



**SATYA KUMAR, CORPORATE VICE PRESIDENT, INVESTOR RELATIONS AND TREASURY**

Thank you, and welcome to Micron Technology's fiscal second-quarter (Q2) 2025 financial conference call. On the call with me today are Sanjay Mehrotra, our chairman, president and CEO, and Mark Murphy, our CFO. Today's call is being webcast from our Investor Relations site at [investors.micron.com](https://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](https://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://microntech.com).

As a reminder, the matters we are discussing today include forward-looking statements regarding market demand and supply, including demand for our products; our market share, market, pricing and cost 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 planned investments and expenditures; our expected results and guidance; regulatory matters 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, CHAIRMAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER**

Thank you, Satya.

Good afternoon, everyone.

**Intro and FQ2 results**

Micron is in the best competitive position in our history, and we are achieving share gains across high-margin product categories in our industry. Our strong product momentum has enabled us to build deeper



customer relationships, and Micron's industry-leading products are now more firmly entrenched in our customers' high-value product roadmaps.

In fiscal Q2, data center DRAM revenue reached a new record. High-bandwidth memory (HBM) revenue grew more than 50% sequentially to a new milestone of over \$1 billion of quarterly revenue. Our HBM shipments were ahead of our plans, demonstrating strong execution of our ongoing ramp.

The combination of our revenue from high-capacity DRAM modules and our industry-leading LP DRAM for the data center also exceeded the billion-dollar milestone for the quarter. Micron remains the only company in the world to ship low-power DRAM into the data center in high volume, showcasing our pioneering innovation and deep partnership with our customers for differentiated solutions.

As we build on this momentum, we expect fiscal Q3 revenue to be another record for Micron, driven by shipment growth across both DRAM and NAND. We see the combination of artificial intelligence (AI) data center demand and the ramp of HBM and its associated trade ratio contributing to tightness at the leading edge and constraining non-HBM DRAM supply. We expect supply actions announced by NAND companies to improve the dynamics in the NAND market.

### **Technology and operations**

Micron's 1β (1-beta) DRAM technology leads the industry, and we are extending our leadership with the launch of our 1γ (1-gamma) node and the industry's first shipments of 1γ-based D5 products last month. Micron's 1γ is our first DRAM node incorporating extreme ultraviolet (EUV), and we have achieved 20% lower power, 15% better performance and over 30% improvement in bit-density compared to our 1β DRAM.

Micron's leading-edge G9 NAND technology node delivers the industry's fastest TLC-based NAND, and we are managing the ramp of this node mindful of the supply-demand balance in the industry.

### **Manufacturing update**

Micron continues to make disciplined investments that position us to capitalize on the significant growth opportunities driven by AI. We are focused on growing HBM capacity in our existing manufacturing facilities to meet requirements through 2026. In January, we broke ground on an HBM advanced packaging facility in Singapore. This investment allows us to meaningfully expand our total advanced packaging capacity beginning in calendar 2027. Our new DRAM fab construction in Idaho completed an important construction milestone that enabled the receipt of the first disbursement of funding from our CHIPS grant for the project during the quarter. This new Idaho fab will provide meaningful DRAM output starting in fiscal 2027.



## **End markets**

Turning to our end markets.

Dramatic improvements in computation hardware have reduced the per-token cost of generative AI models. These hardware improvements, along with more efficient algorithms and software, drive down the cost of inference and make generative-AI-based capabilities more accessible to new applications and use cases. This broadening deployment creates a powerful growth vector for aggregate AI demand, and recent innovations and those in the pipeline from key contributors to the AI ecosystem will continue to fuel this growth trend.

As GPU and custom AI accelerator performance capabilities continue to improve with each new generation of product, these high-performance processors are starved of memory bandwidth. HBM memory provides the bandwidth necessary to leverage these powerful processors in the most effective and efficient manner, and we are excited to see the growth opportunities ahead for this complex and high-value product category, where our customers now recognize Micron as the HBM technology leader in our industry.

