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Earnings Call

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## CORPORATE PARTICIPANTS

**C. C. Wei** *Taiwan Semiconductor Manufacturing Company Limited - CEO*

**Jeff Su** *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

**Wendell Huang** *Taiwan Semiconductor Manufacturing Company Limited - VP & CFO*

## CONFERENCE CALL PARTICIPANTS

**Brad Lin** *BofA Securities, Research Division - Research Analyst*

**Charlie Chan** *Morgan Stanley, Research Division - Technology Analyst*

**Laura Chen** *Citigroup Inc., Research Division - Research Analyst*

**Frank Lee** *HSBC, Research Division - Head of Technology Research for Asia*

**Gokul Hariharan** *JPMorgan Chase & Co, Research Division - Head of Taiwan Equity Research and Senior Tech Analyst*

**Mehdi Hosseini** *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

**Patrick Chen** *CL Securities Taiwan Company Limited, Research Division - Head of Taiwan Research*

**Randy Abrams** *Crédit Suisse AG, Research Division - MD and Head of Taiwan Research in the Equity Research Department*

**Rolf Bulk** *New Street Research LLP - Research Analyst*

**Sunny Lin** *UBS Investment Bank, Research Division - Director & Associate Analyst*

**Charles Shi** *Needham & Company, LLC, Research Division - Senior Analyst*

**Bruce Lu** *Goldman Sachs Group, Inc., Research Division - Research Analyst*

## PRESENTATION

**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

(foreign language) Good afternoon, everyone, and welcome to TSMC's Third Quarter 2022 Earnings Conference Call. This is Jeff Su, TSMC's Director of Investor Relations, and your host for today. TSMC is hosting our earnings conference call via live audio webcast through the company's website at [www.tsmc.com](http://www.tsmc.com), where you can also download the earnings release materials. (Operator Instructions).

The format for today's event will be as follows: first, TSMC's Vice President and CFO, and Mr. Wendell Huang, will summarize our operations in the third quarter 2022, followed by our guidance for the fourth quarter 2022. Afterwards, Mr. Huang and TSMC's CEO, Dr. C.C. Wei, will jointly provide the company's key messages. Then we will open the line for Q&A.

As usual, I would like to remind everybody that today's discussions may contain forward-looking statements that are subject to significant risks and uncertainties which could cause actual results to differ materially from those contained in the forward-looking statements. Please refer to the safe harbor notice that appears in our press release.

And now, I would like to turn the call over to TSMC's CFO, Mr. Wendell Huang, for the summary of operations and the current quarter guidance.

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**Wendell Huang** - *Taiwan Semiconductor Manufacturing Company Limited - VP & CFO*

Thank you, Jeff. Good afternoon, everyone, and thank you for joining us today. My presentation will start with financial highlights for the third quarter 2022. After that, I will provide the guidance for the fourth quarter.

The third quarter revenue increased 14.8% sequentially in NT dollar or 11.4% in U.S. dollars, as our third quarter business was supported by strong demand for our industry-leading 5-nanometer technology. Third quarter gross margin increased 1.3 percentage points sequentially to 60.4%, slightly ahead of our guidance as we enjoyed a more favorable foreign exchange rate and cost improvement effort. Total operating expenses accounted for 9.8% of net revenue as compared to 10% in the previous quarter. Operating margin increased 1.5 percentage points sequentially to 50.6%, mainly due to better operating leverage. Overall, our third quarter EPS was TWD 10.83 and ROE was 42.9%.

Now let's move on to revenue by technology. 5-nanometer process technology contributed 28% of wafer revenue in the third quarter, while 7-nanometer accounted for 26%. Advanced technologies, which are defined as 7-nanometer and below, accounted for 54% of wafer revenue. Moving on to revenue contribution by platform, smartphone increased 25% quarter-over-quarter to account for 41% of our third quarter revenue. HPC increased 4% to account for 39%. IoT increased 33% to account for 10%. Automotive increased 15% to account for 5%, and DCE decreased 2% to account for 2%.

Moving on to the balance sheet. We ended the third quarter with cash and marketable securities of TWD 1.5 trillion. On the liability side, current liabilities decreased by TWD 38 billion, mainly due to the decrease of TWD 116 billion in short-term loans, partially offset by the increase of TWD 70 billion in accrued liabilities and others. Long-term interest-bearing debt increased by TWD 88 billion mainly as we raised TWD 60 billion of corporate bonds during the quarter. On financial ratios, Accounts receivable turnover days decreased 1 day to 36 days. Inventory decreased -- inventory days decreased 5 days to 90 days, primarily due to higher wafer shipment during the quarter.

Now let me make a few comments on cash flow and CapEx. During the third quarter, we generated about TWD 413 billion in cash from operations, spent TWD 266 billion in CapEx, distributed TWD 71 billion in fourth quarter '21 cash dividends and raised TWD 60 billion from corporate bond issuances. Overall, our cash balance increased by TWD 43 billion to TWD 1.3 trillion at the end of the quarter. In U.S. dollar terms, our third quarter capital expenditures totaled \$8.75 billion. I have finished my financial summary. Now let's turn to our current quarter guidance.

Based on the current business outlook, we expect our fourth quarter revenue to be between USD 19.9 billion and USD 20.7 billion, which represents a 0.4% sequential increase at the midpoint. Based on the exchange rate assumption of USD 1 to TWD 31.5, gross margin is expected to be between 59.5% and 61.5%, operating margin between 49% and 51%.

This concludes my financial presentation. Now let me turn to our key messages. I will start by making some comments on our third quarter and fourth quarter profitability. Compared to the second quarter, our third quarter gross margin increased by 130 basis points sequentially to 60.4%, mainly due to a more favorable foreign exchange rate and cost improvement efforts despite continued inflationary cost pressures.

Compared to our third quarter guidance, our actual gross margin exceeded the high end of the range provided 3 months ago as our guidance was based on exchange rate assumption of USD 1 to TWD 29.7, whereas the actual third quarter exchange rate was USD 1 to TWD 30.32. This created about 80 basis point difference in our actual third quarter gross margin versus our original guidance.

