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Micron Technology, Inc. (MU)

Q2 2023 Earnings Call - Post Earnings

CORPORATE PARTICIPANTS

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Mark Joseph Murphy
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Sumit Sadana
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OTHER PARTICIPANTS

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Vijay Raghavan Rakesh
Analyst, Mizuho Securities USA LLC

Sidney Ho
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Harsh V. Kumar
Analyst, Piper Sandler & Co.

Ambrish Srivastava
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MANAGEMENT DISCUSSION SECTION

Operator: Thank you for standing by, and welcome to Micron's Post-Earnings Analyst Call. At this time, all participants are in listen-only mode. After the speakers' remarks, there will be a question-and-answer session. [Operator Instructions]

I'd now like to introduce your host for today's program, Farhan Ahmad, Vice President, Investor Relations. Please go ahead, sir.

Farhan Ahmad

Vice President-Investor Relations, Micron Technology, Inc.

Thank you, and welcome to Micron Technology's fiscal second quarter 2023 sell-side call back. On the call with me today are our Chief Business Officer, Sumit Sadana; our EVP of Global Operations, Manish Bhatia; and our CFO, Mark Murphy.

As a reminder, the matters we are discussing today include forward-looking statements regarding market demand and supply, our expected risks, results and other matters. These forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from the statements made today. We refer you to the documents we filed with the SEC, including our most recent Form 10-K and 10-Q for a discussion of risks that may affect our future results.

I'll now turn the call over to the operator to begin the Q&A session.

QUESTION AND ANSWER SECTION

Operator: Certainly. [Operator Instructions] And our first question comes from the line of Vivek Arya from Bank of America. Your question, please.

Vivek Arya
Analyst, BofA Securities, Inc.

Q

Thank you for the call back. I had a two-part question. One is how far is Micron in terms of your cash cost in DRAM and NAND? And what do you think is the delta for your competitors right now?

And then maybe one for Mark, Mark, even when I take your inventory write-down expectations for May, it still seems like the ending inventory would be $7 billion, $7.5 billion. That would still be up higher than what you had exiting the last fiscal year. Is that a comfortable range to be in, or do you think that still leaves open the room for more inventory write-downs in the future?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Let me start maybe with the cost question. So, the question of, we're not comfortable with where inventory levels are, and separate and apart from the write-down question, Vivek, we do have elevated inventory levels. We expect pre-write-down. The DIOs peaked in the second quarter, and we would expect over time for the supply-demand balance to improve on customer inventories, improving and volumes increasing sequentially and eventually working inventory levels down. But it's going to take some time. And we would like – certainly targets have not changed around 100 to 110 days of inventories on hand, again, going to take some time.

The question of write-downs is a function of the quantity of inventories and the costs, of course, but also pricing. So, that's why we made the point in the call to indicate that write-down assumptions are sensitive to those factors including price. And if prices and our outlook are better than expected, then we'll have less write-downs of inventory, potentially even less in the third quarter. If inventory or price projections worsen versus our view, we could have larger write-downs, for example, in the third quarter, maybe the fourth quarter. It just depends on the shape of the recovery. And we have a certain view which is incorporated in the write-offs that we took.

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

Okay. Vivek, and then on your first question about cash costs, I can take that, this is Manish. So we said that we're not yet at cash costs for either DRAM and NAND. So really the underutilization actions that we've taken have really been around managing the overall supply-demand environment, managing our inventory, and trying to manage our supply to come down in line with the demand that we see.

And with regard to competitors, I can't really comment other than to say, and we've given some disclosures in the past about how our technology leadership, 1-alpha and 176 last year, has definitely helped us to become very competitive in costs. So we feel good about where we are and where our cash cost position would be relative to others as well.

Vivek Arya
Analyst, BofA Securities, Inc.

