rate on a normalized basis in 2013 about 20%. Expectations for 2014, about 18%, because we get -- well, the patent box regime is being implemented over five years. You got 60% of benefit in year one, and another 10% in each of the next few years, so you can expect our tax rate, as I've said before, to gradually edge down over time.

Strong year for cash. Net cash generation over -- well, GBP344 million. We end the year with GBP700 net; no debt.

As Simon says, we've increased the dividend by 27%.

And we've also said in the statement that we're confirming that we intend to maintain a flat share count over time. In reality, if you look back on a nine-year view, which is -- I know there are some faces in here have been throughout that journey, but on a nine-year view, we actually have a flat share count. It just came in one particular period in 2005 to 2008 when we bought back [16%] of the stock. And the issued share capital is now just coming back to the level of where we started that program.

So, the share count's been flat over nine years. We intend to keep it flat. And, in reality, what that will mean is a limited share buyback program to achieve that, which would be an ongoing item.

Quickly looking forward then, before we get into Q&A, the release there, the order backlog, which, as we know, has been growing very strongly, was marginally down Q4 versus Q3; but up about 17% end of 2013 compared to the end of 2012.

A combination of that high order backlog and looking forward into our opportunity pipeline of licensing looks encouraging, and we see another positive year for licensing in 2014. Of course, what this means is licensing is the key leading indicator for ARM's growth and for ARM's value. There are no royalties without licensing, so licensing is completely key.

And the fact that we've grown licensing broadly 30% per annum over the last four years, I think, bodes very well for royalties in the medium and longer term.

And so, and what we're saying in this particular year, despite some of the slowness at the high end that we've been seeing because of some of the penetration we're making into the new markets, because we still see mid- and low-end phones growing nicely next year, we see the full year growing at a similar rate that we've seen over the last three years.

Which, for those who have added up the numbers and divided by three, as one way of assessing that, it's about 19.3, or 19.5. But what we're actually saying is a similar rate to our normal growth in royalties is what we expect.

Therefore, overall, we expect the full-year dollar revenues to be in line with market expectations, which are currently in the [12.80s, high 12.80s, 1.28]. And that says assuming semiconductor industry improves as generally anticipated.

I think most of us around here are expecting a stronger second half than a first half, and we see no reason why that isn't going to materialize for us. But we'll obviously have to see because it's early on in the year.

With that, I will throw it open to the floor.



## QUESTIONS AND ANSWERS

**Simon Segars** - *ARM Holdings plc - CEO*

If I can just say, before we get into Q&A, out of respect to everybody in the room, if you could ask a question, as opposed to 17, I'm not just looking at you, Francois, then we could move around and then come back for another go. Francois?

**Francois Meunier** - *Morgan Stanley - Analyst*

So, I will ask 16 questions. Right, so, I would like to understand what's going on with the ASP, going from 4.8 or 4.9 to 4.5, so it's kind of 10% down. I understand the mix effect, but, at the same time, I think Cortex-A shipments have doubled and embedded microprocessor -- micro controllers have gone up by only 35%. So if you could help me reconcile those numbers, that would be really helpful.

**Simon Segars** - *ARM Holdings plc - CEO*

As you say, it is about mix. Those Cortex-M growth is in chips which are much less expensive than typically what Cortex-A goes into, and, as we've seen, the slowing of growth in the premium end of smartphones. So, one would expect that the ASPs will come down a bit.

**Francois Meunier** - *Morgan Stanley - Analyst*

So, as well as in Cortex-A?

**Simon Segars** - *ARM Holdings plc - CEO*

Well, as we all know, some of the devices are being built for the low cost handsets sell at lower cost than some of the chips for the high end. They are physically smaller, they integrate less technology, they sell for a lower ASP; that's purely to be expected.

**Francois Meunier** - *Morgan Stanley - Analyst*

Thank you.

**Sumant Wahi** - *Redburn Partners - Analyst*

Sumant, Redburn. I guess, if you don't mind, could you give us how many number of your licenses, both in number, as well as in value, are coming out of China and Taiwan?

And the related question I actually have is if I look at your licenses growth for the past three years and -- or the three years before that and compare it to the royalty growth, and I look at the licensing [surprise] this time around, I'm just wondering whether the royalties you make with the incremental licenses you getting in the last two or three years is lower than the average royalties you got from licenses previously.

