SATYA KUMAR, CORPORATE VICE PRESIDENT, INVESTOR RELATIONS AND TREASURY

Thank you, and welcome to Micron Technology's fiscal fourth-quarter (Q4) 2024 financial conference call. On the call with me today are Sanjay Mehrotra, our president and CEO, and Mark Murphy, our CFO. Today's call is being webcast from our Investor Relations site at investors.micron.com, including audio and slides. In addition, the press release detailing our quarterly results has been posted on the website, along with the prepared remarks for this call.

Today's discussion of financial results is presented on a non-GAAP financial basis unless otherwise specified. A reconciliation of GAAP to non-GAAP financial measures can be found on our website. We encourage you to visit our website at micron.com throughout the quarter for the most current information on the company, including information on financial conferences that we may be attending. You can also follow us on X at MicronTech.

As a reminder, the matters we are discussing today include forward-looking statements regarding market demand and supply, market and pricing trends and drivers, the impact of developing technologies such as AI, product ramp plans and market position, expected capabilities of our future products, our expected results and guidance, and other matters. These forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from statements made today. We refer you to the documents we file with the SEC, including our most recent Form 10-K, Forms 10-Q and other reports and filings, for a discussion of risks that may affect our future results. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. We are under no duty to update any of the forward-looking statements to conform these statements to actual results.

I'll now turn the call over to Sanjay.

SANJAY MEHROTRA, PRESIDENT AND CHIEF EXECUTIVE OFFICER

Thank you, Satya.

Good afternoon, everyone.

Intro and FQ4 Results

Micron delivered a strong finish to fiscal year 2024, with fiscal Q4 revenue at the high end of our guidance range and gross margins and earnings per share (EPS) above the high end of our guidance ranges. In fiscal Q4, we achieved record-high revenues in NAND and in our storage business unit. Micron's fiscal 2024 revenue grew over 60%; we expanded company gross margins by over 30 percentage points and

achieved revenue records in data center and in automotive. I am thankful to all our Micron team members for their focus and execution, which made these results possible.

We are entering fiscal 2025 with the strongest competitive positioning in Micron's history. We have leadership 1β (1-beta) DRAM, G8 and G9 NAND process technology, and leadership products across our end markets. Robust data center demand is exceeding our leading-edge node supply and driving overall healthy supply-demand dynamics. As we move through calendar 2025, we expect a broadening of demand drivers, complementing strong demand in the data center. We are making investments to support artificial intelligence (AI)-driven demand, and our manufacturing network is well positioned to execute on these opportunities. We look forward to delivering a substantial revenue record with significantly improved profitability in fiscal 2025, beginning with our guidance for record quarterly revenue in fiscal Q1.

Technology and Operations

Micron is ramping production of the industry's most advanced technology nodes in both DRAM and NAND. Our 1β DRAM and G8 and G9 NAND nodes are ramping in high volume and will become an increasing portion of our mix through fiscal 2025. As a reminder, our G8 NAND node refers to our 232-layer NAND technology node.

Our 1γ (1-gamma) DRAM pilot production using extreme ultraviolet (EUV) lithography is progressing well, and we are on track for volume production in calendar 2025.

We delivered fiscal 2024 DRAM front-end cost reductions at the high end of the outlook provided at the beginning of the year, and NAND cost reductions were consistent with our forecast. We expect fiscal 2025 DRAM front-end cost reductions excluding HBM to be in the mid- to high-single-digit percentage range. We expect fiscal 2025 NAND cost reductions to be in the low- to mid-teens percentage range.

Manufacturing Strategy

We continue to make progress on the construction for our new fab in Idaho and are working with state and federal agencies on the permitting process for our New York site. Construction is underway on our India assembly and test facility, as well as our China Xi'an back-end expansion. We are continuously assessing opportunities to manage our manufacturing footprint in a capital-efficient manner. Consistent with this strategy, we announced the acquisition of an LCD factory in Taiwan that will be converted to enable DRAM production testing. Micron's proprietary and vertically integrated testing capabilities provide competitive differentiation and enable us to provide high-quality products to our customers.

End Markets

Now turning to our end markets.

Memory is essential to extend the frontier of AI capability. Multiple vectors will drive AI memory demand over the coming years: growing model sizes and input token requirements, multimodality, multiagent solutions, continuous training, and the proliferation of inference workloads from cloud to the edge. Micron is focused on translating the opportunities from AI demand into value captured for all our stakeholders.