## ***Data center***

Recently, large hyperscale customers reiterated strong year-over-year growth for their capital investments in calendar 2025. We project mid-single-digit server unit growth in calendar 2025, with growth in both traditional and AI servers.

We see strong demand for HBM and have once again increased our HBM total addressable market (TAM) estimate for calendar 2025 to over \$35 billion. We remain on track to reach HBM share similar to our overall DRAM supply share, on a run-rate basis, in calendar Q4 2025. As previously mentioned, Micron is sold out of our HBM output in calendar 2025. We are seeing strong demand for our HBM supply in 2026 and are in discussions with our customers on agreements for their calendar 2026 HBM demand.

Micron's industry-leading HBM3E delivers a 30% power reduction compared to the competition, and our HBM3E 12-high (12H) has a remarkable 20% power advantage over competing 8H products while providing a 50% higher memory capacity. We have begun volume production of HBM3E 12H and are focused on ramping capacity and yield. We anticipate HBM3E 12H will comprise the vast majority of our HBM shipments in the second half of calendar 2025.

We are making good progress on additional platform and customer qualifications with HBM. Micron HBM3E 8H is designed into NVIDIA's GB200 system, and our HBM3E 12H is designed into the GB300. In fiscal Q2, we initiated volume shipments to our third large HBM3E customer and anticipate additional customers over time. We expect multibillion dollars in HBM revenue in fiscal 2025.



Looking ahead, we are enthusiastic about Micron's HBM4, which will ramp in volume in calendar 2026. Our HBM4 provides a bandwidth increase of over 60% compared to HBM3E. The timing of our HBM4 is aligned to our customers' requirements, and we are focused on delivering the best HBM4 products to the market across power efficiency, quality and performance. Our proven HBM product performance, our strong HBM roadmap and our demonstrated manufacturing excellence uniquely position Micron to capitalize on next-generation HBM4 and HBM4E solutions.

Micron has led the adoption of LP in data center. In AI servers, Micron's LP lowers memory power consumption by over two-thirds compared to D5. We expect to maintain our leadership position in LP for server as it transitions from soldered components to a SOCAMM or Small Outline Compression Attached Memory Module form factor. Micron's SOCAMM was developed in collaboration with NVIDIA to support the GB300. LP DRAM in a SOCAMM form factor enables easier server manufacturability and serviceability and helps drive broader LP adoption in the server market. We are on track to deliver multibillion dollars in revenue in fiscal 2025 from our portfolio of high-capacity D5 modules and LP products for the data center.

In data center NAND, demand moderated in fiscal Q2 due to short-term customer inventory-driven impacts, and we see a return to bit shipment growth in the months ahead. In calendar Q4 2024, based on industry analyst reports, Micron achieved yet another record high market share in data center SSDs, with revenue growth in each category, including performance, mainstream and capacity SSDs. Our high-performance 9550 SSD, which is on NVIDIA's GB200 NVL72-approved vendor list, completed qualifications at multiple customers. During the quarter, we announced that Micron's data center-class G8 QLC-based NAND components are qualified for production in Pure Storage's high-capacity 150 TB DirectFlash module. Micron's data center-class NAND components give customers the ability to leverage our industry-leading NAND design and process technology in their custom storage solutions. Micron's leadership in QLC NAND supports the transition from HDD to NAND solutions in the data center. We expect to generate multiple billions of dollars in data center NAND revenue and once again grow our data center NAND market share in calendar 2025.

## **PC**

We expect the PC market to grow mid-single digits in unit terms in calendar 2025, with growth weighted to the second half of calendar 2025. The Windows 10 end-of-life in October 2025, combined with an aging installed base and a desire amongst customers to ensure that their PC hardware specs can support compelling AI applications in the future, are key catalysts that drive this growth. AI PCs require a minimum of 16GB of DRAM, with many models requiring even higher memory versus the average 12GB PC content last year. During the quarter, we sampled our 16Gb 1y-based D5 products to PC clients. In NAND, we launched our G9-based 4600 performance SSDs, the fastest in the world for the client market, and completed qualifications of our 2650 mainstream SSDs at multiple PC OEMs.