**Simon Segars** - *ARM Holdings plc - CEO*

That's an interesting question. I think that's not necessarily the case. A lot of the licensing that we've done over the last couple of years has been version 8, the architecture; both the architecture itself and the processes that we've built around that. And they are typically going into higher ASP devices, so I think one would expect the royalties from that to be at the higher end.



In terms of the split of licenses into China, I'm afraid I don't have that off the top of my head. But roughly, half our total business comes out of Asia. China is a growing area for that. We're seeing increased design activity in China. We're seeing the sophistication of the chips designed in China going up and up over time, and I think that's part of the overall trend of the technology industry.

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**Sumant Wahi** - Redburn Partners - Analyst

Could I assume more than a quarter then from China and Taiwan?

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**Tim Score** - ARM Holdings plc - CFO

Yes, maybe. I think, if the general line of enquiry is has your licensing growth really been fuelled by China, and is that likely to lead to a lower conversion into royalty over time, I think the answer is we don't see that. We've been licensing in China for many, many years and in the last two or three years material royalties are now being earned from Chinese licensees, but these were licensed four, five, six years ago. This is not a new phenomenon.

I think if you look into what underpins this 30% licensing growth, it is very broad in territory, and it's very broad in anticipated product the market is being aimed at. So I don't think there's a particular China focus to it, but it's helpful.

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**Didier Scemama** - BofA Merrill Lynch - Analyst

Didier Scemama, Merrill Lynch. Actually, I'll ask two questions. First one, can you maybe just talk about your PD royalty guidance, 19%, 20%? Maybe just give us -- put some text in that.

How much of that's driven by share gains in non-mobile? How much of that is driven by royalty rate expansion? How much of that is driven by specific share gains in maybe graphics, or other elements? Because I think, given your recent performance and revenue growth, probably some people will look at that number and thinking it's a bit of a stretch.

The second part on licensing, I was just curious to have a bit of color from you on the comments you made on the press release regarding licensing that has been done with telcos and software companies. How meaningful is that, going forward? Thanks.

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**Tim Score** - ARM Holdings plc - CFO

Sorry, I've actually forgotten the first part of your question.

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**Simon Segars** - ARM Holdings plc - CEO

I think it was [guidance on] royalties.

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**Tim Score** - ARM Holdings plc - CFO

I think, as you know, ARM growth is about layers. You heard Simon say that it is our expectation that smartphones generally continue to drive very meaningful growth in ARM's royalties, which is broadly consistent with the overall royalty growth rates we see.

In a five-year view, you've heard us talk about driving a 15% to 25% overall royalty growth from smartphones, and we do see strong growth in 2014 in the medium and low end. So I think you've got smartphones are still contributing well.



I think Simon touched on a lot of-- things like enterprise networking are now starting to be meaningful in 2014. We've signed 200 Cortex-M licenses in the last few years; a relatively small proportion of those are shipping to date. There's a lot of them just about to come to market. I know it's low end, it's high volume, low value, but it all adds up nicely. And I think towards the back end we're going to start seeing some contributions from the v8, higher priced, higher chip price. It's a combination of those factors that support our confidence in it.

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**Simon Segars** - ARM Holdings plc - CEO

And in terms of the growth of type of licensee, that's something that's been going on for some time with -- ARM's history is obviously about licensing semiconductor companies.

But over time, our commercial relationships with other people in the supply chain have grown, and you're seeing really just an extension of that; us developing relationships with other people who are either buying silicon, or contemplating doing designs themselves, or wanting to engage differently with the overall semiconductor supply chain as they look to optimize their products and maximize their differentiation. We're a partner in that.

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**Gareth Jenkins** - UBS - Analyst

Gareth Jenkins, UBS. One question to each of you, if I could. Simon, I just wondered if you could talk about Calxeda's exit from the market, and, I guess, whether you see more of an opportunity in micro servers and the data center opportunity rather than necessarily enterprise-class servers in the medium term.

And one for Tim. Just on the OpEx progression through the year, should we expect a steady progress in OpEx through 2014, upwards? And, related to that, headcount forecast for the year. Thanks.

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**Simon Segars** - ARM Holdings plc - CEO

In terms of the opportunity around servers, as I talked about in the presentation, I do see a big opportunity for us there. I think when I look at the amount of activity that's going on in that space, I'm confident that products are going to come out and they're going to start to ship and that they're going to grow.