We have just guided our fourth quarter gross margin to be flattish sequentially to 60.5% at the midpoint, as a more favorable exchange rate assumption will be offset by a lower capacity utilization rate. As a reminder, 6 factors determine TSMC's profitability, leadership technology development and ramp-up, pricing, cost reduction, capacity utilization, technology mix and foreign exchange rates. Looking ahead to 2023. We faced challenges from N3 ramp dilution, higher year-over-year increase in depreciation costs, rising inflationary costs, semiconductor cyclicality and overseas fab expansions.

To manage our profitability in 2023, we are working closely with our customers to support their growth and continue to strategically and consistently sell our value. We are also working diligently on our internal cost improvement. Excluding the impact of foreign exchange rate, of which we have no control over, and taking the other 5 factors into consideration, we believe a long-term gross margin of 53% and higher is achievable.

Next, let me talk about our 2022 CapEx. As I have stated before, every year, our CapEx is spent in anticipation of the growth that will follow in future years. Three months ago, we said our 2022 CapEx will be closer to the lower end of our \$40 billion to \$44 billion range. Now we are further tightening up this year's capital spending and expect our 2022 CapEx to be around USD 36 billion.

About half of the change is due to capacity optimization based on the current medium-term outlook, and the other half is due to continued tool delivery challenges. Out of the around \$36 billion CapEx for 2022, between 70% to 80% of the capital budget will be allocated for advanced process technologies. About 10% will be spent for advanced packaging and mask making, and 10% to 20% will be spent for specialty technologies.

Looking ahead, we will continue to manage our business prudently given the near-term uncertainties and adjust and tighten up our capital spending, where appropriate. That said, our commitment to support customers' growth remains unchanged and our disciplined CapEx and capacity planning remains based on the long-term structural market demand profile.

We will continue to work closely with our customers to plan our long-term capacity and invest in leading edge and specialty technologies to support their growth, while delivering profitable growth to our shareholders.

Now let me turn the microphone over to C.C.

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Good afternoon, everyone. First, let me start with TSMC's more resilient near-term demand outlook. We concluded our third quarter with revenue of TWD 613.1 billion or USD 20.2 billion, supported by strong demand for our industry-leading 5-nanometer technologies.

Moving into fourth quarter 2022. We expect our business to be flattish as customers are ongoing inventory adjustment is balanced by continued ramp-up of our 5-nanometer technologies, supported by smartphone and HPC applications. We expect our full year growth in 2022 to be mid-30% in U.S. dollar terms.

On the demand side, we continue to observe softness in consumer end market segments. Other end market segments such as data center and automotive-related remains steady for now for TSMC, but we start to see the possibility of adjustment down the road. On the inventory side, our customers and the supply chain continue to take action to adjust their inventory. We expect the semiconductor supply chain inventory to peak in third quarter this year and start to reduce in fourth quarter this year. We also expect it will take a few quarters through first half 2023 to rebalance to a healthier level.

While the ongoing inventory correction will also affect TSMC, we expect our business to be less volatile and more resilient than the overall semiconductor industry during this period, supported by 3 key factors that are TSMC's cost raise in the foundry industry. First, our technology leadership and differentiation is much stronger today as compared to previous years. This enable TSMC to win business and enables our customer to win business in the end markets despite the semiconductor cyclicality. Secondly, through our comprehensive design ecosystem and optimized process technologies, we are able to address and capture the structural increase in demand for computation and build a strong portfolio in high-performance computing.

Third, our strategic relationship with our customers are long term in nature and we continue to work closely with our customer on technology development, capacity planning and pricing to support their long-term demand and growth. As a result, we continue to see strong demand for our leading node, except N7, and steady demand for our differentiated specialty technologies on mature node.

Looking ahead to 2023, with the successful ramp-up of N5, N4P, N4X and the upcoming ramp of N3, we'll continue to expand our customer product portfolio and increase our addressable market. Thus, while the ongoing semiconductor inventory correction will affect our first half 2023 utilization rate, we expect our business to be supported by stronger demand for our differentiated and leading advanced and specialty technologies, and for 2023 to be a growth year for TSMC.

Next, let me talk about the N7, N6 demand outlook. Due to end market weakness in smartphone and PCs and customers' product scheduled delay, starting 4Q this year, our N7, N6 capacity utilization will not be as high as it has been in the past 3 years. We expect this to persist for a few quarters through first half 2023 as the semiconductor supply chain inventory takes a few quarters to rebalance to a healthier level, and we have adjusted our N7, N6 CapEx accordingly. We believe the N7, N6 demand is more a cyclical issue rather than structural, and we expect our N7 N6 demand to pick up in second half 2023.

Longer term, we continue to work closely with our customers to develop specialty and differentiated technology and are confident to drive additional wave of structural demand to backfill our N7, N6 capacity over the next several years. Thus, the 7-nanometer family will continue to be a large and long-lasting node for TSMC.

Now I will talk about our N3 and N3E status. Our N3 is on track for volume production later this quarter with good yield. We expect a smooth ramp in 2023, driven by both HPC and smartphone applications. Our customers' demand for N3 exceed our ability to supply, partially due to the ongoing tool delivery issues, and we expect N3 to be fully utilized in 2023. We expect N3 revenue in 2023 to be higher than N5 revenue in its first year in 2020 and for N3 to contribute mid-single-digit percentage of our wafer revenue in 2023, as our overall revenue base is much larger today than in 2020. N3E will further extend our N3 family with the enhanced performance, power and yield, and offer complete platform support for both smartphone and HPC applications. N3E development is progressing ahead of plan, and volume production is now scheduled for second half 2023.

Despite the ongoing inventory correction, we observed a high level of customer engagement at both N3 and N3E with a number of tape-outs more than 2x than that of N5 in its first and second year. We are working closely with our tool supplier to address towards delivery challenges and prepare more 3-nanometer capacity to support our customers strong demand in 2023, 2024 and beyond. Our 3-nanometer technology will be the most advanced semiconductor technology in both PPA and transistor technology when it is introduced. We are confident that N3 family will be another large and long-lasting node for TSMC.