Q

And if I could quickly follow up. Mark, I know it's never a simple question, but modeling your gross margins past Q3 is quite challenging. Any rough guidelines you could give to us so that we at least have some kind of boundary conditions on how to model gross margins for the next several quarters?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah, it's a good question, Vivek. And anticipating the question, I did in the other call make an effort to provide a profile on gross margin. And, of course, as we just discussed, it's difficult because at these levels of profitability and the gross margins will be very sensitive to pricing assumptions and cost actions such as underutilization.

So, with that qualification, we did say if you look at our reported margins, we would expect the 2Q to be the trough. And then on lower inventory charges in third quarter, we expect a sequential improvement. And then in the fourth quarter, as mentioned, based on our current pricing assumptions, we would have a small or no write-off. And then, of course, as the underutilization charges, they weigh on the fourth quarter and first quarter and then improve, gross margins will then improve through the year. That's on reported.

Now, if you strip out just the write-downs in the second quarter and third quarter, the second quarter would be 7.3% gross margin, the third quarter would be negative 7.5%. So clearly that profile is down. And then, that's just a function of the pricing environment and, again, the costs of underutilization, which includes period costs.

Now, with this view of pulling those charges out, those write-downs out, under this view, we would trough in the second quarter. And then we would begin to improve off these low levels as we get volume leverage on our period costs, as the underutilization effects play through, and then most importantly, as customer inventories begin to improve and inventories begin to come down and the supply-demand picture begins to improve. So, clearly, the supply-demand balance and supply coming out of the system in concert with volumes increasing sequentially is an important part of the recovery here.

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

Just want to make a quick clarification...

Vivek Arya
Analyst, BofA Securities, Inc.

Q

Thank you.

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

...on the pricing comment as well. As Manish said, the pricing is not close to cash cost in the last couple of quarters, Q2, Q1. But in the guidance that we have provided in Q3 with the pricing that we have assumed there and the pricing trends we're seeing in the market, particularly in NAND, definitely close to cash cost for Q3 and getting closer in terms of DRAM as well. But just wanted to highlight that cash cost is obviously different from variable cost. The variable cost is much lower than cash cost because certain cash costs are fixed in nature. So, wanted to just provide that clarification.

Operator: Thank you. One moment for our next question. And our next question comes from the line of Vijay Rakesh from Mizuho. Your question, please.

Vijay Raghavan Rakesh
Analyst, Mizuho Securities USA LLC

Q

Yeah. Hi. Just a quick question. Just going back on the inventory side, as you look out exiting May quarter, given the incremental $500 million of write-downs and I know you mentioned 25% wafer start cuts now and the CapEx tweaks, I guess, would we expect inventory exiting the quarter to be closer to that $7 billion, low-$7 billion range? And then I have a follow-up.

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah. On a dollar basis, we would expect inventory levels to remain elevated for some time, but begin to come down through 2024. So, but again, this depends on the nature of the recovery and we do expect bit shipment volumes to increase through the year and inventory days certainly on a pre-write-off basis to come down and then on a dollar basis, eventually begin to come down.

Vijay Raghavan Rakesh
Analyst, Mizuho Securities USA LLC

Q

Got it. And then on the write-downs between the February and the May quarter, just wondering what would be the split between DRAM and NAND? And in DRAM, is the write-down that you've taken more on the DDR4 or DDR5 side since you'd expect some DDR5 demand to probably pick up into the back half, so might be some benefits from that, but any color there? Thanks.

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah, we just report these write-downs at the corporate level and given how we run the business on precedents and other factors. So we don't break it down by technology or by BU.

Operator: Thank you. One moment for our next question. Our next question comes from the line of Sidney Ho from Deutsche Bank. Your question, please.

Sidney Ho
Analyst, Deutsche Bank Securities, Inc.

Q

Thanks for the question. So I'm still trying to figure out the underutilization charges you are embedding in the fiscal third quarter guidance. Tried to bridge the gross margin from Q2 to Q3 excluding debt inventory write-down, you talked about may be down 15 percentage points, is there any color you can provide just for fiscal Q3? I know you talked $900 million for the full year?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah, we're just providing the full year, you know, if we look at – or I just provided the full year. If you give me a few minutes or maybe go to the next question, I can maybe give you a little bit more detail? But let me work that out.

