

SATYA KUMAR, CORPORATE VICE PRESIDENT, INVESTOR RELATIONS AND TREASURY

Thank you, and welcome to Micron Technology's fiscal first-quarter (Q1) 2025 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](https://twitter.com/MicronTech).

As a reminder, the matters we are discussing today include forward-looking statements regarding market demand and supply; market, pricing and cost-reduction trends and drivers; our plans for manufacturing; the impact of developing technologies such as AI; product ramp plans; technologies 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 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 FQ1 Results

I am pleased to report that Micron achieved record revenue in fiscal Q1, with revenue, gross margins and earnings per share (EPS) all at or above the midpoint of our guidance range. Data center revenue grew over 400% year over year and 40% sequentially, reaching a record level, with data center revenue mix surpassing 50% of Micron's revenue for the first time. We delivered record revenue in data center SSDs

and achieved new records in market share for data center SSDs and overall SSDs. Our high-bandwidth memory (HBM) shipments were ahead of plan, and we achieved more than a sequential doubling of HBM revenue. Revenue from our largest data center customer was approximately 13% of total company revenue.

The HBM market will exhibit robust growth over the next few years. In 2028, we expect the HBM total addressable market (TAM) to grow four times from the \$16 billion level in 2024 and to exceed \$100 billion by 2030. Our TAM forecast for HBM in 2030 would be bigger than the size of the entire DRAM industry, including HBM, in calendar 2024. This HBM growth will be transformational for Micron, and we are excited about our industry leadership in this important product category.

Leading-edge DRAM supply remains tight, driven by robust demand in data center DRAM, including HBM, which will underpin our business results throughout fiscal and calendar 2025. We had previously shared our expectation that customer inventory reductions in the consumer-oriented segments and seasonality would impact fiscal Q2 bit shipments. We are now seeing a more pronounced impact of customer inventory reductions. As a result, our fiscal Q2 bit shipment outlook is weaker than we previously expected. We expect this adjustment period to be relatively brief and anticipate customer inventories reaching healthier levels by spring, enabling stronger bit shipments in the second half of fiscal and calendar 2025. We are on track to achieve our HBM targets and also deliver a substantial record in Micron revenue, significantly improved profitability and positive free cash flow in fiscal 2025.

Technology and Operations

Our technology roadmap continues to progress very well, and we are in production with the industry's most advanced DRAM and NAND nodes. We continue to ramp our 1 β (1-beta) technology node, which supports HBM3E, and we are preparing to ramp our 1 γ (1-gamma) technology node using extreme ultraviolet (EUV) in calendar 2025. In NAND, we are maintaining technology leadership with our industry leading G8 and G9 nodes and are managing the ramp of these nodes consistent with our demand. We expect fiscal 2025 DRAM front-end cost reductions, excluding HBM, to be in the mid- to high-single-digits percentage range. We expect fiscal 2025 NAND front-end cost reductions to be in the low-teens percentage range.

Manufacturing Update

Earlier this month, we finalized an agreement with the U.S. Department of Commerce for an award of up to \$6.1 billion under the CHIPS and Science Act to support advanced DRAM manufacturing fabs in Idaho and New York. Additionally, we have entered into a preliminary memorandum of terms with the U.S. Department of Commerce for an award of up to \$275 million for our Virginia fab that supports production of long-lifecycle chips in areas such as automotive, industrial, aerospace and defense and enables efficiencies across our global fab network.

With the support of the Singapore government, we have finalized plans to expand our manufacturing footprint in Singapore, starting with an investment for a new HBM advanced packaging facility. This investment allows us to meaningfully expand our total advanced packaging capacity beginning in calendar 2027 to support AI-driven demand and will be synergistic with our existing operations in Singapore. These plans also include support for our long-term manufacturing requirements for NAND.

End Markets

Now turning to our end markets.