Finally, let me talk about the future driver of leading node adoption. TSMC's mission is to be the trusted technology and capacity provider for the global logic IC industry for years to come. Our job is to help our customer unleash their innovations and enable them to capture greater value and win in their end markets. As the industry continues to pursue scaling, it is true that geometry shrink is slowing down and becoming more challenging for everyone due to rising process complexity. However, it is also true that demand for energy-efficient computing is accelerating in an intelligent and connected world as technology is becoming more pervasive and essential in people's lives.

The semiconductor industry value in the supply chain is increasing, and the value of technology platform is expanding beyond the scope of geometry shrink alone and increasingly toward greater power efficiency. As a result, our customers value much more than simply transistor cost. System performance and power efficiency has become key motivation for customers who adopt our leading node technologies. By working closely with our customer on technology development, our N3 and N2 will deliver full-node strides in performance and power benefits while offering the industry's most advanced transistor scaling. We expect strong demand for our leading node technologies, driven by both smartphone and HPC applications to fuel our long-term revenue growth of 15% to 20% CAGR over the next several years in U.S. dollar terms.

With our leadership in both leading-edge process technology and 3D solutions, TSMC's technology cadence remain constant to deliver the value of our technology platform. We will continue to extend our overall competitiveness and technology leadership while delivering a predictable technology cadence that help our customers to enhance their product competitiveness and grow their market well into the future.

This concludes our key message, and thank you for your attention.

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Thank you, C.C. This concludes our prepared statements. (Operator Instructions) Now let's begin the Q&A session. Operator, can we please proceed with the first participant on the line?

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## QUESTIONS AND ANSWERS

### Operator

Yes, Jeff. The first one to ask questions Gokul Hariharan from JPMorgan.

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**Gokul Hariharan** - *JPMorgan Chase & Co, Research Division - Head of Taiwan Equity Research and Senior Tech Analyst*

Congrats on the great results, especially on the margins. So the first question is on N7 and N6, this utilization slack that we are observing. Could we give a little bit more detail on why that is happening and why we think this is short-lived, a couple of quarters issue and we get a pick back in the utilization in the second half of the year? And I think last time we saw, this was for 28-nanometer, but that lasted for a much longer period of time. So could you also give us some kind of comparison with what happened back in 28-nanometer and why this is going to be very different? And maybe a little bit more color on what are the areas of backfill demand for N7 and N6 as the high-end smartphone processors and HPC start to move on to N5 and then N3. That's my first question.

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Okay, Gokul, let me please allow me to summarize your first question. So Gokul's first question is on N7 and N6. He wants to understand what is driving the utilization slack. Why do we believe it is short-lived and that the demand for N7 and N6 can pick up in the second half? And then also on the little bit longer-term outlook, why we believe that N7 can be backfilled, and it will not be like N28 a few years ago with a few years of underutilization.

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**C. C. Wei** - *Taiwan Semiconductor Manufacturing Company Limited - CEO*

Well, Gokul, maybe answer your question first on the why demand dropped. Demand dropped because of market becomes soft. As we said, in the weakness in the smartphone and PCs. And also a big factor is our customers' product schedule delay. And all in all, put all together, so we think that our utilization has been affected in fourth quarter this year and all the way to the first half of 2023.

For the longer term, we continue to work closely with our customer. And actually, let me also say that this is a cyclical issue. So it will pick up anyway. And we believe we will pick up in the second half of 2023. And for the longer term, we continue to work closely with our customer to develop specialty and differentiated technology to drive additional wave of structural demand from consumer, RF, connectivity, et cetera, and other application to backfill our N7, N6 capacity and so for the next several years. That's all I...

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Does that answer your first question, Gokul? Gokul?

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**Gokul Hariharan** - *JPMorgan Chase & Co, Research Division - Head of Taiwan Equity Research and Senior Tech Analyst*

Yes. My second question would be on the CapEx outlook. Now that we bring down the CapEx slightly for 2022, could you talk a little bit about what is the outlook direction for 2023, at least, if not absolute numbers, but just direction? Are we going to be flattish or it's likely to be going down? Second is, also, could you also give us an update on the schedule for the new fabs, Kaohsiung, Kumamoto, Nanjing and Arizona? Is there any change in the schedules in terms of these fabs coming into production?

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Okay, thank you, Gokul. So Gokul's second question is on CapEx and in capacity. So first, he wants to hear, of course, he says that we have tightened up our CapEx in 2022. So he is asking for 2023. Directionally, is there an indication of 2023 CapEx? And then he would also like an update on our expansion plans in Kaohsiung, Nanjing, Arizona and Kumamoto.

**Wendell Huang** - *Taiwan Semiconductor Manufacturing Company Limited - VP & CFO*

Okay, Gokul, let me answer you the first part. For 2023 CapEx, it is too early to comment. We will provide you with a specific guidance in January. However, as we said, we have tightened up our 2022 CapEx to reflect the current medium-term outlook, as well as tool delivery issues. Looking ahead to 2023, we will continue to be careful and manage our business prudently given the near-term uncertainties. We will adjust and tighten up our capital spending where appropriate, but we will continue to work closely with our customers to invest for the long-term structural market demand profile to support their growth.

**C. C. Wei** - *Taiwan Semiconductor Manufacturing Company Limited - CEO*

Well, let me answer the second part of Gokul's question. Gokul, you asked about the progress of our Arizona fab, Nanjing fab and the Kaohsiung. And let me say that Arizona fab will continue and on schedule. There's no doubt about it because this is a N5 family, which still have a very strong demand. And for Nanjing, we just get our 1-year authorization for 28-nanometer expansion. So it is on schedule also. For Kaohsiung, initially, we planned 2 fabs at the beginning of 28-nanometer expansion and the N7. Now N7 has been adjusted. And so -- but 28-nanometer expansion is continued and on schedule.

**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

And also Kumamoto?

**C. C. Wei** - *Taiwan Semiconductor Manufacturing Company Limited - CEO*

Okay. Also the Japan fab is on schedule to meet the customers' demand.