Data Center

Demand from data center customers continues to be strong, and customer inventory levels are healthy. Industry server unit shipments are expected to grow in the mid- to high-single-digit percentage range in calendar 2024, driven by strong growth for AI servers as well as low-single-digit percentage range growth for traditional servers.

We expect traditional server demand to benefit from a refresh cycle, as a single latest-generation traditional server can replace multiple older-generation servers to provide valuable space, power and performance improvements to improve data center efficiency. We see increasing DRAM and NAND content both in traditional as well as AI servers.

Our mix of data center revenue reached a record level in fiscal 2024, and we expect it will grow significantly from here in fiscal 2025. Micron is well positioned in the data center with our portfolio of high-bandwidth memory (HBM), high-capacity D5 and LP5 solutions, and data center SSD products. We expect each of these three product categories to deliver multiple billions of dollars in revenue in fiscal 2025.

In HBM, we are making excellent progress on our yield and output capability. In fiscal Q4, we delivered on our expected volumes and achieved our objective of several hundred millions of dollars in revenue from HBM in fiscal year 2024. Even as our DRAM gross margins improved, our fiscal Q4 HBM gross margins were accretive to both company and DRAM gross margins, indicative of our solid HBM yield ramp. We expect to achieve HBM market share commensurate with our overall DRAM market share sometime in calendar 2025. We expect the HBM total available market (TAM) to grow from approximately $4 billion in calendar 2023 to over $25 billion in calendar 2025. As a percent of overall industry DRAM bits, we expect HBM to grow from 1.5% in calendar 2023 to around 6% in calendar 2025.

We have a robust roadmap for HBM and are confident we will maintain our time-to-market, technology and power efficiency leadership with HBM4 and HBM4E. During the quarter, Micron started shipments of production-capable HBM3E 12-high 36GB units to key industry partners to enable qualifications across the AI ecosystem. Remarkably, Micron's HBM3E 12-high 36GB delivers 20% lower power consumption than our competitors' HBM3E 8-high 24GB solutions while providing 50% higher DRAM capacity. We expect to ramp our HBM3E 12-high output in early calendar 2025 and increase the 12-high mix in our shipments throughout 2025.

As we have said before, our HBM is sold out for calendar 2024 and 2025, with pricing already determined for this time frame. In calendar 2025 and 2026, we will have a more diversified HBM revenue profile as we have won business across a broad range of HBM customers with our industry-leading HBM3E solution.

We see strong demand for our high-capacity D5 and LP5 solutions. We are seeing increasing adoption of our high-capacity mono-die-based 128GB D5 DIMM products. We are leveraging our innovative, industry-leading LP5 solutions to pioneer the adoption of low-power DRAM for servers in the data center. Micron's LP5 is specifically designed with data center and AI applications in mind, offering unique features for enhanced reliability, availability and serviceability — or RAS — in a server platform. We are focused on LPDDR design innovation to optimize the capacity, power and system reliability requirements of AI server infrastructure.

Data center SSD demand continues to be driven by strong growth in AI as well as a recovery in traditional compute and storage. Our strategy to use greater levels of vertical integration, including Micron-designed controllers and firmware, has resulted in a data center SSD portfolio that addresses customer requirements for a robust set of features and functionality, competitive total cost of ownership, and industry-leading performance and quality. We have gained substantial share in data center SSDs as a result. We achieved a quarterly revenue record with over a billion dollars in revenue in data center SSDs in fiscal Q4, and our fiscal 2024 data center SSD revenues more than tripled from a year ago.

PC

Turning to PC.

As discussed in our last earnings call, PC customers have built inventories due to the rising memory price trajectory and anticipated growth in AI PCs, as well as an expectation of tight supply caused by an increasing portion of production output being dedicated to meeting the growing data center demand. As sell-through of PCs continues at a steady pace with a seasonal increase in the second half of calendar 2024, we expect healthier inventories at PC OEMs by spring 2025.

PC unit volumes remain on track to grow in the low-single-digit range for calendar 2024. We expect unit growth to continue in 2025 and accelerate into the second half of calendar 2025, as the PC replacement cycle gathers momentum with the rollout of next-gen-AI PCs, end of support for Windows 10 and the launch of Windows 12.