Numerous advances are pushing the boundaries of AI capabilities, as training model sizes continue to increase and inference models evolve to address different use cases. Multimodal models, post-training and chain-of-thought inferencing represent new frontiers of innovation, all of which are memory intensive and can benefit from higher memory bandwidth and capacity. AI agents will become ever more capable and address vertical market consumer and enterprise use cases, driving accelerating monetization of AI. Micron is extraordinarily well positioned to leverage this long-term growth opportunity, which has the potential to transform the dynamics of our business.

Data Center

We have upgraded our view of server unit percentage growth and now expect it to reach low teens in calendar 2024, fueled by strong AI demand as well as a robust traditional server refresh cycle. And we anticipate server unit growth to continue in 2025.

Micron achieved new records in both total data center revenue and the revenue mix for data center in fiscal Q1. Our portfolio of high-capacity DRAM products, including monolithic die-based 128 gigabyte DIMMs and LP5-based server DRAM products, continues to see robust demand and remains on track to generate multiple billions of dollars in revenue in fiscal 2025.

We made excellent progress on HBM, more than doubling our revenue sequentially during the quarter and exceeding our plans as a result of solid execution on yield and capacity ramps. In fiscal Q1, our HBM gross margins were significantly accretive to both DRAM and overall company gross margins.

We are proud to share that Micron's HBM3E 8H is designed into NVIDIA's Blackwell B200 and GB200 platforms. Micron's HBM3E operates at full speed while maintaining leadership in power efficiency.

This month, we commenced high-volume shipments to our second large HBM customer and will start high-volume shipments to our third large customer in CQ1, expanding our HBM customer base.

We continue to receive positive feedback from our leading customers for Micron's HBM3E 12H best-in-class power consumption, which is 20% lower than the competition's HBM3E 8H, even as the Micron product delivers 50% higher memory capacity and industry-leading performance.

We have increased our HBM market TAM estimate to now exceed \$30 billion in 2025, and we continue to expect to achieve HBM market share commensurate with our overall DRAM market share sometime in the second half of calendar 2025. As we have said before, our HBM is sold out for calendar 2025, with pricing already determined for this time frame. In fiscal 2025, we expect to generate multiple billions of dollars of HBM revenue.

We are excited about Micron's HBM leadership roadmap through the rest of this decade. Leveraging the strong foundation and continued investments in proven 1 β process technology, we expect Micron's HBM4 will maintain time to market and power efficiency leadership while boosting performance by over 50% over HBM3E. We expect HBM4 to ramp in high volume for the industry in calendar 2026.

Development work is well underway with multiple customers on HBM4E, which will follow HBM4. HBM4E will introduce a paradigm shift in the memory business by incorporating an option to customize the logic base die for certain customers using an advanced logic foundry manufacturing process from TSMC. We expect this customization capability to drive improved financial performance for Micron.

Based on our customer design wins and success in establishing deep partnerships with customers, industry enablers and key technology partners like TSMC, we expect to be a leading supplier of HBM, with the most robust, trusted and industry-leading technology roadmap and execution record.

Micron has also been leading the adoption of LP DRAM in data centers with NVIDIA's Grace CPU. Micron's LP5X provides greater than 500GB of capacity and memory bandwidth of greater than 540 GB/s, thus delivering attractive performance per watt for AI platforms. NVIDIA's Grace CPU utilizes Micron's LP5X to provide systems with additional cache coherent memory to supplement HBM for the ever growing memory needs of AI workloads.

Our overall SSD and data center SSD revenue reached new quarterly revenue records in fiscal Q1, and we are on track to deliver another year of share gains in calendar 2024. We continue to strengthen our data center SSD product roadmap, leveraging our leadership G8 NAND technology and vertical integration. We announced the 6550 ION SSD, which delivers the industry's fastest 60TB SSD and the first in the industry with Gen5 capability at this capacity point. Compared to the competition, Micron's 6550 ION SSD delivers 20% lower power while providing 60% better performance and better data center footprint efficiency with up to 67% more density per rack for exascale data centers. Our 9550 PCIe Gen5 data center SSDs were qualified for the recommended vendor list for NVIDIA's GB200 NVL72 system and offer a 34% higher throughput and over 80% lower energy per terabyte of data transfer versus the competition. We continue to expect to generate multiple billions of dollars in data center SSD revenue in fiscal 2025 and to grow our market share once again in calendar 2025.