**Operator**

The next one to ask questions is Bruce from Goldman Sachs.

**Bruce Lu** - *Goldman Sachs Group, Inc., Research Division - Research Analyst*

So my first question is regarding to the HPC, which is a key growth driver for TSMC for the coming years. However, with the recent U.S. new restriction to China, what do you think about the HPC demand moving forward? What kind of impact is going to see a slowdown from China? Or are you going to see the fabrication from the non-China side?

**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Okay. So Bruce's first question is on HPC. He notes HPC, we have said repeatedly, will be TSMC's key growth driver and main engine in the next few years. He wants to know, I believe, Bruce, the impact of the recent U.S. regulations, does that affect the overall HPC demand or the overall profile. Is that correct?

**Bruce Lu** - *Goldman Sachs Group, Inc., Research Division - Research Analyst*

Yes, what's the impact from this new restriction to TSMC and overall industry?

**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Okay, let me answer that. Bruce, it's based on our initial reading and feedback from our customers. The new regulation set the control threshold at very high-end specification, which is primarily used for AI or supercomputing applications. Therefore, our initial assessment is the impact to TSMC is limited and manageable. We will continue to closely monitor the situation to ensure that we are all in full compliance with all the rules and regulation. And for the longer term, it's too early to really assess all the true impact or influence, but we will give you the update in the following earnings call.

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**Bruce Lu** - Goldman Sachs Group, Inc., Research Division - Research Analyst

So my next question is regarding to the cyclical nature for the 7-nanometers. But we also noticed that most of your other nodes, the capacity utilization rate is still at a very, very high level or at least much better than 7-nanometers as management mentioned. Why is 7-nanometer so cyclical? Because maybe because you guys are too big, you have to (inaudible) industry or what is the difference between your 7-nanometers and your other nodes?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Bruce's second question is looking at N7 specifically. He wants to know, are other nodes seem -- the utilization still seems to be holding up well. So why specifically N7 is more cyclical and utilization is not as high as it has been. Is that correct, Bruce?

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**Bruce Lu** - Goldman Sachs Group, Inc., Research Division - Research Analyst

Yes.

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Okay. It just happened that most of my smartphone and PC customers are using N7 and N6 node. And it just happened, the market weakness in the smartphone and PC happening at the same time. And also, other customers or product schedule delay, all in all, that's why it becomes lower utilization rate as compared with other nodes. If you want to compare with the N5 or you compare with the 28-nanometer, our orders are very -- is still at a very high demand, and we will continue to enjoy the higher market share.

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**Bruce Lu** - Goldman Sachs Group, Inc., Research Division - Research Analyst

I want to dig in a bit because we get used to like TSMC will manage your customers' product and overall outlook even with some tape-out delays you can make it out with someone else. But anything different with this time that 7-nanometer, you cannot have as good as your other nodes?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

So Bruce wants to still understand why the 7-nanometer utilization cannot be as high as the other nodes if we work closely with customers, and is well planned.

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Well, again, Bruce, we work closely with our customers, but our customers get caught in this inventory correction and the market downturn. They didn't know this one, probably 2 quarters before. And at the beginning of this year, they will still give us a very high number of their forecast. And it just happened, it just happened. But as we said, we believe this is a cyclical issue, and it will pick up. But before that, it probably will take a few quarters.



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**Bruce Lu** - Goldman Sachs Group, Inc., Research Division - Research Analyst

I see. We just get too used to it to be like -- to expect TSMC always deliver a much better result.

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

I understand.

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**Operator**

Next, we have Randy Abrams from Credit Suisse.

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**Randy Abrams** - Crédit Suisse AG, Research Division - MD and Head of Taiwan Research in the Equity Research Department

Yes, okay. I wanted to ask a 2-part first question. You mentioned in the prepared remarks about HPC and auto continue to be stable, but seem the signal may change. If you could give your view how you see inventory levels and some of the forward demand outlook from those areas. And the second part, I just want to see if we could get a bit better visibility on first half first quarter. How do you see it versus normal seasonal? And then for the trough, do you expect first quarter could be the bottom, or do you see the trend that we could be towards the second quarter?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Randy's question is really looking at again, from the end demand segment. Data center and automotive, we say are remaining steady at TSMC for now. He wants to understand though, what is the outlook down the road, and what does that mean for inventory levels? And then secondly is also he wants to see if we can provide some more granularity about first quarter outlook versus seasonality and whether we think the first quarter can be the bottom for the industry. Is that correct, Randy?

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**Randy Abrams** - Crédit Suisse AG, Research Division - MD and Head of Taiwan Research in the Equity Research Department

Yes, that's correct.

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Okay, let me answer this one. Of course, we say that so far, our customers give us their demand forecast, so the data center and automotive related are still steady. But now the market becomes soft and will take a more conservative way in our planning for 2023. And that's why we say that we don't rule out the possibility. They might have some correction also, but we did not see it right now, to be frank with you.

And for the inventory correction in 2023, all we want to say is like that. We expect probably 2023, the semiconductor industry will likely to decline. But TSMC also is not immune, but we believe our technology position, strong portfolio in HPC and longer-term strategic relationship with customer will enable our business to be more resilient than the overall semiconductor industry. And that's why we say in 2023, still a growth year for TSMC and the overall industry probably will decline.

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**Randy Abrams** - Crédit Suisse AG, Research Division - MD and Head of Taiwan Research in the Equity Research Department

Okay. Again, and I'll ask a quick follow-up, and then the second question. I guess just a sense because it's still very firm in fourth quarter, if you're seeing a pretty meaningful falloff into first quarter, like some years, 10%. 2019 declined over 20%. So just trying to get a rough feel of the type of

decline factoring you're gaining some content and share. That's fell to the first. And then the second question, actually, just on gross margin because of a lot of headwinds, I think, Wendell, like we talked about. If you could give -- just on a couple views, depreciation factoring the recent CapEx, how much up? And whether it's also front end or more back half-loaded given the 3-nanometer ramp? And then for the start-up costs for N3, if you expect similar to N5, given smaller percent of revenue, how much dilution from N3?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, Randy. So let me summarize. So Randy, quick, I think we will not comment on the first quarter, but I think we can make some comment just sort of in terms of the overall inventory picture in looking into next year.

