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# EDITED TRANSCRIPT

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## OVERVIEW:

Company Summary

## CORPORATE PARTICIPANTS

**Akash Palkhiwala** *Qualcomm Incorporated - Chief Financial Officer*

## CONFERENCE CALL PARTICIPANTS

**Ross Clark Seymore** *Deutsche Bank AG, Research Division - MD*

## PRESENTATION

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

All right, everybody. We're going to get started with the next presentation and ask the group in the back to move outside.

So we're really happy to have Akash Palkhiwala, the Chief Financial Officer of Qualcomm, up on stage with me today. So Akash, I know it's a very long commute for you to get up here. So we chose wisely for Qualcomm, if nothing else.

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## QUESTIONS AND ANSWERS

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So why don't we just start with a little bit on the near-term business conditions and specifically where we are in the smartphone cycle. Last quarter, basically, people have thought that you'd have a snapback like we've seen to a certain degree in PCs but it just really hasn't happened on the handset side of things. So what's Qualcomm's view of when we will start to see a rebound in that side of the business?

**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Yes. So as you know, well, there are 2 factors kind of impacting the handset market. One is on just overall sell-through and the weakness we've seen, especially in China. And then second, are the inventory dynamics where there's definitely more inventory in the channel than we had anticipated at the beginning of the fiscal year.

And we've been very clear in our kind of framework that as we get through the rest of the calendar year, we expect the inventory to drain down. So in our minds, there's a shorter-term phenomenon, which is getting through kind of these headwinds, which we're confident that we'll be able to get through quickly now. But as we think about the company, we step back and think about the long term.

And fundamentally, not much has changed. Of course, we are watching the market size, total handset market size very closely because that's a key driver for us in terms of scale. But when you look at our product leadership, our road map, how we compare to our main competitor, the new technologies that are coming in for us going forward, we're very excited about what's in front of us.

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So when I look at the handset market, I was -- I didn't think there would be the impetus to double order, build the inventory, et cetera, like you would have had on the PC side during the pandemic side. So it's a little surprising to me that it's taken this long. And this isn't a Qualcomm-specific dynamic at all. So no blame on you guys. But is there anything else kind of post 5G refurbished handsets, anything that is a little bit more structural in your mind than cyclical?

**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

So again, I would just divide this into 2 parts. If you look at the total size of the market, what we've seen in history from the cellphone market is as new technologies come in, the replacement rates go up. And then normalize over a couple of years and then go back up again when a new wave of technology comes in.

So we saw that through 5G. Now of course, COVID came in the middle of it, and so it exaggerated the high and the low on both sides of it. But this is a consistent trend in the phone industry, I think, when you step back and say, okay, what's the next peak that will come in. We are very clear in our minds that the AI phenomenon that's happening on the cloud is going to migrate to the edge.

And as that happens, that clearly creates a driver for devices to have an impetus for growth. And this was a theory, I don't know, 6 months ago, 3 months ago, we were beginning to see use cases come up and OEMs think about how do we create kind of the next set of Gen-AI phones.

Clearly, Google has been active on this. Microsoft has been active on this. And now as we stand here today, we are even more confident that, that's a change that's going to happen because of what we are seeing our partners doing already in terms of getting (inaudible) for launches in 2024. So we're pretty optimistic.

The other thing I would say is the way the replacement rates work in phone industries, you're somewhere in the 3- to 4-year range of replacement cycle. And the last big cycle happened in 2021. So just naturally kind of following the time line you'd expect 2024, 2025 time frame to see benefit independent of Gen AI. And then Gen AI, if those use cases take off, that would be an incremental tailwind to it.

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**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So I want to go into the AI side in a minute. But first, let's just get to the last potentially bad news thing out of the way, and then I promise we'll talk about good news things. The Huawei trying to do its own processors and modems, et cetera. Talk a little bit about what is going on kind of behind the scenes with that?

They seem like they would be building on a lagging edge technology, I wouldn't think they'd be competitive with you. Maybe they don't take as much share at -- in the market. And so some of your other competitors make it up. But just kind of talk about what's happening with that and size the risk that you see to Qualcomm.

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

So when you step back, I think everyone knows the history of actions that have been taken against Huawei. And as a result, we only had a license from the U.S. government to sell 4G chips to them. So along with 4G, of course, we were selling processor as well and integrated chipset.