The PC market is in the early stages of a transformation, and we expect a significant shift toward AI-driven functionalities that promise to enhance user experiences and productivity. AI PCs require a higher capacity of memory and storage. As an example, leading PC OEMs have recently announced AI-enabled PCs with a minimum of 16GB of DRAM for the value segment and between 32GB to 64GB for the mid and premium segments, versus an average content across all PCs of around 12GB last year.

Micron is well positioned to support the growth of AI PCs with our portfolio of client LPDRAM, DRAM and SSD products. Our low-power compression attached memory module or LPCAMM2 product has had multiple design wins at leading PC OEMs. These modules offer all the benefits of low-power DRAM in an upgradable form factor. Compared to the alternative modular D5-based solutions, LPCAMM2 provides up to 60% lower power and up to 70% better performance along with 60% space savings. Our 3500 client SSD is qualified at all the major PC OEMs and provides the power-performance enhancements needed for AI workloads.

Mobile

Turning to mobile.

Smartphone customer inventory dynamics are evolving in a manner somewhat similar to that of PC customers. Smartphone unit volumes in calendar 2024 are on track to grow in the low to mid-single-digit percentage range, and we expect unit growth to continue in 2025.

Smartphone OEMs are seeking to differentiate their devices by incorporating more AI features such as personalized recommendations, improved camera functionalities, and smarter voice assistants. Recently, leading Android smartphone OEMs have announced AI-enabled smartphones with 12GB to 16GB of DRAM, versus an average of 8GB in flagship phones last year.

Micron is well positioned to support the growth of AI smartphones with our leading-edge memory and storage products. During the quarter, we extended our product leadership with the first customer qualification of our second-generation 1β-based LP5X DRAM and second-generation G8 NAND UFS 4.0 products.

Automotive

In the automotive market, infotainment and advanced driver-assistance systems (ADAS) are driving long-term memory and storage content growth. For the fourth consecutive year, Micron achieved a fiscal year record for automotive revenue in 2024. Micron has built an industry-leading portfolio of automotive-grade DRAM and NAND products that provide best-in-class solutions for these high growth applications leveraging our technology and product leadership, top quality rankings, and close customer collaborations. During the quarter, we achieved qualification of our 1β-based 16Gb LP5 with 9.6 Gbps speed for the automotive market, which will support the increased performance requirements driven by AI both in the digital cockpit and ADAS.

The automotive industry continues to adjust the mix of electric (EV), hybrid and traditional vehicles to meet evolving customer demand. As auto customer inventories adjust to this new mix, we expect a resumption in our automotive growth in the second half of fiscal 2025.

Market Outlook

Now, turning to our market outlook.

Calendar 2024 DRAM industry demand outlook has improved, driven by strength in data center servers, and growth in the other market segments has performed consistent with our prior market commentary. Hence, we have upgraded our expectation for calendar 2024 industry DRAM bit demand growth to now be in the high-teens percentage range. Our expectation for calendar 2024 industry NAND bit demand growth remains in the mid-teens percentage range. In calendar 2025, we expect both DRAM and NAND industry bit demand growth to be around the mid-teens percentage range.

Turning to supply.

Constructive industry conditions will help drive the considerable improvements in profitability and return on investment (ROI) that are needed to enable the investments required to support future growth. Due to capital expenditure (capex) and supply reduction actions taken across the industry in 2023, we expect industry wafer capacity in both DRAM and NAND in 2024 to be below 2022 peak levels, and for NAND, meaningfully so. This factor, combined with the increasing mix of HBM wafers, is reducing DRAM supply allocated to traditional products and contributing to the healthy industry supply-demand environment that we expect for DRAM in calendar 2025. Given the significant reduction in industry wafer capacity in NAND and the ongoing low NAND capex environment, we also expect a healthy industry supply-demand environment for NAND in calendar 2025.

NAND technology transitions generally provide more growth in annualized bits per wafer compared to the NAND bit demand compound annual growth rate (CAGR) expectation of high teens. Consequently, we anticipate longer periods between industry technology transitions and moderating capital investment over time to align industry supply with demand. This can reduce both R&D expense growth and capital intensity in NAND over time, which can contribute to the improved financial health of the NAND industry.

Micron invested $8.1 billion in capex in fiscal 2024. We expect fiscal 2025 capex to be meaningfully higher and at around the mid-30s percentage range of revenue based on our current capex and revenue expectations. The growth in both greenfield fab construction and HBM capex investments is projected to make up the overwhelming majority of the year-over-year capex increase. As a reminder, our investments in facility and construction in Idaho and New York will support our long-term demand outlook for DRAM and will not contribute to bit supply in fiscal 2025 and 2026. Micron will continue to exercise supply and capex discipline and focus on improving profitability, including walking away from less profitable business, while still maintaining our overall bit market share for DRAM and NAND.