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Well, actually, if you ask my opinion on the inventory picture and the inventory correction, it's too early to provide a specific number. However, the inventory correction will likely see its biggest impact, sometimes in the first half 2023.

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, and then the second part related to the gross margin, maybe Wendell can address what is the outlook for depreciation next year, some of the -- and then is it front or back-end loaded? And also, what type of dilution we expect from 3-nanometer as it ramps in 2023.

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**Wendell Huang** - Taiwan Semiconductor Manufacturing Company Limited - VP & CFO

Okay, Randy. For full year depreciation for next year, it's too early to talk about that. But this year is mid-single-digit increase year-on-year. But next year, we expect it will likely be meaningfully higher. We will give you the guidance in January. As to the dilution from N3, it will be between 2 to 3 percentage points on a whole year basis on our gross margins.

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**Randy Abrams** - Crédit Suisse AG, Research Division - MD and Head of Taiwan Research in the Equity Research Department

Okay, and actually, one follow-up. Do you think on a single quarter with the inventory correction, do you expect to keep the 53 and above factoring were coming from a very high level even through that first half inventory correction?

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**Wendell Huang** - Taiwan Semiconductor Manufacturing Company Limited - VP & CFO

Right. It is too early to talk about 2023, gross margin, including quarter-over-quarter. But even with all these cost challenges, we believe our structural profitability can be maintained, and we are confident to deliver a long-term gross margin of 53% and higher.

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**Operator**

Next one to ask questions, Charlie Chan from Morgan Stanley.

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**Charlie Chan** - Morgan Stanley, Research Division - Technology Analyst

So my first question to management is about whether the company consider a share buyback because the company seems to suggest recent inventory correction is just cyclical. You're still very positive on the long term. And I think the share price really reveal company's long-term value, right, also shareholders' value. So I'm not sure if the company wants to do share buyback or cash returns.

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay. So Charlie's first question is that although there's cyclical, the long-term outlook appears good. Would the company consider doing a share buyback?

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**Wendell Huang** - Taiwan Semiconductor Manufacturing Company Limited - VP & CFO

Yes, Charlie, we constantly review all the different options of returning cash to shareholders. For share buyback, at this moment, we are not considering it. We think our cash on hand will be better kept to invest in our capital expenditure to make a better return for our shareholders.

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**Charlie Chan** - Morgan Stanley, Research Division - Technology Analyst

Okay and also, my second question is also about the U.S. sanction impact. I know the company said that impact is limited and the long-term impact remains to be seen, right? But my question is about your -- the China market to TSMC, is that as strategic as before after this event?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Charlie, second question, he wants to know with the recent U.S. regulations and the impact, how do we see the China market? Is it still a strategic market for TSMC? Is that correct, Charlie?

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**Charlie Chan** - Morgan Stanley, Research Division - Technology Analyst

Yes, meaning whether -- how this company think about China for TSMC's long-term picture, how important it is to China going forward?

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Charlie, I would like to say that every region is important to TSMC. However, let me say that, under the condition of full compliance with all the rules and regulations, TSMC will continue to serve all the customers all over the world. That's our position.

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**Charlie Chan** - Morgan Stanley, Research Division - Technology Analyst

Okay, including China.

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

All the customers.

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**Operator**

Next one to ask questions, Sunny Lin from UBS.

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**Sunny Lin** - UBS Investment Bank, Research Division - Director & Associate Analyst

Congrats on the steady performance. My first question is on the geopolitical tensions. I wonder, given some of the considerations regarding the geopolitical issues, how would you evaluate a longer-term impact from customers potentially diversifying from Asian foundries? And how are you managing the risk?

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Sunny's first question is that given the geopolitical tensions, how do we evaluate the long-term impact and the risk of customers using other foundries? Is that correct, Sunny?

**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Sunny, we still believe the most important is in is a technology leadership, manufacturing and our customers' trust. And so in different locations, manufacturing or whatever, still, we still think that technology leadership is the most important thing. And so that's our strategy. We make it simple, the technology, manufacturing and customer trust.

**Sunny Lin** - UBS Investment Bank, Research Division - Director & Associate Analyst

Got it. And so a quick follow-up. Is that going forward, should we assume an acceleration of your overseas expansions just to diversify the production site, i.e., if there could be a fab built in Europe?

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Sunny's second question then, does that -- can she assume that we will continue to increase the overseas global footprint expansion and also particularly in Europe?

**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Well, we will continue to increase our overseas portion in manufacturing based on customers' need, in fact, based on the business opportunity and also based on the operations, efficiency and economics. And so whether we are going to be in Europe, we are in preliminary evaluation and do not rule out any possibility. Again, I would like to say the decision were based on customers' need, business opportunities, operational efficiency and the cost economics.

**Sunny Lin** - UBS Investment Bank, Research Division - Director & Associate Analyst

Got it. I actually have a second question on HPC. So with the increasing usage of chiplets, how would you manage the risk in the case that some dies are made at the other foundries and that have production issues and therefore, impacting the production at TSMC as well.

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay. So Sunny's second question is with increasing usage and adoption of shipments -- sorry, chiplets in HPC, how would we manage the risk in case -- I think Sunny you're saying it dies at other companies or places have production issues. Would how do we manage the risk of that impacting TSMC?

**C. C. Wei** - *Taiwan Semiconductor Manufacturing Company Limited - CEO*

Sunny, in fact, we would like our customer manufacturing every chip inside TSMC for sure. But if there is a case that they have to use other companies' dies, we will work with our customers closely and minimize all the risk that as time goes by. That's what we are doing right now.

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**Operator**

Right now, we have Laura Chen from Citi.