As we go forward, Huawei has made a decision to launch a 5G chip from the best of our understanding. And so we don't have a license to sell 5G to them. So they'll have to find another source if they want to launch 5G devices. And that's the process we're going through. The rest, I think you'll hear -- you're hearing the same rumors as we are hearing on how they are trying to accomplish that. We'll see how it plays out. Now when you step back and think about kind of -- I'll go back to our product road map, because we feel that against what they're trying to do, will have a strong advantage in terms of power, in terms of performance.

Our road map on technologies, especially CPU and AI is very, very strong as we go forward. So we think we're in a great position. Our OEMs obviously have picked up a lot of the share that Huawei had before. And these OEMs are looking forward to great launches. So we've sized the impact of Huawei to us going forward. It's already included in our guidance. And we're just looking forward to working with our partners for new phone launches.

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

All right. Let's get on to some more positive sides of things. So in the AI world, I think AI going from training at the core to inference at the edge is inevitable. Talk a little bit about the use cases of where you, as Qualcomm, can benefit the AI at the edge side of things?

**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Sure. So our view on AI is relatively clear. If you think about processing, the processing has always been split between the cloud and the edge. There are certain things that happen on the cloud, the rest happens on the edge. And we see AI as not something that's very different from that.

Obviously, we've seen AI first happen at the cloud. But when you think about the edge, the advantages that edge brings to cloud process, cloud AI is very significant in our minds. The first one and the most obvious one is cost. Once you've bought a phone, you just have that computing power sitting there versus using up expensive resources in the cloud to run use cases. So it's very straightforward that there's a massive advantage of running AI use cases on the phone, on the edge versus running in the cloud.

The second is latency. There are several use cases, especially if you think about gaming and how Gen AI will play a part in gaming. As an example, one use case is creating avatars on the fly during a game based on the environment you're in, based on your individual preferences, what characters you like, as an example, that would have to happen on the device. You couldn't make it happen in the cloud. There's not enough time because of latency reasons. The next one I would point to is security and privacy. One strong way to guarantee privacy and which is one of the key topics for Gen AI is to do it on the device rather than do it in the cloud and keep the information on the device. So those are all obvious ones.

But in our minds, running inference on the device is about new use cases beyond these things. And content creation is a great one. You could take a photograph as an example. And then you can alter the photograph based on text or speech instructions and using Gen AI models to go do that. You've heard about stable diffusion. It's a great way to create art on the phone where you could take a finger and start drawing something and a Gen AI model in the back can start creating art based on what you're drawing or how you're moving your hand or you can give verbal instructions to draw something out.

So there's just a lot of use cases, and I won't profess to be the expert at use cases. But the point is, once you have this capability on the edge, the ability to do different things with it is tremendous. The second point I wanted to make is this is not just about phones, right? So clearly, with phones, we're going to see Gen AI get adopted with devices launching later this year. You will see it across all OEMs. And let's say, in the next kind of 12 months, you're going to see a whole new set of new devices come through on the phone side. But as we go beyond that, we're going to see benefit show up in PCs.

Clearly, Microsoft is very focused on this. And as they transition their operating system around the use cases and the copilot use cases that they've outlined, that's something as we enter that area, we'll be able to give a significant benefit to.

The last 2 I'll highlight is ADAS. Obviously, AI, not just Gen AI but overall AI is at the center of ADAS. And so it's something that we've had a lot of success with and we're seeing that continue to drive adoption of new technologies within cars. And then the last one is IoT. I think we're going to see Gen AI use cases in various IoT devices. And what that does for us in our minds is you go from microcontroller-centric, wireline connected devices to process or an AI-centric wireless connected devices. And that's closer to home for us. Those are the technologies that we are very good at, and we'll be able to bring those -- to those devices.

Last thing is as we think about monetization, the amount of content growth that happens on the chip side, in our minds, is very significant because you're going to see increased processing capability, increased memory bandwidth. Obviously, if you -- depending on the use cases, you're going to have better graphics that are needed, better processors that are needed as well as CPUs. So there's a lot of opportunity for us to kind of increase content as these use cases get adopted. And then, of course, to the extent that we do a better job than our competitors in phones and outside phones, we have a benefit in terms of picking up share as well.