I will now turn it over to Mark for our financial results and outlook.

MARK MURPHY, EXECUTIVE VICE PRESIDENT AND CHIEF FINANCIAL OFFICER

Thanks, Sanjay, and good afternoon, everyone.

Opening

In fiscal Q4, Micron delivered revenue at the high end of the guidance range and gross margin and EPS above the high end of the guidance ranges. We are exiting the fiscal year with excellent momentum, having expanded our industry-leading product portfolio, executed well on pricing, and improved our financial performance significantly from the start of the year.

Revenue

Total fiscal Q4 revenue was approximately $7.8 billion, up 14% sequentially and up 93% year over year.

Fiscal 2024 total revenue was $25.1 billion, up 62% year over year.

DRAM

Fiscal Q4 DRAM revenue was $5.3 billion, up 93% year over year, and represented 69% of total revenue. Sequentially, DRAM revenue increased 14%, with flattish bit shipments and prices increasing in the mid-teens percentage range.

For the fiscal year, DRAM revenue increased 60% year over year to $17.6 billion, representing 70% of total revenue.

NAND

Fiscal Q4 NAND revenue was $2.4 billion, up 96% year over year, and represented 31% of Micron's total revenue. NAND revenue increased 15% sequentially, with bit shipments increasing in the high-single-digit percentage range and prices increasing in the high-single-digit percentage range. Fiscal Q4 NAND revenue was a new quarterly record for Micron.

For the fiscal year, NAND revenue increased 72% year over year to $7.2 billion, representing 29% of total revenue.

Revenue by Business Unit

Now turning to revenue by business unit.

Compute and Networking Business Unit revenue was $3 billion, up 17% sequentially. Data center server DRAM achieved a quarterly revenue record in fiscal Q4, driven by strong demand for high-capacity solutions as well as our continued ramp of HBM.

Revenue for the Mobile Business Unit was $1.9 billion, up 18% sequentially driven by seasonal product ramps.

Revenue for the Storage Business Unit was $1.7 billion, up 24% sequentially and led by data center SSD, which reached a quarterly revenue record. We achieved record-high revenue for fiscal year 2024 for our NAND storage business.

Embedded Business Unit revenue was $1.2 billion, down 9% sequentially. In fiscal 2024, the automotive segment achieved a new fiscal year revenue record for the fourth consecutive year.

Operating Results

Gross Margin

The consolidated gross margin for fiscal Q4 was 36.5%, improving over 8 percentage points sequentially. Higher pricing and improved product mix were the key drivers of the stronger profitability.

For the fiscal year, consolidated gross margin was 23.7%, up over 31 percentage points year over year.

Opex

Operating expenses in fiscal Q4 were $1.08 billion, up $105 million sequentially due to an increase in R&D program expenses. For the fiscal year, operating expenses were $4 billion, up 11% year over year. The increase in fiscal 2024 operating expenses was primarily driven by an increase in R&D investments and reinstatement of short-term incentive compensation.

Operating Income

We generated operating income of $1.7 billion in fiscal Q4, resulting in an operating margin of approximately 23%, which was up 9 percentage points sequentially and up 53 percentage points from the year-ago quarter. Fiscal 2024 operating income was $1.9 billion, resulting in an operating margin of approximately 8%, which was up 39 percentage points year over year.

Fiscal Q4 adjusted EBITDA (earnings before interest, taxes, depreciation and amortization) was $3.7 billion, resulting in an EBITDA margin of 48%, up 5 percentage points sequentially and up 30 percentage points from the year-ago quarter. Fiscal 2024 EBITDA was $9.7 billion, resulting in an EBITDA margin of over 38%, which was up 20 percentage points year over year.

Taxes

Fiscal Q4 taxes were $387 million and higher than our guide, largely due to a shift in the jurisdictional mix of earnings. Fiscal 2024 taxes were $379 million, or approximately 20% of pretax income.

Earnings per Share

Non-GAAP diluted earnings per share in fiscal Q4 was $1.18, compared to $0.62 per share in the prior quarter and a loss per share of $1.07 in the year-ago quarter. Fiscal Q4 non-GAAP EPS exceeded the high end of our guidance range, driven by better pricing and profitability.