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**Laura Chen** - *Citigroup Inc., Research Division - Research Analyst*

I appreciate that if you can share with your latest plan in your Nanjing fab. Like C.C. already mentioned, you got the license for the 28-nanometer in Nanjing. So I'm just wondering that do you also need a license for the 16-nanometer in the Nanjing fab? And also going forward, what's your plan of your operation in China? That's my first question.

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Okay. So Laura's first question is about Nanjing fab and our plans. She notes that we have received the 1-year authorization. So our 28-nanometer expansion continues as planned. Her question is, do we also need a license for the 16-nanometer that we have in Nanjing? And then also her -- also what is our long-term future expansion plans in China.

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**Wendell Huang** - *Taiwan Semiconductor Manufacturing Company Limited - VP & CFO*

Sunny, let me answer the first part.

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Laura.

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**Wendell Huang** - *Taiwan Semiconductor Manufacturing Company Limited - VP & CFO*

Sorry, Laura, let me answer the first part. The 1-year authorization that we received cover the Nanjing facility. So it's both the 28 and 16.

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

And then the second part is what is our long-term expansion plans for China?

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**Wendell Huang** - *Taiwan Semiconductor Manufacturing Company Limited - VP & CFO*

Okay. As C.C. said, we will be operating -- serving all the customers under the condition that we will fully follow, in compliance with all the rules and regulations.

**Laura Chen** - Citigroup Inc., Research Division - Research Analyst

My second question is also about the fab globally in the longer term. We know that in overseas operation, usually, they will have a much higher operational cost. So how would that impact the TSMC's long-term margin trend in our view, or maybe you can give us some estimation about your estimate of the percentage of the margin in different region or the cost difference comparing to Taiwan?

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Laura, second question is around our expansion of our global manufacturing footprint. She wants to know that overseas fabs, are the costs higher? Do we have a breakdown how much the cost difference is in Japan, U.S. versus Taiwan? And then overall, with overseas expansion and if there are higher costs, how does this impact our long-term profitability and margin?

**Wendell Huang** - Taiwan Semiconductor Manufacturing Company Limited - VP & CFO

Okay, Laura, let me answer this question. The initial cost of overseas fabs are indeed higher than TSMC's fab in Taiwan. And it's mainly because of higher labor costs in different layers of the supply chain. We continue to work closely with the U.S. government, as well as with our customers and supply chain partner to manage and minimize the cost gap. Now through these efforts, we believe we can continue to earn the proper return and deliver the long-term gross margin of 53% and higher.

**Operator**

Next one to ask questions is Rolf Bulk from New Street Research.

**Rolf Bulk** - New Street Research LLP - Research Analyst

I was hoping you could give some more context around the 3-nanometer tool shortages that you mentioned. Is that primarily lithography, and then specifically EUV-related, or do you also see shortages in other tool segments?

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

So Rolf's first question is around 3-nanometer and the tool shortages. He wants to know if this is very -- just specific to lithography tools and EUV specifically, or is it more, I guess, broad-based?

**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Let me answer the question. Actually, it's more broad based because of our demand is high -- and certainly, the photo lithography tool is included and one of the most important one.

**Rolf Bulk** - New Street Research LLP - Research Analyst

That's very useful. And as my follow-up question, it would be great to get an update on your N2 node, which your current visibility is now it's still on track timing-wise and is there anything you can share on how you think about yields of N2 versus N5, and N3 at the same stage of development?

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Rolf's second question is on N2. He would like an update. Are we still on track? What is the timing for N2? And also if there's any update on yields as compared to N3 and N5 at similar stage.

**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Okay, I said before, N2 is a very difficult one, but our progress so far, so good. Actually, it's a little bit ahead. And we are going to have a mass production introduced in 2025. And our customers' engagement so far are very -- let me say, the comparable with the N3, N5. And the status today is very comparable to the N5 and also N3. So we are happy to see that our progress so far. Does that answer your question?

**Operator**

Next one, we have Charles Shi from Needham & Company.

**Charles Shi** - Needham & Company, LLC, Research Division - Senior Analyst

I have 2, both on CapEx. The first question is really -- and I understand you're not here to guide 2023 CapEx. But I think a few years ago, you did provide some long-term CapEx, a range of CapEx from when your long-term CAGR guidance was 5% to 10%. And you think \$10 billion to \$12 billion CapEx is going to support that long-term CAGR. I think you just reiterated your long-term CAGR to be 15% to 20%. Do you kind of have a similar range of CapEx for us to think about over long term? Again, I'm not asking you about '23 CapEx year.

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Charles' first question is about -- really, I think, Charles, you're asking about CapEx correlation with growth. So he notes that in the past, we have said our long-term growth would be 5% to 10%. So during that period, we said we would spend between \$10 billion to \$12 billion. So without asking about 2023 specifically, Charles wants to know -- now we believe we will grow between 15% to 20% CAGR in the next few years. What type of CapEx range does that imply or should he assume? Is that correct, Charles?

**Charles Shi** - Needham & Company, LLC, Research Division - Senior Analyst

Yes, correct.

**Wendell Huang** - Taiwan Semiconductor Manufacturing Company Limited - VP & CFO

Okay, Charles, I think it will be -- let me try to answer this question from the capital intensity point of view. When we invest heavily to capture the future growth, the capital intensity will be high like last year and this year. But if the growth slows down, the capital intensity may become lower. Now longer term-wise, we think that a normal -- reasonable capital intensity may be somewhere between mid to high 30 percentage longer-term-wise.

**Charles Shi** - Needham & Company, LLC, Research Division - Senior Analyst

The second question is about very near term into the next quarter basically because you just slashed your 2022 CapEx, I mean, from what you guided 1 quarter ago by about 4 billion. If I hear that correctly, half of that is -- can be attributed to the tool delivery issues. But the other half, can you clarify a little bit? Because you kind of said it's about capacity optimization. Is that the kind of like a \$2 billion reduction in CapEx, mostly a reduction of the equipment spending, or is it something else you are reducing here and trying to improve the capital capacity optimization here?