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So that's a very good answer across all those just for edge nodes. It's interesting to me how much of that is processor-based versus modem based. So talk a little bit -- I know that's nothing new to you about apps processor, Snapdragon for many, many years. You're probably the world's leading low-power processing company.

But talk about the processor expertise at the company and how you evolve to penetrating processor-centric markets rather than kind of communication-centric markets?

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Yes. So I think when you look at -- look back at the history of Qualcomm, we started with the modem. And I'd say we're clearly the best in the world at modem in our mind. And that expertise or that lead hasn't gone away. But increasingly, we are a processor company rather than a communication company now. And if you just take our premium-tier chip and we showed a web slide about a year ago in our earnings release, is about 85% or 90% of the content is driven by processor and the remaining 10% to 15% is driven by modem.

So if you just think about Qualcomm really, we're first a processor company and an AI company on the device versus a modem company. Now when you step back and think about how our framework of AI on the device is 3 parts. First is we have a CPU. So anything that runs in a CPU can run on our CPU as well. And the advantage of a CPU, obviously, is it's in all devices, and it's very easy to port use cases on the device. And we have, in our minds, the most power-efficient CPU implementation there is on the edge. So that's the first one.

The second is GPU. We support all open standards like OpenGL and others. And so GPU use cases can be ported onto our chip as well from a Gen AI perspective. The third engine that we have is our NPU, neural processing unit, which is specifically designed for AI workloads. And so what it does is, think of it as a new computing engine that is needed for the most power-efficient operation of AI workloads.

When you get to the edge, the single most important metric is power. So its performance divided by power is how you measure how good you are in implementing technology. And we feel like with our NPU, we have a significant advantage over anyone else in implementing power-efficient AI operations.

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**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

How does NUVIA fit into all of this? When you bought it, some people thought that might have meant you were moving back into kind of the server CPU side of things, but it seems like it's much more focused on the edge and the power-centric side. So talk a little bit about NUVIA and how it fits into this whole?

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Yes. We were pretty clear that what we were looking for is really to acquire a strong team and a strong heritage when we did the acquisition. We've used that team and our architecture license with ARM to develop highly power-efficient cores for edge devices. We're starting with the PC chip that's coming out later this weekend -- later this year in devices mid next year.

We're going to then use it in phones, and then we're going to use it in automotive. So you should think of this as something that will be pervasive across all of our devices. And we're very confident that we'll have CPU cores that are aligned with ARM architecture, but really have a performance advantage versus our competition.

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So let's pivot a little bit over to diversification from a high level. I know everything you just talked about in AI will do that. Between your handset market and your -- in the QTL, the licensing side of things, you're still a very heavily handset-oriented company. How important is diversification? And is the speed of doing that -- something that you consider when you determine whether to do it organically or via M&A?

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Yes. It's a great question. So when Cristiano became CEO about 2 to 3 years ago, he kind of changed the emphasis of the company, not just how we were communicating externally, but how we were operating internally to prioritize diversification and especially focusing on auto and IoT. And the way we started developing technology that became the first thought versus, let's make technology for handsets and then let's use it in other areas.

So we've seen a tremendous change in the way we've been operating internally and I think that's showing in our results. Now we've done extremely well in automotive, I mean, by any measure, in my mind. And if you think about, we started off with telematics, we extended to infotainment and digital cockpit. And then finally, we extended into ADAS. And the design win pipeline kind of shows how well we've done. The same applies to IoT. We've obviously, in some ways, kind of been impacted, especially in the short term with the environment as post-COVID and from an inventory perspective as well. But when you back up from it and think about the longer-term trend of the demand for technology within IoT, we think we're in a great place.

So that's absolutely the emphasis of the company. It's a part of our M&A strategy. If you look at the last couple of acquisitions we have done, it's been focused on things outside handsets. NUVIA was clearly -- there was a handset component to it. But our -- as I said earlier, our primary focus was entering the PC market with a very strong CPU story. We also acquired Veoneer and that gave us software assets within ADAS and that has been a key driver of our strong design win pipeline. So we've been looking at -- actively at acquisitions that accelerate our organic diversification plan.