Sidney Ho
Analyst, Deutsche Bank Securities, Inc.

Q

Okay. The reason I ask that just to give you background is because if I look at that down 15 points, let's assume half of that $900 million is included in fiscal Q3. That's already 12 points of margin difference. So that implies the ASPs not really declined that much, but I'm not sure of what I'm missing.

But maybe a second question, while you look at that, are you still expecting to have production cuts now 25% and sub-20% through the end of this fiscal year? Are there any plans to go beyond the current fiscal year?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.
A

Yeah. Let me maybe answer your first question. I've already got the answer on the first one. So, of the $900 million, not quite half of it is in the third quarter. And then we've got amounts split between some second and some fourth. And as it relates to – we've not commented on utilization beyond 2023. Sanjay mentioned on the call that we may. We'll have to evaluate it based on market conditions and so forth.

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.
A

Yeah. That's right.

Sidney Ho
Analyst, Deutsche Bank Securities, Inc.
Q

Okay. So the plan is still true this year?

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.
A

And, Sidney, one thing I do want to clarify is that the underutilization charge that Mark mentioned, a portion of it is going to be in the write-down amount included...

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.
A

Yes.

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.
A

...as well. So just, like, just that is the piece that you have to take into account and...

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.
A

Yeah. Just to be clear and I think I mentioned this on the main call that the reason the proportion is higher for the total underutilization charge is because of that write-down accounting and its effect.

Sidney Ho
Analyst, Deutsche Bank Securities, Inc.
Q

So, part of that $500 million of write-downs is this, is the underutilization charges?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc. A

Part of the $500 million would include utilization also, those higher costs -...

Sidney Ho
Analyst, Deutsche Bank Securities, Inc. Q

Okay.

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc. A

...because underutilization creates higher-cost inventory. So by definition, as you're writing that inventory down, part of that charge would be that underutilization-related cost.

Sidney Ho
Analyst, Deutsche Bank Securities, Inc. Q

Got it. Got it. Maybe a quick follow-up if I may. If you exclude the inventory write-downs, can you say whether DRAM gross margin is negative in fiscal Q3? And at what point does it make sense to cut further production or completely stop production, probably not realistic since you want to maintain your share?

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc. A

Yeah, I mean, we're not giving out specific gross margin breakdown between DRAM and NAND, particularly with all of these charges that we are talking about related to underutilization, inventory write-down et cetera. So, definitely we'll provide more color when we report results. But having said that, broadly speaking, our goal is to certainly keep flat bit share at customers and to not drive the pricing down to gain share, just we are a follower on price and we try to just keep our bit share flat and manage our business prudently.

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc. A

And, Sidney, one more thing that Mark mentioned on the main call was that the gross margins excluding the impact of the write-downs in Q3 was 7.5% negative and obviously the DRAM margins are a lot better than NAND. That is something that we can say, while we are not providing you the details and split between the DRAM and NAND gross margins.

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc. A

And, Sidney, one other thing. On the underutilization charge, which I mentioned, that's inclusive of costs that are absorbed in the inventories and also period costs. And just keep in mind that if you're then translating what portion of that goes into the write-down, it's clearly only the portion that's related to the inventory costs. So, just wanted to make sure that distinction was noted.

Operator: Thank you. Our next question comes from the line of Harsh Kumar from Piper Sandler. Your question, please.

Harsh V. Kumar
Analyst, Piper Sandler & Co.

Q

Yeah, hey, guys. Thanks for letting me ask the question. I was just curious, very roughly, what is the price difference between DDR4 and DDR5 right now that you guys are seeing? And then also maybe you could help us think about how much of your DRAM revenues is DDR5 right now? And how much do you think or when do you think the crossover will occur for you guys?

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah, so in terms of DDR4 versus DDR5, we still have a healthy premium between DDR4 and DDR5. DDR5 does sell at a premium. The premium is bigger in the data center than it is in the client space, and both data center and client DDR5 is going to continue ramping through this current and next calendar year, and we expect crossover to happen in both segments around mid-calendar 2024 from a bit perspective. The crossover will happen earlier on a revenue basis, but will happen around mid-2024 on a bit basis between the two.