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Okay. So Charles' second question is on the CapEx and he is asking we have now guided to around \$36 billion versus close to \$40 billion last time. We have said half of it is related to tool delivery and the other half is capacity optimization for the midterm demand outlook. So his question is with the capacity optimization is this mainly also a reduction in tools, or is there some other issue right? Is that correct, Charles?

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**Charles Shi** - *Needham & Company, LLC, Research Division - Senior Analyst*

Yes, correct.

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**Wendell Huang** - *Taiwan Semiconductor Manufacturing Company Limited - VP & CFO*

Okay. Charles, I think the -- you're right that the half of that difference comes from tool delivery issue. The other half is the capacity optimization. By that, and that's because of the current uncertainty in market conditions. So we're tightening up our capital budget. And it relates to the whole capacity. It's including tools, including the other stuff within the CapEx. Yes, and it's mainly N7.

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Yes, it's tools and also as C.C. and Wendell mentioned, some of the adjustments we have made to our N7 and N6 capacity and CapEx due to the aforementioned reasons.

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**Operator**

Next one, we have Brad Lin from BofA Securities.

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**Brad Lin** - *BofA Securities, Research Division - Research Analyst*

Congratulations on the strong earnings, and my first question is about, well, if we look at the long pages of the new regulations from the U.S. on China, it can be really broad and with the key -- of course, with the key on the supercomputing. But however, given the wide variety and also wider application of chips that TSMC makes. Is it, in theory, difficult to identify and make sure the chips and business complying with the regulation? Or will there be some extra cost and overhead costs by that, which we should notice in the future?

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Okay. So Brad's first question is with the new U.S. regulations, he knows it's very long and very wide in scope. So he is wondering if it's very hard to interpret and therefore, will this result in greater overhead cost for TSMC to ensure that we are and continue to be fully compliant with all the regulations?

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**C. C. Wei** - *Taiwan Semiconductor Manufacturing Company Limited - CEO*

Well, actually, although it's rule is about more than 100 pages, but we are initial reading and feedback from our customer, actually, the regulation is very simple to be understood like the control threshold at a very high-end specification. For example, like 600 bit per seconds -- that bandwidth or those kind of things, it's very easy to be understood, and we continue to work with our customer to make sure that we fully comply with the regulation.



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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

And so Brad would also like to know, Wendell, from a financial standpoint, will we incur more overhead cost as a result?

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**Wendell Huang** - *Taiwan Semiconductor Manufacturing Company Limited - VP & CFO*

At this moment, we don't think so.

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**Brad Lin** - *BofA Securities, Research Division - Research Analyst*

I see. Just a slight follow-up because the regulation is just aiming at the first supercomputing, but I know in a supercomputer, definitely, there are some -- still some low-end chips used inside. So if we happen to make those, and we are not sure that it is going there when we produce them with that -- will that cause some confusion or bring some trouble to us?

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

So Brad's second question is in a supercomputer, there may be very specific high-end restrictions, but there's also companion chips, other chips used. Would that cause us any issue?

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**C. C. Wei** - *Taiwan Semiconductor Manufacturing Company Limited - CEO*

The companion chips, there is no restriction or no regulation at all. So we rely on our customer to work with their own customers for that kind of product.

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**Brad Lin** - *BofA Securities, Research Division - Research Analyst*

And then maybe, if I may, second question will be clearly, many countries would like to build their own foundry or their own domestic supply chain. We have learned that the cost will be a major downside. So my question would be can we charge different pricing? That's basically demanded by our clients, right? So with higher costs, if they want to buy from U.S. or buy from Europe, can we charge a higher pricing if that's based on the node? And also, if we think about the bright side, would you please share how TSMC could well utilize this kind of opportunities to strengthen our competitiveness in the long run? That will be my -- all questions.

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

So Brad's second question is about he notes that many countries would like to have domestic semiconductor manufacturing. TSMC, we are, as C.C. said, also increasing and expanding our global manufacturing footprint. So with higher cost, will we be able to charge a higher price. I guess that is essentially his question.

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**C. C. Wei** - *Taiwan Semiconductor Manufacturing Company Limited - CEO*

Actually, TSMC's pricing is strategic and consistent, and we -- all I can say is we will continue to sell our value. The values come from the technology, manufacturing. And also that our relationship with our customers, whether it is in a different country or it's in a different place, it's not in our consideration. Again, I would like to say we'll continue to sell our value and our pricing is strategic, okay?

**Operator**

Next one, we have Mehdi Hosseini from Susquehanna International.

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**Mehdi Hosseini** - *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

Yes, I also have my first multipart question. I'm just looking at your customers' inventories that are on a days of inventory are at a 25-year high. And it seems based on your commentary that the demand forecast, especially looking at the first half, has weakened. So it seems to me that the inventory correction is going to sustain to Q2. And more slightly, your shipment would be declining sequentially in Q1 and Q2. Just looking at your customers' inventory, is that a realistic view of the first half? Because you also highlighted the fact that inventory correction is going to sustain throughout the first half. And we're not asking for a guide, I'm just trying to better reconcile your customers' inventory with your comment. And I have a follow-up.

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

Okay, so Mehdi's first question is on inventory. He notes customers' inventory levels are very high. We have talked about our observation from an industry level that demand is softening in our consumer segments. And so his question is what is the outlook and do we expect the inventory correction, I guess, to be more notable as we go into first half '23. Is that correct, Mehdi?

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**Mehdi Hosseini** - *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

Yes, and particularly, you've always had your wafer shipment up in Q2, but I think '23 could be an exception, and it could probably decline. And that's how I explained my question. So the question is could wafer shipment decline in Q2 for the first time in many, many years?

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**C. C. Wei** - *Taiwan Semiconductor Manufacturing Company Limited - CEO*

Well, Mehdi, our current forecast, actually, our supply chain inventory will peak in third quarter this year. And we observed that the inventory will start to reduce in the fourth quarter -- last quarter of this year. And we expect we will see the biggest impact in the first half, actually, first half of 2023. The detail of the first quarter, second quarter or something like that, we are not ready to share with you yet because of -- we continue to work with our customer and to understand their demand.