Fiscal 2024 non-GAAP EPS was $1.30.

Cash Flow

Turning to cash flows and capital spending, our operating cash flows were $3.4 billion in fiscal Q4, representing 44% of revenue. For the fiscal year, we generated $8.5 billion of operating cash flows, representing 34% of revenue.

Capital expenditures were $3.1 billion during the quarter. Capex totaled $8.1 billion for the fiscal year, up from $7 billion in fiscal 2023.

We generated $323 million of free cash flow for the quarter and $386 million for the fiscal year.

As announced in early August, we determined that share repurchases may resume in light of improved conditions. As such, with our return to free cash flow, reduced leverage and long-term positive outlook, we saw an opportunity to repurchase shares in the quarter. In fiscal Q4, we repurchased $300 million or 3.2 million shares at an average price of $93.07 per share.

Inventory

Micron's fiscal Q4 ending inventory was $8.9 billion or 158 days, up 3 days from the prior quarter. Micron continues to exercise pricing discipline and expects a healthy supply-demand environment in the industry in fiscal 2025. We intend to draw down our inventory to support our revenue growth in fiscal 2025.

Total Cash/Debt

On the balance sheet, we held $9.2 billion of cash and investments at quarter end and maintained near $11.7 billion of liquidity when including our untapped credit facility. We ended the quarter with $13.4 billion in total debt, low net leverage and a weighted average maturity on our debt of 2031.

We are committed to further strengthening our balance sheet and sustaining our investment-grade credit rating.

Outlook

Now turning to our outlook for the fiscal first quarter.

Fiscal Q1 gross margin is projected to improve sequentially primarily on better pricing and portfolio mix. Recall that, in fiscal Q4, HBM remained accretive to both DRAM and overall company gross margins. We project changes in our portfolio mix to continue to be an important and favorable contributor to gross margins over time.

We forecast operating expenses to be flat to slightly up in the fiscal first quarter compared to fiscal fourth quarter levels. For the full fiscal year 2025, we see operating expenses growing by a mid-teens percentage versus fiscal 2024. Growth in operating expenses is planned to be second half weighted, as we ramp necessary R&D program investments, including for HBM, to capture the substantial growth opportunity ahead.

For fiscal Q1 and fiscal 2025, we estimate our non-GAAP tax rate to be in the mid-teens percentage range.

We project days of inventory outstanding (DIO) to decline in fiscal 2025 and for DIO to approach our target by the end of fiscal 2025.

In fiscal Q1, we forecast capital expenditures to increase sequentially to approximately $3.5 billion. As Sanjay mentioned, we expect fiscal 2025 capex to be around the mid-30s percentage range of revenue based on our current capex and revenue expectations. We remain circumspect with all capital spending and disciplined with wafer fab equipment (WFE) investments in order to grow bit supply in line with industry demand.

Non-GAAP Guidance

With all these factors in mind, our non-GAAP guidance for fiscal Q1 is as follows.

We expect revenue to be $8.7 billion, plus or minus $200 million; gross margin to be in the range of 39.5%, plus or minus 100 basis points; and operating expenses to be approximately $1.085 billion, plus or minus $15 million. As mentioned, we expect the fiscal Q1 tax rate to be in the mid-teens percentage range.

Based on a share count of approximately 1.14 billion shares, we expect EPS to be $1.74 per share, plus or minus $0.08.

Closing

In closing, we remain focused on investing in a disciplined manner to support our growth and maintain stable bit share in DRAM and NAND. Micron is well positioned to deliver record revenue as well as significantly improved profitability and free cash flow in fiscal 2025.

I will now turn it back over to Sanjay.

SANJAY MEHROTRA, PRESIDENT AND CHIEF EXECUTIVE OFFICER

Thank you, Mark.

Fiscal 2024 was a year of many records as we discussed earlier, and I expect fiscal 2025 to be even better. With the advent of AI, we are in the most exciting period that I have seen for memory and storage in my career. Micron's memory and storage innovations are enabling tremendous breakthroughs, transforming how the world uses information to enrich life for all. Micron has sustained multiple generations of technology leadership in DRAM and NAND. Our unique culture and our industry-leading product portfolio, combined with our world-class manufacturing execution and quality, are enabling us to deliver differentiated, high-value solutions across end markets. This has made us the partner of choice for our customers as they plan their long-term roadmaps, and our momentum lays the foundation for an exciting fiscal 2025.

Thank you for joining us today. We will now open for questions.