Harsh V. Kumar
Analyst, Piper Sandler & Co.

Q

Understood. Thank you, guys.

Operator: Thank you. One moment for our next question. And our next question comes from the line of Ambrish Srivastava from BMO. Your question, please.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Hi. Thank you. Excuse me, Mark, I know you've been very helpful in answering all these questions on the inventory. I had a couple of clarifications. At the beginning of your prepared remarks, you said this is not due to obsolescence. And then, did I get it right that in the fiscal third quarter there will be $300 million included in that from the $1.4 billion write-down?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah, the reference to the $300 million, Ambrish, was the $1.4 billion creates lower-cost inventories. And so the $300 million was in reference to the benefit associated with that lower-cost inventory sell-through. In other words, had we not written it down, we would have $300 million less income in 3Q, versus since we pulled those inventory costs forward into 2Q, we now have $300 million higher income in 3Q.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Got it. So it's not necessarily the inventories...

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

That's separate of course from – yes, the inventory charge in 3Q is the $500 million. That's an incremental inventory charge.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Got it. So the $1.4 billion and $500 million, the charges that you have taken now, we should continue to see benefit of that, right? If this inventory is not going obsolete, you said there's no risk of obsolescence, then?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Correct. Correct, it's permanently lower-cost inventory.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Yeah, got it.

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

Over the period that we sell.

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Yes, and it will move through and pass on as per the turns in the business.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Got it. And you will call it out explicitly, right, every quarter then you get the benefit, correct?

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

I mean, we haven't decided. Like, we'll see how the business proceeds.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Okay. And then on – sorry, just on the minus 7.5% number that you gave for fiscal third quarter, is that inclusive of the benefit from the $300 million, because you said strip out everything [indiscernible] (00:22:04)

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

No, I just said that's stripping out the write-down.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Okay. Got it. Got it. And then I had a quick one for Sumit on the CapEx side. Sumit, this is a question I'm sure you get, we all get. What happens to your competitiveness as you push out your nodes? What's the right way to think about it in terms of specifically on the DRAM side?

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

I'll have Manish answer that question.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Sure.

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

Sure. So, Ambrish, I think we gave some good color on the call about the progress that we are making on both of our new technology nodes that we announced last year, 1-beta for DRAM and 232-layer for NAND and feel very good about what those nodes are going to be able to deliver in terms of bit per wafer gain over the prior nodes, both of which were also good nodes. So, feel really good about the intrinsic technology capability.

And then now the yield ramps that we have been able to demonstrate are reaching targeted yields faster than prior nodes, really faster than any nodes in our history. So we feel very good about our ability to demonstrate technology capability. And now what we're preparing to do is to enable both of those technologies across a broad portfolio of product. For example, in 1-beta, we talked about in our prepared remarks the LP5 part that's going to be generating revenue for us later this year, but we're also going to be utilizing that technology across DDR5 and compute, across high bandwidth memory, graphics, et cetera. So we're getting ready to use that really strong node across the portfolio. And similarly in NAND we've started in client SSD and we'll move the 232-layer into mobile and to data center. And so we feel very good about that.

And then, as we look forward to the next-generation nodes, for example 1-gamma, making very good progress on 1-gamma. And, in particular, that's the node where we're going to introduce EUV. And we've actually already taken delivery of what we've mentioned before of our first production EUV tools in Taiwan. We've actually already started using those tools to some degree on limited production in our 1-alpha. And it's already within just a couple quarters of having landed the tools demonstrated the ability to match yields with our multi-patterning immersion technology on 1-alpha that's been in production now for a couple of years.

So, really good progress on EUV. And that gives us confidence that, when we introduce 1-gamma, it will also be a strong introduction with good inherent technology capability for bit-per-wafer gain and cost reduction as well as it's going to ramp predictably and provide a strong cost reduction for across the portfolio.