Calxeda was a pioneer in that field. They entered this market very quickly and, like many startup companies, they didn't get there. But I don't think that means that that's the end of the foray into servers with our licensees; quite the opposite.

You've seen from the press release about the system architecture that's just come out. Big players are looking at this space. We talk to lots of people about the adoption of ARM in the data center because people want a different approach. They want to take advantage of this discontinuity about workload, and they want a different approach to solving the problem.

So I think the opportunity is very real, and I think the ARM partnership in totality has made great progress on that in 2013.

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**Tim Score** - ARM Holdings plc - CFO

And generally, on OpEx, we are still investing in the business and, therefore, from the Q1 base, you would expect OpEx to gradually go up quarterly, all other things being equal.

To what extent we invest in the business in this 12 months will depend, to some extent, on our view of the market, and the speed of the appetite, and how the overall market's playing out. We obviously have quite a lot of control, or almost total control, really, over the timing of our investment

in people. But certainly, there are a lot of opportunities here that we need to seize, so we would expect it to be an ongoing investment period in 2014.

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**Nick James** - *Numis Securities - Analyst*

Nick James, Numis. Just on the smartphone thing, I guess we're having two changes in the market; one is the growth from the low and the mid end, but also there's a change in the supplier base, to the Asian chip makers from the Western chip makers. Asians tend to accept lower gross margins, lower ASPs, so I just wanted to understand how you're thinking about this impacting on chip prices and royalty rates. Thank you.

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**Simon Segars** - *ARM Holdings plc - CEO*

Primarily, the way we think about it is an overall expansion of the end market. I think it's a great thing that you can today buy a smartphone out the door, zero subsidies, for \$50 in China. That is going to put smartphones in the hands of many, many more people and drive an overall long-term upgrade in both the handset devices themselves, in the network infrastructure that's going to process and move around this increased amount of data. So we look at the long-term trend of an increased number of units out in the field, and see that as the good thing.

There will be pricing pressure. It's a maturing market overall, so you would expect that. But with these low-end devices, there's just more opportunity for ARM content. So the volume is good, the sophistication of the product's going up consistently over time, is a good thing for us.

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**Nick James** - *Numis Securities - Analyst*

Thank you.

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**Achal Sultania** - *Credit Suisse - Analyst*

Achal Sultania, Credit Suisse. Just a clarification on the smartphone question earlier. So, you're basically saying about -- talking about 10% CAGR growth in smartphone volumes, and you expect your smartphone royalties to grow at about 15% to 25% CAGR over the next four, five years.

Now, given that what we know about the volume growth, and obviously bulk of the growth is going to actually come from the lower end of smartphone market, would it be fair to say that all this growth in smartphone royalties is actually going to come from an increase in royalty rates, as opposed to increase in the application processor market, size of the application processor market? Would it be a fair statement to say that?

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**Simon Segars** - *ARM Holdings plc - CEO*

Well, I think it's mainly a growth in the ARM content. As I said in the presentation, right now, we're looking at very low cost smartphones replacing basic voice-only phones, which have a single ARM processor in them doing not very much.

As the smartphones get more sophisticated, there's opportunity for a new Cortex-A processor replacing probably an ARM7TDMI that was designed 20 years ago. There's opportunity for graphics processors. Over time, I think the whole of the smartphone market moves to 64-bit.

So, it's a blend of more opportunities for ARM royalty-bearing processors within a smartphone that today doesn't even exist, and then over time the royalty rate going up as, say, 64-bit comes in.

**Andrew Dunn** - *RBC Capital Markets - Analyst*

Andrew Dunn, RBC. If I can just ask the smartphone question perhaps a different way. Your outlook for smartphone royalties hasn't changed in the last two, three quarters, as far as I can tell, but you did single out high-end slowing in the second half of last year. Were there any perhaps customer or industry-specific issues in the same half of last year that you perhaps wouldn't expect to repeat, going forward? Thanks.

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**Simon Segars** - *ARM Holdings plc - CEO*

Well, I think what we've seen is, for now anyway, a maturing of that high end.

Now, I wouldn't write off the possibility of innovation in the high end at all; in fact, I'll be surprised if there isn't continued innovation in the high end, which creates demand for those products. But, for now, we're in a period where constant replacement seems to have slowed down and, therefore, people are living with their devices for longer. It isn't necessarily going to be the case that that will be like that forever, but that's the period that we're in at the moment. And that's been anticipated through last year, and we saw it really happening in the second half.