### ***Mobile***

Turning to mobile, our expectations for smartphone unit volume growth in calendar 2025 remain at low-single-digit percentages. Smartphone customer inventory dynamics have played out as anticipated, leading to mobile DRAM and NAND bit shipment growth in our fiscal Q3. AI adoption continues to be a significant driver for increased mobile DRAM demand. AI-capable flagship phones increasingly feature DRAM capacities of 12GB or higher, compared to the 8GB in last year's models.

Smartphone OEMs are using Micron's industry-leading 9.6 Gbps LP5X DRAM to improve AI performance, delivering up to 20% more tokens per second than those using legacy speed grades on the same system on a chip (SoC). During the quarter, we announced that our LP5X DRAM and UFS 4.0 NAND were featured in the high-end of the Samsung Galaxy S25 series. Micron's mobile DRAM and UFS storage solutions are in high demand and will continue to launch in flagship and high-end smartphones throughout the year. Additionally, we are now sampling the industry's first mobile G9-managed NAND-based UFS 4.1 solution in densities up to 1TB.

### ***Auto and industrial***

Automotive OEMs, industrial and consumer-embedded customers are in the later stages of adjusting their inventory levels. In automotive, which comprises the largest portion of our Embedded Business Unit (EBU) revenue, memory and storage content per car continues to increase as AI-enabled in-vehicle infotainment systems become more enriched and driver-assistance functions become more capable. Advanced robotaxi platforms today contain over 200GB of DRAM, or 20 to 30 times higher than the amount of DRAM in the average car.

Micron is well-positioned to capitalize on this trend with our industry-leading portfolio of automotive products. During the quarter, we announced the production readiness of the industry's first automotive LP5X DRAM product that supports a 9.6 Gbps speed grade, addressing the increasing performance requirements of AI-driven applications in vehicles. Additionally, our 4150 SSD became the industry's first enterprise SSD product that is automotive-qualified and is now sampling at target customers, further reinforcing our commitment to innovation and leadership in this important market.

### **Market outlook**

Now, turning to our market outlook.

Calendar 2024 DRAM bit demand growth was in the high teens, consistent with our prior expectations. Calendar 2024 NAND bit demand growth was approximately 10%, slightly below our previous view of low double digits.



We forecast calendar 2025 DRAM bit demand growth in the mid- to high-teens percentage range and NAND in the low-double-digit percentage range. Over the medium term, we expect industry bit demand growth of mid-teens CAGR (compound annual growth rate) for both DRAM and NAND.

As we have previously discussed, NAND technology transitions provide a significant increase in overall bit output. Sustained NAND industry supply-demand balance can result from increasing the time between node transitions along with sustained reductions in NAND industry capital expenditures (capex) and wafer capacity. NAND industry wafer capacity underutilization can help to improve the near-term dynamics in the NAND market.

We expect Micron's supply growth in calendar 2025 to be lower than industry demand growth for both DRAM and NAND. We expect our inventory days to decline as we move through calendar 2025. We expect to maintain our bit share in DRAM and NAND in calendar 2025.

In DRAM, we expect a strong ramp of HBM throughout calendar 2025. As noted before, HBM3E consumes three times the amount of silicon compared to D5 to produce the same number of bits. Looking ahead, we expect the trade ratio to increase with HBM4 and then again with HBM4E when we expect it to exceed 4 to 1. This sustained and significant increase in silicon intensity for the foreseeable future contributes to tightness for industry-leading edge node supply and constrains capacity for non-HBM products.