Now one last point. When you step back and look at the numbers, we've grown IoT and auto significantly over the last 3 years, even with kind of the challenge we have in '23. But handsets has grown tremendously. So the ratios have not moved as much as we'd hoped, but it's for a good reason because we've been able to massively increase content on a per handset basis even while the handset market has been smaller.

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**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So one difference between the prior management team and the current was the size of the deals you -- well, you've concluded since you've been there, but attempted prior and then unfortunately, the regulatory environment got in the way. Are smaller deals, more tech-specific kind of rifle shots, the more likely strategy for the companies, like the NUVIAs and the Arriver/Veoneers, et cetera?

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

I'd say our strategy is largely unchanged. We've -- and we outlined this about 3 years ago at our Investor Day, and I'd say, we've executed on the framework we outlined. Our -- we've been focused on 2 things. We -- one is acquiring very small acquisitions where we're mostly acquiring teams or technologies, which mostly go under the radar, but several smaller acquisitions.

The second area has been the ones I mentioned, which is very larger teams or technologies and NUVIA, Veoneer being examples of that, which I think has worked very well for us. And the goal of all of these is to accelerate our organic plan. How do we get to diversification sooner through those transactions? We've also looked at larger transactions. And for one reason or the other, we've chosen not to pursue any of them, again, consistent with our framework. So I don't fundamentally see us taking a different approach going forward. To the extent we see a good fit, we'll look to pursue it.

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**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So why don't we go in a little bit into your revenue segments that you break out, and let's start with the handset one because it's the biggest. There's plenty of speculation in the market about the timing with which you're -- one of your biggest customers might internalize their modem procurement. I believe you've said just take that out starting in the second half of next year. Any sort of update on what's happening there? Or is that still the base assumption you'd wish us to operate under?

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Yes, that's still the base assumption. I mean, I think we've been very clear that we have a very strong modem road map. We'll have the best products out there and then it's a customer's decision from there.

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**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

Is there something that the support necessary for any customer, if they're making those sorts of decisions that there's leverage on the cost side if the revenue goes away at Qualcomm to offset that sort of thing or if they want this on a more positive side, if they wanted to stay that you're not just going to keep your cost structure high for something that they might kick the can down the road for 1 year, and you would just have to deal with the problem a year later. Like what are the levers that you have to adjust?

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

We've been -- I'd say our framework has been straightforward. We've set targets for operating margins and we're planning to execute to that. As you've seen through this year, we've taken cost actions as appropriate. At the last call, we also said we are planning to take additional cost actions. And so I think no change to really our framework of how we are operating the business and we're committed to the targets.

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**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So getting away from that hot button topic into something you probably can discuss a little bit more. Pricing within the handset market. 5G starts at the premium aerophone level, and then it migrates downward. How does the pricing year-to-year change for Qualcomm as a node or a G matures?

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Yes. So I'll start with the same kind of framework I discussed earlier, where it's less about the G, it's more about the application processor. So if you look at the last 3 years, and we showed a trend of this in the same web slide I mentioned earlier, the content has grown very significantly in the premium tier while they have all been 5G devices.

So even you leave 5G aside and just look at content growth, it's been a tremendous trend over the last several years. We've also seen mix shift up as the device just continues to become a more important device for people, and it's already been there in developed markets for the last several years. But in emerging markets, the amount of content consumption that has increased over the last 2 or 3 years has been massive. And so that drives a stronger device mix change, which has already benefited us. So you look back and you say, okay, every year, content continues to grow, especially with an application processor.

There is still a portion of 4G to 5G transition that needs to happen. And then the mix shift has moved up. So the proof is in the pudding, if you look at our per-device revenue per MSM metric, and of course, we don't disclose total MSMs at this point, but I think you can back into it, you will see that there has been a very significant increase in revenue per device, and it's all these factors coming together.

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So yes, and that's kind of the underpinning of my question. Just to solidify this, it's not a cyclical reaction or a G reaction, it's something that's more structural because of the processor content and those sorts of things is your view?

**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Absolutely. I think and it's historical in fact at this point, that the content has increased independent of G. And I think the best way to look at it is premium tier where we have increased content by a lot in the last 3 generations. And in each case, there have been 5G phones.