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**Andrew Gardiner** - *Barclays - Analyst*

Andrew Gardiner, Barclays. A question around licensing. Clearly, a very strong year in 2013; you're guiding for another one in 2014. Can you just give us a bit of color about levels coming out of backlog? [We're], sort of, off the record level in the fourth quarter. But as we look into 2014, can we continue to expect on the order of 20% to 30% per quarter, and similar kind of booking levels to be coming through from that?

And just putting it in a -- can you put it in the context of, obviously, a very good couple of years for v8, big, LITTLE, Mali coming onstream, that kind of thing. Is there enough activity, going forward, to continue to support that backlog? Thank you.

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**Tim Score** - *ARM Holdings plc - CFO*

Typically, when we look forward 12 months, we would expect about 50% of target license revenue to be in opening backlog. Some quarters it's 40%, some quarters it's 60%, but I think 50% is a good -- and although the backlog is a little bit off marginally Q4 versus Q3, if you actually look at how the backlog has developed over the last three or four years, it's actually grown faster than the license revenue. And obviously, in a sense, that gap needs to be changed.

I think combination of that, and combination of how you would expect us to look at this, which is by product, by customer, by value, what does our pipeline look like in 2014, that's what gives us the confidence.

I think v8 is relatively early in its licensing cycle. We've done many, many more v7 licenses than we have v8. So although it's been grabbing a few headlines, it's still very early in its licensing cycle. That will be a continued grower. And Cortex-M is by no means, for example -- and there'll be new processes coming out all the time, as you know.

So, no, I think it -- but, having said that, I don't think we've ever tried to position license revenue as a 30% grower forever. It will revert closer to historic growth rate before 2009, which you've often heard me talk about as mid high single-digit. But I think there's going to be a journey from what we've seen to there over the next two or three years.

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**Simon Schafer** - *Goldman Sachs - Analyst*

Simon Schafer, Goldman Sachs. I actually have a follow-up question, Tim. I think you said backlog can grow significantly faster, and even licensing, which of course has been a strong amount of momentum as a lot of non-mobile people have been signing up to your architecture. But what are the risks that backlog actually starts to decelerate a lot in an environment that you alluded to, that licensing will only grow mid single-digit and backlog actually starts to go down?



I'm just wondering, just because when you look at a [15-year] trend line of licensing the run rate of \$100 million is a standard deviation above what we're used to. So, again, just any concerns that backlog actually may start to fall?

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**Tim Score** - *ARM Holdings plc - CFO*

I think what we'll probably move into is a world where backlog is a bit more lumpy and goes up some quarters and goes down. We've seen a fairly relentless period of backlog growing really very, very fast, some of which has come into license revenue, but obviously a lot hasn't.

But I think part of the move from growing license revenue [13%] to growing license revenue at, say, 10% in the out years, part of that will be a flattening out of the backlog. And in the end, ultimately, of course, backlog has to grow in sync with license revenue, albeit removed in time.

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**Vijay Anand** - *Espirito Santo Investment Bank - Analyst*

Vijay Anand, Espirito Santo. A question on the networking market. You have a 5% share today; at the Analysts' Day, you talked about a target of 25% to 30% share by 2017. I guess, barring Intel, pretty much all the major networking semis have licensed ARM. The question is, are there any major road blocks, or major uncertainties, which can, I guess, prohibit you from hitting that target? Or is it just about steady share gains from here?

And related to that, the vast majority of the networking market is based on 64-bit. Would it be fair to say that the average royalty rate in the networking market is going to be higher than what we've seen in the smartphone market? Thanks.

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**Simon Segars** - *ARM Holdings plc - CEO*

So, to your question, right now, our market share is small, though the chips that we expect ARM-based chips to replace are using a variety of other architectures; PowerPC, MIPS, some Intel. As you saw on the slide there, most of the people who are playing in this space are using ARM technology, and we would expect share gains over time.

As you also point out, a lot of those applications run 64-bit code. It's only very recently that ARM 64-bit products are out there. So, again, that's going to take some time to come through into silicon and to broaden out the number of sockets that can be addressed.

As that happens, obviously, with a higher royalty rate for 64-bit technology, that benefits us. In the meantime, there are a number of designs out there with multiple Cortex-A15s in them. That generates a good royalty per chip. And those chips are physically large, and obviously have a higher ASP; that helps with the -- push the average up, [to the extent that] that's important.