In NAND, we continue to underutilize our fabs, and our wafer output is down mid-teens percentage from prior levels. We plan to reuse a portion of our underutilized NAND equipment to support capital-efficient conversions to leading-edge nodes. This strategy results in over 10% structural reduction of NAND wafer capacity exiting fiscal 2025 compared to levels exiting fiscal 2024. We will continue to prudently manage our NAND supply, including the levels of our capital investment, the pace of ramp of our new technology node, fab capacity and utilization consistent with our demand growth.

Our capital spending plans remain unchanged at approximately \$14 billion for fiscal 2025. A significant portion of our capital investments are focused on multiyear facility investments to support our DRAM and HBM manufacturing, including our Idaho fab, Singapore HBM advanced packaging facility and Taiwan DRAM test facility. Micron will remain disciplined with our overall equipment investments to manage our supply growth consistent with demand.

On tariffs, Micron serves as the U.S. importer of record (IOR) for a very limited volume of products that would be subject to newly announced tariffs on Canada, Mexico and China. We continue to monitor the possibility of future tariffs and are prepared to work with our customers and suppliers to understand future tariff effects and supply chain options that may arise. Where tariffs do have an impact, we intend to pass those costs along to our customers.

With that, 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 Q2 earnings per share (EPS) above the guidance range and revenue and gross margin within the range.

**Revenue**

Total fiscal Q2 revenue was approximately \$8.1 billion, down 8% sequentially and up 38% year over year.

**DRAM**

Fiscal Q2 DRAM revenue was \$6.1 billion, up 47% year over year, and represented 76% of total revenue. Sequentially, DRAM revenue decreased 4%, with bit shipments decreasing in the high-single-digit percentage range and prices increasing in the mid-single-digit percentage range as a result of improving portfolio mix.

**NAND**

Fiscal Q2 NAND revenue was \$1.9 billion, up 18% year over year, and represented 23% of Micron's total revenue. Sequentially, NAND revenue decreased 17%, with bit shipments modestly higher and prices decreasing in the high-teens percentage range. FQ2 NAND bit shipments were above our expectations, driven by higher consumer-oriented shipments.

**Revenue by business unit**

Now turning to revenue by business unit.

Compute and Networking Business Unit revenue was up 4% sequentially to \$4.6 billion and reached 57% of our total revenue. For the third consecutive quarter, CNBU revenue reached a new quarterly record, driven by a more than 50% sequential increase in HBM revenue.

Revenue for the Storage Business Unit was \$1.4 billion, down 20% sequentially. Decline in SBU revenue was driven primarily by lower storage investments from data center customers after several quarters of very strong growth and overall NAND industry pricing.

Mobile Business Unit revenue was \$1.1 billion, down 30% sequentially, as mobile customers continued to improve their inventory positions.



Embedded Business Unit revenue was \$1.0 billion, down 3% sequentially. Lower sequential revenue was primarily due to inventory improvement initiatives at automotive customers.

## **Operating results**

### ***Gross margin***

The consolidated gross margin for fiscal Q2 was 37.9%, down 160 basis points sequentially due primarily to pricing in consumer-oriented segments of the market, especially in NAND, and NAND mix shift to consumer-oriented products as mentioned earlier. Our ongoing high-value mix shift in our DRAM portfolio partially offset some of these factors.

### ***Opex***

Operating expenses in fiscal Q2 were \$1.0 billion, flat sequentially. Research and development (R&D) expenses were lower than plan due to earlier product qualification and timing of certain R&D projects.

### ***Operating income***

We generated operating income of \$2.0 billion in fiscal Q2, resulting in an operating margin of 24.9%, which was down approximately 260 basis points sequentially and up 21 percentage points from the year-ago quarter.

Fiscal Q2 adjusted EBITDA (earnings before interest, depreciation and amortization) was \$4.1 billion, resulting in an EBITDA margin of 50.7%, up 10 basis points sequentially and up 14 percentage points or \$2.0 billion from the year-ago quarter.

### ***Taxes***

Fiscal Q2 taxes were \$214 million on an effective tax rate of 10.7%, lower than our guidance due to the effects of one-time items in the quarter.