Ambrish Srivastava
Analyst, BMO Capital Markets Corp.

Q

Okay. Thank you.

Operator: Thank you. One moment for our next question. And our next question comes from the line of Karl Ackerman from BNP. Your question, please.

Karl Ackerman
Analyst, BNP Paribas Exane

Q

Yes. Thank you. Two quick ones, if I may. But I was hoping if you could discuss your China exposure by product category? My understanding is that you're primarily tied to mobile. But if you could perhaps rank order the remaining segments, it would be very helpful as we think about the pending recovery in China?

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah. I mean, we definitely have a good deal of business in China. As you said, mobile customers, very strong center in China for mobile OEMs. We also have a very strong automotive business there. As you know, the EUV vehicle – sorry – EV vehicle growth, not EUV, EV vehicle growth...

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

That would be a separate part.

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah, that would be a separate part. EV vehicle growth is really high in China. The penetration is very high. The uptake is very high in these cars. Especially at the medium to higher end have a lot of electronics, semiconductor components in them. So, we have a good position. As you know, we are worldwide market share leaders in automotive. So, we continue to have a good position there as well.

And then, of course, we have customers on the client side as well as on the data center side, over a broad range of customers. So, we are pretty diversified across many different segments. And we expect that, as the China recovery gains momentum after the reopening, we do expect that there will be some demand uplift coming from China later in calendar 2023.

Karl Ackerman
Analyst, BNP Paribas Exane

Q

That's helpful. Thank you. If I may for my second question, Mark, you indicated 2024 CapEx would decline from 2023. Perhaps maybe this is a question for Manish. But is it fair to suggest your implicit outlook is that CapEx will be all brownfield or upgrades, and then you would achieve projected bit demand, which should recover in fiscal 2024 through the inventory on your balance sheet, unless maybe demand were to recover faster than you currently expect? Maybe just discuss that a little bit more in color, that would be very helpful. Thank you.

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

Sure. So, as we – we have taken multiple levers to be able to reduce the supply. We've reduced CapEx in WFE, in particular, as we talked about, more than 50% for FY 2023, and we've said that for 2024, it will be even lower. And we've also reduced utilization within our facilities. And then, the last one is we're holding inventory on our balance sheet.

So, as we look forward into 2024, the first thing we'll do is bring our inventories down. And that'll help us to be able to meet demand and keep up as the market increases, bit growth increases that we see, that we talked about, our current inventories will come down. And then, as we start to feel comfortable that we have a trajectory to reach our inventory targets, of course, we can increase our utilization rates to be able to increase supply as well. And then, CapEx for supply growth would be kind of the next lever and last lever.

So, really, right now, even in 2023, the CapEx that we have – the WFE that we've put to work has been primarily – actually, more than primarily I'd say, exclusively for technology transition and technology learning on these two new nodes that I mentioned. And that will be what we'll be focused on and even as we go through 2024 is bringing the benefits of the new technology to the product portfolio, whether that's 1-beta or whether that's 232-layer.

Karl Ackerman
Analyst, BNP Paribas Exane

Q

Very clear. Thanks.

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

Mehdi Hosseini
Analyst, Susquehanna Financial Group LLLP

Q

Yes. Thanks for taking my question. A couple of follow-ups. I'm just looking at quarterly CapEx trends throughout several cycles. And I come up with an estimate of $4 billion annualized CapEx just for maintenance, just what it would take to kind of run utilization rate at 70% to 80%. Actually, this is, obviously, making a broad guesstimate. But would – is the $4 billion annualized maintenance CapEx in the ballpark?

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

Mehdi, I don't know that we've really kind of given a definition. I think different folks have different definitions about what maintenance CapEx involves. I don't think we're really prepared...

[indiscernible] (00:30:30)

Mehdi Hosseini
Analyst, Susquehanna Financial Group LLLP

Q

... [indiscernible] (00:30:31) to zero?