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

Well, some of the performance benefits and leadership that you have has been very evident in the market share increases you've had at some of your key customers over the years. And just obviously, there's the iOS side that's difficult to talk about. But in Android, even it's increased substantially. Is that something that you believe you can hold that nearly 100% share in some of those high-tier flagship products? Or was that kind of a more onetime or a 2-year pop that you saw over the last year, 1.5 years?

**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

I think when you step back and you look at how we've done in terms of increasing share and increasing content, we think we're in as strong position going forward as we've been in the past. You're always going to see some ups and downs across the OEMs. But that's not how we plan our business.

We step back and look at our overall share of available SAM and it's been very strong. We think it's going to continue to be strong. It's all about the road map -- product road map. And we've learned this over a very long period of time in this industry. I think if you were sitting here 10 years ago and having this conversation, we had about 10 competitors in handsets, and it's now down to 1 or 2 players. So I think our strategy has worked out well. We've obviously grown revenue a lot when you look at a longer-term time frame versus just '22 to '23. And it just shows the strength of our technology portfolio.

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

And if anybody in the audience has a question, just raise your hand, and I'll hopefully see it. But let's pivot outside of handsets to the IoT side, the next biggest part and you talked a little bit about this before in the diversification efforts. But talk about the trends in the consumer. I think you have 3 buckets in there, the consumer, the edge networking and then the industrial side of things. Talk about where we are in Qualcomm's penetration in those markets and where you think the future growth could be the most exciting.

**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

So let me talk through each one of them. Consumer, there's 2 large opportunities, and I consider them step function opportunities for us going forward. First is PC. We're seeing -- when you look at the PC market, we see the PC market changing completely to an AI-based PC market. And as that happens, we will be the leader in that part of the market.

And so it'll start as a small portion of the market. Eventually, we see the entire PC market transitioning over, and we're going to enter that portion of the market as the leader going forward. So we are in a very good place, I think, to tap into a very large established silicon market that is going through an inflection point. Second is XR Metaverse devices. It's difficult to predict when it will become a very large market, but I think we're set up very well. We have most of the designs. And eventually, we see that market becoming larger, significantly larger than what it is today. And if and when that happens, we'll have a chance to grow significantly with it, right?



So those are the 2 large opportunities within consumer. The key thing to note from a financial perspective is it's all incremental investment for us because we are leveraging technologies that have been created for handsets. And so financially, you don't have to make a very large leap of faith in terms of our share in those markets to make it material for Qualcomm.

The second is edge networking, and that's where I'll highlight 1 market. So there's 2 parts to it. There's a WiFi access point market, which where we are already the leader. The second is 5G as a broadband technology into homes, a 100% reuse of technology we create within handsets going into this market. And we feel very confident that as 5G gets deployed broadly in India and Indonesia and all the emerging markets, it will become one of the home broadband technologies. So very well positioned there.

And then the third is industrial which, as I mentioned earlier, that market is going through this transition from a microcontroller market, a portion of it, there obviously, microcontrollers would still be very relevant but a portion of it is going to transition over to processing, AI and wireless connectivity. And when -- if and when that happens, we obviously have an entire portfolio of products that is 100% reused to go into those markets. So again, financial leverage is very high when we enter those areas. So pretty optimistic when you look at a longer-term view of how we can leverage the technology we've created for mobile in those areas.

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**Ross Clark Seymore** - Deutsche Bank AG, Research Division - MD

So we only have about 5 or 6 minutes left. So we're going to go fast. We can kind of do rapid fire in these. And forgive me that they warrant more time each, but we just don't have it. On the automotive side of things, you guys have grown incredibly impressively over the last few years. Most of the things that you talked about it's your Autotalks Analyst Meeting have come out to be ahead of plan and understated. Where are we in that evolution? And when do you think there would be -- if there is a stair step up or a step function increase in that market? Or is it more linear?

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**Akash Palkhiwala** - Qualcomm Incorporated - Chief Financial Officer

I think financially, we've kind of outlined our forecast in the longer term. And so we're -- that's what we're executing on. I think fundamentally, the way the trends are working out for us is very favorable. If anything, we're seeing an acceleration in terms of how cars transition over to modern infotainment and digital cockpit.