Those chips, whilst they're much lower in volume than, say, the embedded space, have quite a lot of ARM content in them, and I think represent a good profit stream for us in terms of royalty.

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**Adam Bowler** - *Deutsche Bank - Analyst*

Adam Bowler, Deutsche Bank. You've previously talked about 15% to 20% PD royalty rate outperformance versus the wider semi industry. You obviously came in at the higher end of that this year. When we look out to 2014, based on the outlook that you've given us today, is that still the case? Or should we think 15%, and slightly lower, if anything, now?

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**Tim Score** - *ARM Holdings plc - CFO*

Well, I think if you take the 19% that I talked about and add your forecast for the semiconductor industry, you'll get the answer, and probably that implies around 15%, right? But I think it's -- these are sort of medium-term measures and trends we're seeing. ARM does not grow its royalties at that rate every quarter; and I think I remember the first half of 2012 it was growing at 5%, or something.



But certainly, we don't see any reason why our long-term relationship to the industry growth should change. In fact, I could probably build a case for why it would improve, given our penetration across these multiple markets, notwithstanding the fact that high-end smartphones, and smartphones in total, have slowed down over the last two or three years.

But don't forget, in a period where smartphone growth overall has already been slowing from three or four years ago, ARM's royalty revenues have been growing at a similar rate. So, we've already been more than making up for the slowdown in smartphone growth in penetration in other markets.

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**Dan Gardiner** - *Arete Research - Analyst*

Dan Gardiner, Arete. Given how fast Cortex-A has ramped over the last three years, 100% penetration of smartphones, 18% in units, and 500 million units per quarter, how quick do you think v8 will ramp, based on your understanding of when Android will adopt it? If you can frame that for 2014 and 2015, that would be very helpful. Thanks.

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**Simon Segars** - *ARM Holdings plc - CEO*

I think the growth of v8 and the growth of Cortex-A aren't necessarily -- the growth rates aren't necessarily going to look the same. Cortex-A is used in a very wide range of end products, where most of them may move to 64-bit over time, but there's no burning need to do that.

I think where we'll see v8 adopted is strongly in networking, in the server space, and over time across pretty much, I think, the whole market of smartphones. Once all the software starts to move, or once software starts to move over to 64-bit, then it's just easy to be compatible, or easier, if every device is compatible, running the same version of the software. But I think that's a long-term trend.

I think given the general, very broad applicability of Cortex and our 32-bit architecture, still expect very strong performance there, and with a more gradual shift to 64-bit.

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**Didier Scemama** - *BofA Merrill Lynch - Analyst*

I'd just like to go back to the royalties for Q4, [are they still] for Q1, if you've got any?

And just looking at the [thesis] for ARM for the last, I think, the [earliest] date 2011, you were talking about expansion of royalty rate, more recently v8, yet your very recent royalty revenue growth has not been totally [de-correlated] really from unit growth and the deceleration we saw in the end market.

I'm just wondering, have you seen any meaningful impact from 64-bit in Q4, or is that really something that's going to kick Q1, going forward? Or is there anything slightly different underlying, that we should be aware of, that would justify the deceleration in your PD royalty revenue growth?

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**Simon Segars** - *ARM Holdings plc - CEO*

Well, I think the total number of units containing v8 in Q4 was small. Compared to 2.9 billion, it was a small amount. So, to start seeing that come through appreciably is going to take some time. I expect v8 shipments will increase through 2014, but it's probably beyond then that you'll really start to see meaningful volumes and be able to spot that.

Given the vast number of ARM-based chips we're selling to other markets, 2.9 billion is a lot to make an impact on. So I think you're going to see it over time; exactly when is a bit hard to call because it's based on product shipments that are being made by companies a long way further up the supply chain than we are. But when it happens, obviously, we stand to benefit from it.

Gareth? These are repeat questioners now.

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**Sumant Wahi** - *Redburn Partners - Analyst*

You've given a very, very useful, I think, baskets of three end markets, essentially, where you see your royalty revenue potential being the application processor in mobile computing, enterprise networking, and then IoT and MCUs. In fact, that kind of highlights how the traditional non-mobile is almost double in revenue potential versus the old mobile, going forward.