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

Yeah. So, if you think about the CapEx and the elements that we have, the big buckets are, of course, WFE which primarily is for technology transitions, and when implemented the way we typically have, that does provide bit growth. So, the technology transition, WFE, does provide bit growth. That's the primary source of the bit growth that we would target within our supply. There's the facilities requirements that we have for implementing those technologies and adding the new equipment. And those tend to be a little bit lumpier and you do those sort of well in advance of when you need them.

And in fact, I think we mentioned that the mix of our CapEx in the second half of this year is moving more towards – construction is becoming increasing part of our maintenance in the second half of the year; in fact, more than double – more than twice what it was in the first half of the year. So, starting to sort of prepare clean room space for the future.

And then, we have the assembly test and other – R&D in other areas that we have that are – to be able to either provide us with good cost reductions for managing our assembly test costs or to provide R&D capabilities for the future. So, these are kind of the big buckets that we typically define our CapEx in.

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah. Mehdi, the CapEx is not really like a consumable. So, it's mostly – it is for technology transition, product enablement and advancing to more advanced nodes, which is giving you better costs and better production.

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

And more bits...

[indiscernible] (00:32:22)

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

And more bits. You shouldn't think that just for maintaining the bit production, we need to invest in CapEx.

Mehdi Hosseini
Analyst, Susquehanna Financial Group LLLP

Q

Got you. Okay. I was just trying to get a sense of where net cash would go to as I start to forecast free cash flows. Okay. And then, just looking beyond the current environment, obviously, there's a lot of moving parts with the write-off and underutilization charges. Let's say February of calendar year 2024, Q2 FY 2024, and you have your, let's say, some of the DDR4 that are cost down and then DDR5 that is at a premium, also the DDR4, if all equal, even if prices were to go sideways, given this inventory adjustment, if prices were like stable, you should be able to have a better margin profile excluding all the onetime charges?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah. We're not providing specific guidance that far out, and we will as we get closer to the date and the market situation becomes clear. We did give you a profile on how to look at the back half of this year and expected improvement on gross margin through 2024 assuming that all these factors we laid out move in the direction that we expect. And as you point out, particularly, if you're talking about second quarter 2024, some of the write-downs that would occur in third quarter, that lower cost inventory would be passing through in the second quarter of 2024.

Mehdi Hosseini
Analyst, Susquehanna Financial Group LLLP

Q

Can I ask a clarification question? Do you mind if I just have a quick follow-up?

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Go ahead...

[indiscernible] (00:34:34)

Mehdi Hosseini
Analyst, Susquehanna Financial Group LLLP

Q

Thank you. This is specifically next year. As you think about DDR5's premium for both PC and server application, that premium, would that be also with like the market pricing for DDR4, and would that be also the cost-adjusted DDR4 that you have?

Sumit Sadana
Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah. I mean, I think a lot depends on the market environment and competitive behavior. But generally, obviously, DDR4, as you know, versus DDR5, DDR5 tends to be a bigger die, more expensive at the module level as well because it has further integration at the module level compared to DDR4. So, it's higher in – but also higher cost. So, those are some of the factors that come into play.

And like you said, I mean, the DDR4, DDR5 transition is going to be taking place. And there's more inventory in DDR4 than there is in DDR5. So, a lot more DDR5 deployment in the future comes in as new purchases from our customers. That's another thing to look at.

But I think, broadly speaking, I think you have a number of data points that we have provided to you, which include bits bottoming in fiscal Q1 of this year before write-down in the days of inventory peaking in fiscal Q2, our data center revenue bottoming in fiscal Q2, customer inventories improving. So, when you zoom out of all of this, we also told you that looking at 2025 calendar year, we expect record TAM in that year. So, we do expect that looking out multiple quarters and into 2025, there is going to be a very substantial amount of growth that we are expecting in that timeframe, particularly in the late 2024, 2025 timeframe, and obviously continuing to focus on significant improvements in profitability and trajectory of free cash flow in the interim from here to 2024.

Mehdi Hosseini
Analyst, Susquehanna Financial Group LLLP

Q

Got it. Thank you for the details.