And then we're by far the leader in that area with very, very broad presence and what has happened there is we have the design wins, not much has translated to revenue because the cars are good, launching in '23 and '24. And so you're seeing -- you're going to see the step function as those cars launch. And then ADAS, our view was always that Level 2, Level 3 is where the action is going to be for the next several years. And we focused on that part of the market. And what we bring to auto OEMs in that area is a road map that goes from the highest premium tier to the lowest tier and software assets that come with it.

We've also talked about a combined SoC that allows you to do cockpit and ADAS both with 1 chip. And so we just bring in our minds, tremendous advantages to a very large global OEMs who are looking for scale, who are looking for the best technology and who are looking for an ability to combine across all these paradigms. So like phones, we went in with a system solution. Our digital chassis comes with all the connectivity chips you need, all the digital cockpit chips you need and ADAS, chips and software. And the benefit of us -- our solution is not any point solution, but the fact that you can put it all together.

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**Ross Clark Seymore** - Deutsche Bank AG, Research Division - MD

So the last segment doesn't get as much attention, but it's incredibly important, at least for profitability, is the QTL side, the licensing business. Any sort of changes other than the handset market is strong or weak in a given year that you worry about? I get questions on, does there need to be another renegotiation? Does that happen when 6G kicks in? What's the view kind of near term and more importantly, mid- to longer term in QTL?

**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

So QTL, we've been very happy with where we stand on QTL. I mean we have obviously licenses that are signed for the longer term. There are smaller licenses that come and go as negotiations come and go. But when you step back and say with all the major OEMs in the world, we have longer-term license, we just extended Samsung all the way to 2030.

We have several years left in a couple of other licensees as well, large, very large OEMs. So we feel pretty comfortable about where we stand. Now when we get to 6G, the way to really think about 6G is first, we hope it happens as soon as possible. And so that's something that Qualcomm is definitely going to lead. Second is when 6G devices come out, we expect them to also have 4G and 5G in the same device. So our technology licenses and from a QTL perspective, still remain relevant as long as you have those technologies.

Maybe the last point I'll make is 6G is going to build on the things that are good in 5G, right? And so when you think about spectrum bands we are looking at, bandwidth we're looking at, leveraging millimeter wave spectrum, all things that are strong in 5G where Qualcomm has an advantage are the basis for 6G. So we're pretty excited about what the technology brings forward and QTL is going to be in a great position when that happens.

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**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

So I just want to wrap up in the last 2 minutes we have, talking a little bit about the margin front. You talked about re-examining the OpEx side of things before, and I assume you're not going to really update us on that today beyond what you said. So let me just focus on the gross margin side of things.

Qualcomm has done a great job of stepping the gross margins up in QCT, at least the implied ones that we can get to over the last 3, 4, 5 years. Where is the sustainable gross margin in QCT? Because my calculations, you're kind of upper 40s to near 50%. I would think with your dominant position, the strong IP you have admitting that you have a big customer or a concentrated customer base in handsets, but a lot of fabless companies will do, I don't know, 55%, kind of 50%, 60% range. Where do you think the long-term center of gravity is to your gross margin?

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Yes. So we've been consistent in kind of our view on gross margins. We think that where we are at is a good way to model the business going forward. As we look forward, especially as we look at IoT and areas that whether we are going into IoT, we think there's an opportunity on the upside, auto as we look at connectivity and cockpit and then ADAS and software assets that come into play, there's an opportunity for upside as well.

So structurally, financially, I think we should model where we are at. Clearly, we are focused on kind of the key drivers I just outlined where we have upside opportunities. The mobile landscape is -- handset landscape has been clearly defined in the past. And so we've been in a certain range from a gross margin perspective. We're optimistic that as kind of things evolve and as our competitive advantage kind of extends in certain areas, we'll be able to add to it. But I don't think of that as a base case financial forecast. We've -- we think where we're at is a good way to model the business.

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**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

The diversification over time is probably the longer-term tailwind focus on.

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**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

Clearly, that's something that benefits us. Yes.

**Ross Clark Seymore** - *Deutsche Bank AG, Research Division - MD*

Great. Well, I think we are running out of time, and so we're going to end perfectly on time today. So Akash, thank you so much. Thank you for joining me on stage.

**Akash Palkhiwala** - *Qualcomm Incorporated - Chief Financial Officer*

And thank you for having us. Appreciate it. Thank you.

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