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**Mehdi Hosseini** - *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

And if I may have a quick follow-up to that. And does that imply that your customer focus changing so rapidly that we have to wait for January pulse to get the final read on the first half?

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**Jeff Su** - *Taiwan Semiconductor Manufacturing Company Limited - Director of IR*

No, Mehdi. I think we have always in the past, we will guide for 2023 and talk about 2023 outlook in first quarter during the January conference, right? But I think C.C. has already said that with the inventory correction, we expect our business to be more resilient during both the down and upturn given our technology leadership, and that 2023 is a growth year for TSMC, okay? We will not comment further on first quarter or second quarter.

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**Mehdi Hosseini** - *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

Got it. Okay. And my second question has to do with depreciation that was down in Q3, down year-over-year and Q-over-Q. And this is despite the fact that CapEx was up 65% in 2021. Does that have anything to do with tool optimization? And to that extent, as the second part of the question, would you consider converting 7-nanometer to 5 and 3?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Second question first is depreciation, why it is down Q-on-Q and year-on-year. And then also, would we consider converting capacity?

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**Wendell Huang** - Taiwan Semiconductor Manufacturing Company Limited - VP & CFO

Okay. Mehdi, the depreciation, we look at it from a whole year point of view. For this year, as I mentioned, we expect it to be up year-on-year by mid-single digits of -- and for next year, it will be meaningfully higher, meaningfully higher, but we will share with you more in January. Please understand that every year, there are depreciation newly going into the depreciation table and also there are depreciation coming off of the depreciation table. So what you're looking at is the net result.

And as to converting N7 capacity to N5. As we mentioned earlier, N7 demand issue is cyclical rather than structural. So at this moment, I don't think we have that kind of plan.

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Thank you, Mehdi. In the interest of time, operator, maybe we can take the last -- the questions from the last 2 participants, please?

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**Operator**

Yes, sir. Next one to ask a question, Patrick Chen from CLSA.

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**Patrick Chen** - CL Securities Taiwan Company Limited, Research Division - Head of Taiwan Research

You talked about 2023 to be still a growth year. Would you say that growth is pretty much the same compared to what you expected a quarter ago or it is lower? And if so, what's driving this lower growth expectation?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Patrick's first question is about 2023. Is the growth that we see for 2023, how does it compare versus our expectation for 3 months ago for 2023? And what is driving this?

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**Wendell Huang** - Taiwan Semiconductor Manufacturing Company Limited - VP & CFO

Yes, well, I think it's too early to talk too much about the 2023, but we maintain our statement that 2023, we still expect as a growth year, okay?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Do you have a second question, Patrick?

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**Patrick Chen** - CL Securities Taiwan Company Limited, Research Division - Head of Taiwan Research

Okay, that's helpful. And maybe a follow-up, if I may, any leading indicators that you are monitoring that could help you or help us determine the growth outlook aside from monitoring the client wafer orders?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Patrick's second question is looking with inventory correction. He wants to know if there's any leading indicators that we can look at or he should look at to see when -- indications that the cycle is bottoming.

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

That's really hard to answer your question. Actually, if you look at the whole industry, that's from the smartphone and PCs, and you read all the quarterly report from all major player, you can sense when it will to go up and when is the downturn. So we definitely have some information. Internally, we do the analysis, and today, we are taking a very conservative way for our planning. That's all I can share with you.

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**Patrick Chen** - CL Securities Taiwan Company Limited, Research Division - Head of Taiwan Research

And I guess that's what we've been doing as well. But obviously, we don't have a crystal ball.

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Thank you. Operator, can we take the last participant, please?

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**Operator**

Yes, the last one to ask question is Frank Lee from HSBC.

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**Frank Lee** - HSBC, Research Division - Head of Technology Research for Asia

I wanted to ask, I guess, a question on your N3, N3E. Is the ramp for both nodes going to be around the same time, or is there going to be some difference in scheduling?

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**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay, so Frank's first question is on the ramp for N3 versus N3E, is it at the same time?

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**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Okay. Actually, it's not at the same time. Right now, we are ramping up by N3. And N3E is supposed to be 1 year apart, but because of the progress so well, so we might pull in a little bit for 2 or 3 months, that's all. So they are still not at the same time.

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**Frank Lee** - HSBC, Research Division - Head of Technology Research for Asia

Okay, and my second question is, I know you've reiterated your margin -- long-term gross margin target being unchanged. But I guess given the headwinds you're seeing now through the first half of next year with the currency move already gone up quite a bit, utilization rates dropping. Is this -- are you going to see the potential change in the pricing strategy? I know I can't comment too specifically, but you have seen some price increases in the last 12 months or so. So from going forward, with the pricing strategy still be relatively unchanged given the change in the overall market environment?

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Okay. So Frank's second question is related to pricing with the inventory correction and with some of the cost challenges, he wants to know, will there be any changes to our pricing strategy during this correction. Is that correct, Frank?

**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

Okay. Frank, let me answer the question. Again, I want to stress that our pricing actually is strategic and consistent. So you say that do we have any plan to change it? No, it will be consistent, all right? And not based on any cycle or opportunistic. And we actually -- most importantly, we always work closely with our customer to provide our value and to help them to win their own end markets.

**Frank Lee** - HSBC, Research Division - Head of Technology Research for Asia

Right -- no, I'm not suggesting there's any opportunistic pricing, but I just get a market situation has changed for your clients who are probably going through a more difficult time. Would there be some change to the strategy to help align with them as well? Or would they largely still be the same policy that we've seen?

**C. C. Wei** - Taiwan Semiconductor Manufacturing Company Limited - CEO

We stay the same. We are consistent.

**Jeff Su** - Taiwan Semiconductor Manufacturing Company Limited - Director of IR

Thank you, Frank. All right. This concludes our Q&A session.

Before we conclude today's conference, please be advised that the replay of the conference will be accessible within one hour from now. The transcript will become available 24 hours from now, both of which will be available through TSMC's website at [www.tsmc.com](http://www.tsmc.com). Thank you for joining us today, and we hope you will join us again next quarter.

Goodbye, and have a good day.

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