[indiscernible] (00:37:04)

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

Our 1-beta – you asked about DDR5, Mehdi. Our 1-beta technology is optimized for DDR5 in terms of the architecture and the technology. So, we feel very good about what that will eventually position us for as the market transitions.

Mehdi Hosseini
Analyst, Susquehanna Financial Group LLLP

Q

Yeah. Thank you.

Operator: Thank you. One moment for our next question. And our next question comes from the line of Brian Chin from Stifel. Your question, please.

Brian Edward Chin
Analyst, Stifel, Nicolaus & Co., Inc.

Q

Hi, there. Good afternoon. Thanks for taking the question. Maybe a two-parter on sort of demand. I don't think too many people have really asked about that. But was the lion's share of the reduction in the calendar 2023 memory, the demand forecast, is that related mainly to data center? What is also your, also, underlying assumption for data center bit demand growth in calendar 2023? And then, sort of the second part of that is, does your expectation for a mid-single-digit decline in the calendar 2023 PC TAM, is that a sell-out or a sell-in figure? I ask because sell-in sounds like it could be weaker than down mid-single-digits, and I think sell-in ties more into kind of activity levels at OEMs.

Sumit Sadana

Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah. I mean, this is definitely a good question. And we focus on a lot of these dynamics with our customers on an ongoing basis. So, in the last three months since our last earnings call, we definitely have been continuously assessing, as we always do, the level of inventories our customers have and its impact on demand for the near-term planning over the next several quarters. And so, the degradation in our calendar 2023 outlook for DRAM and NAND came as result of the assessment of the inventories, particularly in the data center, and also the pace of progress of inventories.

So, the inventories have been improving. So, it's a matter of the rate and pace of that improvement that we had to adjust for in our TAM, but also the extent of the pullback in growth estimates for both PC units as well as smartphones. So, smartphones going from low-single-digit increase to low-single-digit decrease in units in calendar 2023 over the last three months. And on the PC side, yes, mid-single-digit decrease. That puts the PC units – this is more of a sell-through comment – puts the PC units at a level that is very consistent with the level they were at pre-COVID in 2019 from a global PC unit sales perspective.

So, that's how we think about the PC business. And, certainly, different customers have different amounts of channel inventory. So, their own sell-in versus sell-out rates will be different. And our demand expectations are based on a bottoms-up view of what we are feeling our customers' sell-out is going to be, because that's going to – sorry – sell-in is going to be into the channel, because that's going to determine the consumption of DRAM and NAND.

Brian Edward Chin

Analyst, Stifel, Nicolaus & Co., Inc.

Q

Okay. Yeah. Okay. Okay. Great. That makes sense. Maybe just a quick thing, in technology, kind of separate. But, in terms of mix, I know you won't want to be too specific about percentages and crossover, et cetera, but when next year would you kind of plan for wafer inputs to really begin to shift toward 1-beta and 232-layer technologies? I know it may become more observant once you're kind of out of some of the utilization charges and et cetera, right, FIFO inventory, et cetera. But, I'm wondering if there's kind of a particular point in next year that you could kind of anticipating that to start to pick up some inertia?

Sumit Sadana

Chief Business Officer & Executive Vice President, Micron Technology, Inc.

A

It's too far out, Brian, right? Like, at this point, I don't think it's worthwhile. But like you said, as demand picture improves, we will have more clarity on it. And we just have to see time play out and as we turn back underutilization, and that is currently being implemented, we will also ramp 1-beta at that time when the demand improves.

Brian Edward Chin
Analyst, Stifel, Nicolaus & Co., Inc.

Q

Okay. That's fair enough. Thank you.

Operator: Thank you. One moment for our next question. And our next question comes from the line of Srini Pajjuri from Raymond James. Your question, please.

Srini Pajjuri
Analyst, Raymond James & Associates, Inc.

Q

Thank you. Mark, I'm just trying to figure out the cash flow for next quarter. Obviously, you got some help from working capital in the February quarter. So, if you could maybe help us, if you're expecting somewhat similar benefit from working capital in the next quarter or two, I think that will be really helpful.