PC

Turning to PC.

The PC refresh cycle is unfolding more gradually, and we expect PC unit volume growth to be flattish in calendar 2024, slightly below prior expectations. We remain optimistic about AI PC adoption over time. AI PCs will require additional DRAM content, with a minimum of 16GB of DRAM for entry level PCs and 24GB and above for higher-end segments, versus 12GB average PC content last year. Windows 10 end-of-life in October 2025 and an aging installed base will provide a catalyst for PC market growth in 2025. We expect PC market units to grow in the mid-single-digit percentage range in calendar 2025, with growth weighted toward the second half of the calendar year.

Mobile

Turning to mobile, smartphone unit volumes in calendar 2024 remain on track to grow in the mid-single-digit percentage range, and we expect low-single-digit percentage growth in 2025, both consistent with our prior expectations. AI adoption continues to be a strong driver for mobile DRAM content growth, where we see the technology used in applications such as local search and contextually aware user interfaces increasing over time. DRAM content growth remained robust in CQ3, with the mix of smartphones with 8GB or greater growing to over 60%, significantly higher than a year ago. Smartphone customer inventory dynamics continue to play out as expected, and we expect bit shipments to be weighted to the second half of our fiscal year. Micron remains focused on the high end of the mobile market. We are leveraging our industry-leading portfolio of DRAM and NAND products to support the most demanding applications, which will require increased content, high performance and power efficiency.

Auto and Industrial

Turning to the automotive market, lower than expected automotive unit production, combined with a shift toward value-trim vehicles from premium models and electric vehicles (EVs), has slowed memory and storage content growth and resulted in inventory adjustments at OEMs. Longer term, we remain optimistic that advanced driver-assistance systems (ADAS), infotainment and AI adoption across auto will drive long-term memory and storage content growth.

Industrial market demand continues to be impacted by inventory adjustments, and we expect a recovery in this market later in calendar 2025.

Market Outlook

Now, turning to our market outlook.

We expect industry DRAM bit demand growth to be in the high-teens percentage range in calendar 2024 and in the mid-teens percentage range in calendar 2025.

We see overall calendar 2025 DRAM industry bit supply growing roughly in line with bit demand, with tightness in leading edge nodes driven by HBM supply ramp in the industry.

Our outlook for industry NAND bit demand growth in both calendar 2024 and 2025 is now in the low-double-digits percentage range, which is lower than our prior expectations. Key drivers include slower growth in NAND content in consumer devices, ongoing inventory adjustments and demand dynamics in different end markets, as outlined earlier, and a temporary moderation in near-term data center SSD purchases by customers after several quarters of very rapid growth.

In data center, we remain enthusiastic about long-term demand growth as NAND is a key enabler for AI workloads, providing faster data access, lower power and better overall total cost of ownership essential for AI infrastructure. In the next few years, we also expect high-capacity NAND SSDs to start displacing capacity HDDs in the data center, an inflection that will drive long-term NAND demand growth.

The decline in 2024 and 2025 industry NAND demand growth outlook implies that supply actions will be necessary to achieve balance. As mentioned previously, since NAND technology transitions provide a significant increase in overall bit output, the pace of technology transitions will also need to slow in order to align supply to industry demand.

Micron is decisively taking actions to align our NAND supply with industry demand trends. We have reduced NAND capital expenditures (capex) versus prior plan and have slowed the pace of technology node transitions. In addition, we are reducing NAND wafer starts by a mid-teens percentage versus prior levels. These actions will align our supply to current market demand.