### ***Earnings per share***

Non-GAAP diluted earnings per share (EPS) in fiscal Q2 was \$1.56, above the high end of the guidance range, compared to \$1.79 per share in the prior quarter and \$0.42 in the year-ago quarter.

### ***Cash flow***

Turning to cash flows and capital spending, in fiscal Q2, our operating cash flows were over \$3.9 billion, and our capital expenditures were \$3.1 billion, net of proceeds from government incentives. As a result, free cash flows in the quarter were \$857 million.





### ***Inventory***

Our fiscal Q2 ending inventory was \$9.0 billion or 158 days, up as communicated previously, and an increase of nine days from the prior quarter.

### ***Total cash/debt***

On the balance sheet, we held \$9.6 billion of cash and investments at quarter end and maintained \$12.1 billion of liquidity when including our untapped credit facility. During fiscal Q2, we extended our debt maturities through a \$1.0 billion 10-year senior note offering and a \$1.7 billion term loan, with proceeds principally used to pay down notes maturing in 2026 and the previous term loan balance. We ended the quarter with \$14.4 billion in total debt, low net leverage and a weighted average maturity on our debt of 2032. Following quarter end, we renewed and increased the size of our five-year revolving credit facility to \$3.5 billion. This provides an additional billion dollars of liquidity and further improves our financial flexibility.

### **Outlook**

Now turning to our outlook for the third fiscal quarter.

We forecast growth in DRAM and NAND bit shipments in FQ3.

We forecast sequentially lower fiscal Q3 gross margin, which includes the effects of higher consumer-oriented volumes. NAND underutilization continues to weigh on gross margins.

We project operating expenses in fiscal Q3 to be approximately \$1.13 billion and fiscal 2025 opex to increase by over 10%, reflecting planned increases to support our portfolio of high-value products, including HBM.

We expect days of inventory (DIO) to decrease in the third fiscal quarter on higher bit shipments. We continue to project ending fiscal 2025 with tight DRAM inventories.

For fiscal Q3 and Q4, we estimate our non-GAAP tax rate to be approximately 14%.

In fiscal Q3, we forecast capex to be over \$3 billion. Our capex projection for fiscal 2025 remains approximately \$14 billion. The overwhelming majority of the fiscal 2025 capex is to support HBM, as well as facility, construction, back-end manufacturing and R&D investments.

Impacts from potential new tariffs are not included in our guidance given the uncertainty around tariff timing, nature and implementation.



### **Non-GAAP guidance**

With all these factors in mind, our non-GAAP guidance for fiscal Q3 is as follows.

We expect revenue to be \$8.80 billion, plus or minus \$200 million; gross margin to be in the range of 36.5%, plus or minus 100 basis points; and operating expenses to be approximately \$1.13 billion, plus or minus \$15 million. As mentioned, we expect the fiscal Q3 tax rate to be around 14%. Based on a share count of approximately 1.14 billion shares, we expect EPS to be \$1.57 per share, plus or minus \$0.10.

### **Closing**

In fiscal Q2, Micron delivered earnings above guidance range, achieved record revenues again in data center DRAM, ramped our leading HBM and released the industry's most advanced DRAM process technology. For fiscal Q3, we project record quarterly revenue at the midpoint of our guidance. We are focusing our R&D resources, exercising capital discipline and maintaining a strong balance sheet as we extend our leadership and tap into substantial growth opportunities ahead.

I will now turn it back over to Sanjay.

### **SANJAY MEHROTRA, CHAIRMAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER**

Thank you, Mark.

Micron is uniquely positioned to capitalize on the transformative growth driven by AI, from data centers to edge devices, and we are on track for record revenue and significantly improved profitability in fiscal 2025. We are confident in our ability to navigate the current market dynamics with disciplined investments and a focus on our high-value portfolio mix shift. This is the most exciting time I've seen for memory and storage, and Micron's innovations are at the forefront of this revolution. We are excited about the opportunities ahead and remain committed to delivering value for all our stakeholders.

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