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Yeah, I think – listen, on free cash, I think it's helpful, but maybe to step back, and this has been such a sharp and sudden downturn and we know all the factors and we've been aggressively, and with even greater intensity through the fall, taking actions, CapEx reductions, cutting operating spend, lowering utilization, and you even heard some additional actions announced today.

So, we've also, over the past several months, used our balance sheet to bolster liquidity and make sure that we're making the best long-term decisions for the business. And so, that sort of gives some backdrop as to where we are. I mean, our actions are helping improve the financial picture from what it would be otherwise, but it's clear that we need the broader market to recover, and more specifically, more supply to come out of the system.

But on free cash flow, we do expect free cash flow to improve from here, slightly at first, going second to third quarter, as reductions in CapEx are partially offset by weak operating cash flows. We have low volumes and challenging pricing. So, that's weighing on operating cash flow as the benefits of the receivables have waned and the inventories remain elevated.

Over time, though, we see free cash flow improving sequentially by sustaining our capital discipline and on, importantly, improving operating fundamentals. Specifically, we do see shipments continuing to increase from here, as we've talked about, customers replenish inventories, inventories begin to decline across the industry and channel, supply-demand balance to improve, and pricing to revert to more sustainable levels. It's not sustainable where it is. So, between our actions and a healthier industry, we see fundamentals improving, and we're certainly focused on returning to quarterly positive free cash flow within fiscal 2024.

Srini Pajjuri
Analyst, Raymond James & Associates, Inc.

Q

Got it. But it doesn't look like you're assuming your inventory levels to decline on an absolute basis in the May quarter.

Mark Joseph Murphy
Chief Financial Officer & Executive Vice President, Micron Technology, Inc.

A

Right. I mean, the sort of elevated inventory levels are in part contributing to this free cash flow use that we have, and we're certainly reducing CapEx and spend and other things to improve the situation. And we do expect slight improvement in free cash flow in the third quarter relative to the second, but it is still negative, significantly.

Srini Pajjuri
Analyst, Raymond James & Associates, Inc.

Q

Got it. Got it. Thank you. And one question on the mechanics of the underutilization, maybe for Manish. As we go through the next few quarters and as demand starts to recover, just curious if you expect pretty much all of the – 100% of the underutilized capacity to come back, or at what point some of the capacity becomes permanently impaired or moved to the next node, I guess? And then, as you bring that back, is there any incremental CapEx that we should be aware of?

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

Srini, I'm glad you asked that. It's actually definitely one of the considerations that we have when we think about underutilization is as we implement these new technology nodes, we can utilize some of this idle equipment to help us be capital efficient as we implement the next-generation nodes, right? So, that's always a balance that we're thinking about.

I wouldn't think of it in terms of any sort of impairment. I don't think that we're in that window. Our reuse node-to-node is very good. So, I don't think that idle equipment ends up getting impaired. That's not a first order of consideration. But the ability to utilize some of the equipment to be a little bit more efficient as we transition to new nodes, because, as we mentioned, new nodes can provide new product capabilities, whether that's higher performance products or, as we mentioned, DDR5 capability or others, we're trying to make sure we balance the whole picture on utilization, CapEx and demand for new technologies across our portfolio.

Srini Pajjuri
Analyst, Raymond James & Associates, Inc.

Q

I guess, as you bring that capacity back online, is there any incremental CapEx, Manish, that we should be aware of in the short term?

Manish Bhatia
Executive Vice President-Global Operations, Micron Technology, Inc.

A

Not – I mean, not specifically for bringing it online, but it depends on how we – I mean, we have multiple options of how we bring that capacity online in order to implement new technology nodes or to just replace the capacity that we had taken down before.

Srini Pajjuri
Analyst, Raymond James & Associates, Inc.

Q

Got it. Thank you.

Operator: Thank you. This does conclude the question-and-answer session as well as today's program. Thank you, ladies and gentlemen. You may now disconnect. Good day.