Consistent with analyst reports, we have seen an increase in bit supply at legacy technology nodes from a China-based DRAM and a China-based NAND supplier. In calendar 2024, analyst reports indicate that China-based supply will represent a mid-single-digit percentage of industry bit supply for DRAM and a high-single-digit percent of supply for NAND. Competition from China supply is focused on China market demand — in DRAM with DDR4 and LP4 products and in NAND with consumer, client and lower-performance mobile products. We expect Micron's worldwide revenue related to LP4 and D4 DRAM products for the remainder of fiscal 2025 to be approximately 10%. We expect Micron's sales of products to China-headquartered customers to be concentrated in the high end of our customers' portfolio, leveraging our technology and product leadership and the performance and quality requirements of our customers.

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

Micron delivered fiscal Q1 revenue and gross margins at the midpoint and EPS above the midpoint of the guidance range.

Revenue

Total fiscal Q1 revenue was approximately \$8.7 billion, up 12% sequentially and up 84% year over year, and reached a new record.

DRAM

Fiscal Q1 DRAM revenue was \$6.4 billion, up 87% year over year, and represented 73% of total revenue. Sequentially, DRAM revenue increased 20%, with bit shipments up in the low-double-digit percent range and prices increasing in the high-single-digit percentage range. Strong sequential bit shipment growth in DRAM was driven by demand in data center.

NAND

Fiscal Q1 NAND revenue was \$2.2 billion, up 82% year over year, and represented 26% of Micron's total revenue. Sequentially, NAND revenue decreased 5%, with bit shipments and prices both decreasing in the low-single-digit percentage range.

Revenue by Business Unit

Now turning to revenue by business unit.

Compute and Networking Business Unit revenue was up 46% sequentially to \$4.4 billion and now represents over half of our total revenue. CNBU revenue reached a new quarterly record, driven by cloud server DRAM demand, as well as HBM revenues, which more than doubled sequentially in the quarter.

Mobile Business Unit revenue was \$1.5 billion, down 19% sequentially. As our mobile customers focused on improving their inventory health, we shifted supply to meet data center demand.

Embedded Business Unit revenue was \$1.1 billion, down 10% sequentially. Auto, industrial and consumer customers continue to manage their inventories lower.

Revenue for the Storage Business Unit was \$1.7 billion, up 3% sequentially. SBU revenue reached a new quarterly record, driven by record revenue in the data center SSD segment.

In fiscal 2025, we expect Micron's revenue mix with companies headquartered in mainland China and Hong Kong, including direct sales as well as indirect sales through distributors, to be approximately mid-

teens percent of our worldwide revenue. This mix is impacted by market factors described earlier as well as by the Cyberspace Administration of China (CAC) actions announced in May 2023.

Operating Results

Gross Margin

The consolidated gross margin for fiscal Q1 was 39.5%, improving 300 basis points sequentially. Gross margin improvement was driven by higher pricing in DRAM, improved product mix to data center in both DRAM and NAND, offset partly by lower pricing in NAND.

Opex

Operating expenses in fiscal Q1 were \$1.05 billion, down \$34 million sequentially and benefiting from lower labor related costs and ongoing tight expense control.

Operating Income

We generated operating income of \$2.4 billion in fiscal Q1, resulting in an operating margin of 27.5%, which was up approximately 500 basis points sequentially and up 48 percentage points from the year-ago quarter.

Fiscal Q1 adjusted EBITDA (earnings before interest, depreciation and amortization) was \$4.4 billion, resulting in an EBITDA margin of 50.6%, up 265 basis points sequentially and up 31 percentage points or \$3.5 billion from the year-ago quarter.

Taxes

Fiscal Q1 taxes were \$333 million on an effective tax rate of 14.1%, which was in line with our guidance.

Earnings per Share

Non-GAAP diluted EPS in fiscal Q1 was \$1.79, compared to \$1.18 per share in the prior quarter and a loss per share of minus \$0.95 in the year-ago quarter. We delivered fiscal Q1 EPS at the higher end of our guidance range.

Cash Flow

Turning to cash flows and capital spending, our operating cash flows were approximately \$3.2 billion in fiscal Q1. Capital expenditures were \$3.1 billion, resulting in free cash flow of \$112 million in the quarter.