But if I look at your royalty revenue guidance in the medium term, you talk about 15% to 20% performance versus [10%]. If you take a 3% semiconductor growth that means roughly about 18% to 20% royalty revenue growth.

Now, if I look at your -- these particular baskets and I look at the mobile growth potential, that's about 10% CAGR unless you get a lot more content growth over there. So I would bet that a lot of your growth is essentially going to be coming in the future from the non-mobile potential essentially.

I was wondering, when you look at that guidance which you have given on enterprise networking, or MCUs, would it be fair to assume that you're expecting a quadruple in market share, or something of that sort, in this particular space? What would be the underlying market share growth potential here? Or what are you seeing from you licensing which gives you this confidence of growth?

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**Simon Segars** - *ARM Holdings plc - CEO*

Well, if you take the two non-mobile buckets, we showed a 5% market share for enterprise networking and servers. As one of the other gentleman pointed out, the numbers we put in the Analysts' Day last May were more than 17-ish-% in 2018. So, that's quite a significant growth there.

In embedded, we're at a 22% growth for 2013. That was up from I think about 18% in 2012. So we're seeing steady gains there.

We've done a lot of Cortex-M licensing over the last couple of years. Designs, as we always say, take three, maybe five, years to come into mass production. We've been on a licensing program with Cortex-M for longer than that, so you would expect to see increased share gains there in the mobile -- sorry, in the embedded segment.

So I think -- hopefully, that answers your question in terms of where we see that going. We do expect an expansion of our market share in those two areas, and I think we're well primed for it.

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**Sumant Wahi** - *Redburn Partners - Analyst*

I guess, given that [internal things], and since you don't have much of a competition, so to speak, versus just internal customers within -- would it be fair to say that you could double your market share within the next three years, in fact?

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**Simon Segars** - *ARM Holdings plc - CEO*

I'd be very happy if we did, but it's not to say that there isn't competition there. It is a large market, it's a new market; there are internal architectures competing for it; there are other third party IT vendors out there trying to take a share as well. I think we've got a strong story that sets us up well to take a significant share.

Gareth?



**Gareth Jenkins** - UBS - Analyst

Gareth Jenkins, again, UBS. Last year you gave some very useful metrics around graphics and your units in terms of graphics development. I just wondered whether you could give us a sense of your graphics market share this year, the growth that's expected in that market.

I guess, you've got very high attach rates with Chinese mobile players, so you'll benefit from the low end. You've got higher tax rates in DTV. I just wondered if you could give us a sense of what you think the graphics market share will be through the course of this year. Thank you.

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**Simon Segars** - ARM Holdings plc - CEO

The growth has been strong. I'm not sure we've got a number in the --

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**Ian Thornton** - ARM Holdings plc - Head of IR

[150] (inaudible - microphone inaccessible).

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**Simon Segars** - ARM Holdings plc - CEO

Right, there you go. It was in there after all.

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**Ian Thornton** - ARM Holdings plc - Head of IR

(inaudible - microphone inaccessible).

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**Simon Segars** - ARM Holdings plc - CEO

So 150 million units in 2013, going to about 400 --

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**Ian Thornton** - ARM Holdings plc - Head of IR

[2012].

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**Simon Segars** - ARM Holdings plc - CEO

Sorry, 2012 to 2013. I'm sorry, you're going to have to point me at the page, Ian (laughter).

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**Simon Segars** - ARM Holdings plc - CEO

Right, so total for the year was about 400 million in 2013, up from about 150 million in 2012 -- 2013.

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**Tim Score** - ARM Holdings plc - CFO

Strong trajectory, Gareth (laughter). If you think of where it's come from, if you look at the Mali licensing in the last few years and you look at where the unit shipments, go back to 2012, and 2011, and 2010, there's virtually nothing. So, it is a pretty strong trajectory.

**Simon Segars** - *ARM Holdings plc - CEO*

Yes. So I'll just say that again; total for 2013, about 400 million, up from 150 million in 2012.

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**Unidentified Audience Member**

[Do you have any guidance for] (inaudible - microphone inaccessible)?

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**Simon Segars** - *ARM Holdings plc - CEO*

We haven't guided the number, but I would expect solid growth.

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**Tim Score** - *ARM Holdings plc - CFO*

[That wraps it up.]

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**Simon Segars** - *ARM Holdings plc - CEO*

Okay. Right, well, thank you, everyone.

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