Inventory

Our fiscal Q1 ending inventory was \$8.7 billion or 149 days, a decline of nine days from the prior quarter and driven by DRAM.

Total Cash/Debt

On the balance sheet, we held \$8.7 billion of cash and investments at quarter end and maintained \$11.2 billion of liquidity when including our untapped credit facility. We ended the quarter with \$13.8 billion in total debt, low net leverage and a weighted average maturity on our debt of 2031.

Outlook

Now turning to our outlook for the second fiscal quarter.

We expect DRAM bit shipments to decline sequentially and expect a meaningful sequential decline in NAND bit shipments for reasons mentioned previously that are impacting near-term demand. We project our bit shipments to resume growth after fiscal Q2 and expect second-half fiscal year bit shipments to be stronger than the first half.

We expect fiscal Q2 gross margins to be impacted by NAND industry conditions, partly offset by continued growth in HBM and data center DRAM. In addition to these factors, we expect NAND under loading to affect fiscal Q3 gross margins.

We forecast operating expenses in fiscal Q2 to be approximately \$1.1 billion, primarily reflecting planned increases in research and development (R&D) spending. We expect fiscal 2025 operating expenditures (opex) to increase by a low- to-mid-teens percent, below our prior mid-teens plan. We continue to prioritize R&D programs, including for HBM, to capitalize on strong growth ahead.

We expect both inventory dollars and days of inventory (DIO) to increase sequentially in fiscal Q2 on lower volumes. With stronger bit shipments, we expect DIO to improve in the second half of the fiscal year. We expect to end fiscal 2025 with tight DRAM inventories, below our target levels.

For fiscal Q2 and the remainder of fiscal 2025, we estimate our non-GAAP tax rate to be in the mid-teens percent range. We expect our fiscal 2026 tax rate to be in the high-teens percentage range following Singapore's adoption of global minimum tax.

In fiscal Q2, we forecast net capex to be approximately \$3 billion. For fiscal 2025, we are prioritizing our investments to ramp 1 β and 1 γ technology nodes, as well as greenfield fab investments for DRAM, which will help us support HBM and long-term DRAM demand. We have cut our NAND capex and are prudently managing the pace of our NAND technology node ramps to manage our supply.

We expect overall capex spending in fiscal 2025 to be approximately \$14 billion plus or minus \$500 million. The overwhelming majority of the fiscal 2025 capex is to support HBM, as well as facility, construction, back-end manufacturing and R&D investments.

Non-GAAP Guidance

With all these factors in mind, our non-GAAP guidance for fiscal Q2 is as follows.

We expect revenue to be \$7.9 billion, plus or minus \$200 million; gross margin to be in the range of 38.5%, plus or minus 100 basis points; and operating expenses to be approximately \$1.1 billion, plus or minus \$15 million. As mentioned, we expect the fiscal Q2 tax rate to be in the mid-teens percent range.

Based on a share count of approximately 1.14 billion shares, we expect EPS to be \$1.43 per share, plus or minus \$0.10.

Closing

In closing, Micron will remain circumspect and flexible with all our spending, including operating expenses and capital investments. We are making disciplined investments in DRAM and are driving the ramp of HBM. In NAND, we are taking prompt and decisive actions to cut our capital spending and cut our wafer output to maintain supply discipline. We expect to deliver a substantial revenue record, significantly improved profitability and positive 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.

At our 2022 Investor Day, we had laid out a bold plan to shift our portfolio mix and to increase our share of high growth and less seasonal segments from approximately 45% in fiscal 2021 to 62% in fiscal 2025. In fiscal Q1 2025, we have already significantly exceeded that goal, driven by strong demand for AI-enabled solutions and reflecting Micron's technology, product and manufacturing leadership. Micron is in the strongest competitive position in its history, and we continue to gain share in all high-margin, strategically important product categories in our industry while maintaining overall stable bit share in both DRAM and NAND.

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