



Sanjay Mehrotra, President and Chief Executive Officer

Our fourth quarter results contributed to a year of unprecedented success for the company. With record profitability and revenue over \$30 billion, Micron ended FY2018 as the second-largest semiconductor company in the U.S.

The new Micron is undergoing a fundamental transformation driven by our 34,000-plus employees around the world, whom I would like to thank for their intense focus on our key priorities. Our markets are propelled by diversified, secular growth trends, our industry is more rational, and the Micron team is executing well against the company strategy. Over the last 12 months, we have sharpened our focus on improving our cost structure and on increasing the mix of high-value solutions in our portfolio, all of which position us well for the future.

Our technology roadmap and manufacturing execution are driving strong cost reductions for the company. Over the last year, we have increased production DRAM bits per wafer at a higher rate than the industry, reducing the cost gap with competitors. We are on track to achieve total bit output crossover on 1X nanometer DRAM in the first quarter of fiscal 2019, and have already achieved bit shipment crossover for 1X nanometer in the client and graphics markets in the fourth quarter. We expect 1Y nanometer sales to commence before the end of calendar 2019, with meaningful production increases beginning in FQ3 as previously announced new cleanroom space comes online at our Hiroshima facility. We are also making good progress on our 1Z nanometer technology development.

In NAND, cost reductions and mix improvements have helped us deliver sequential gross margin expansion, even as pricing declined in the industry. At this time last year, our bit output share was meaningfully below our wafer market share. Over the last 12 months, through the strong execution of our 64-layer ramp and a higher mix of TLC, we have reversed this trend and now have our bit share ahead of our wafer share. We remain on track to move 96-layer NAND into production this calendar year and will continue to ramp it next year, which should provide us with solid cost reductions in FY2019. We have already commercialized CMOS under the array, QLC, and array stacking on 3D NAND, while most competitors still have these challenges ahead of them. Our technology leadership positions us well for the year ahead, and we are pleased with the headway we are making on our fourth-generation 3D NAND technology, which uses a replacement gate architecture.

We also made excellent progress increasing our mix of higher-value-added solutions, delivering record revenue in our SSD and multichip package products this quarter. Our enterprise and cloud SSD quarterly revenues more than doubled year-over-year as we strengthened our position in SATA SSDs. A third-party research firm recently recognized Micron as the No. 1 market share leader in enterprise SATA SSDs. We achieved well over \$2 billion in annual SSD revenue in FY2018.



Our first-generation NVMe SSD is in the final stages of product development. Looking ahead, we are focused on introducing new NVMe SSDs over the course of the next several quarters. Consumer and client NVMe SSDs will come first, and then, late in calendar 2019, cloud and enterprise NVMe drives. As the market rapidly shifts to NVMe, 2019 will be a year of transition for us following solid SSD share gains in 2018, and we expect to start growing SSD share again in 2020 with a fuller product portfolio. We also look forward to leveraging our market advantage with QLC SSDs in 2019 and beyond.

Fiscal Q4 saw a continuation of our stellar performance in managed NAND growth, with MCP revenues growing 21 percent sequentially. MCPs are used in the vast majority of smartphones, and we have robust demand from customers for these products. We are focused on growing MCP revenues and are introducing new, differentiated products to enhance our portfolio. In FQ4, our new 128GB NAND plus 4GB DRAM MCP ramped revenue faster than any other managed NAND product in our history, demonstrating our strong execution, as well as the market demand for high-capacity, high-value MCPs for flagship smartphones. We are pleased with our progress and believe we still have a lot of room to grow in this market over the coming year.

Now, turning to highlights by market. More than one-third of our total revenues in FY2018 were from data center and graphics. Our annual revenues in these markets have more than doubled year-over-year. We are confident about the long-term demand growth in this market, as AI and big data analytics continue to create new value for end customers. Our collaboration with customers in these markets is deep, and we work closely with them to bring new technologies to market.

For example, in FQ4 we started shipping a new custom persistent memory solution to a large hyperscale company. In graphics, NVIDIA chose us as the lead GDDR6 partner for their GeForce RTX™ products, and we expect to see strong growth in our GDDR6 shipments in FY2019. We are also collaborating with customers on 3D XPoint™ solutions and expect to start sampling products in late calendar 2019.

Markets requiring our long-lifecycle products make up more than 15 percent of our revenues. We win in these markets on high-quality, deep partnerships, committed long-term support, and the breadth of our DRAM, NAND, and NOR product portfolios. These businesses in our portfolio typically show higher stability in revenues, profitability, and cash flows, and are supported by secular growth drivers such as autonomous driving, networking, IoT, and industrial automation.

Our automotive business had record revenues in the quarter. We have a strong design win pipeline for automotive products, with a lifetime value of several billion dollars. To support our long-term growth in these markets, we recently announced a multi-year, \$3 billion investment to expand our fab in Manassas, Virginia, over the next decade. This site will be a world-class center of excellence for developing and manufacturing these long-lifecycle solutions.



Turning to mobile, the market continues to grow, driven by content increases for DRAM and NAND across all phone tiers. We shipped our first high-performance UFS managed NAND products in FQ4 and expect this to be a growth area for us in FY2019. We delivered record results in mobile, with revenues up 8 percent sequentially, driven by strength in NAND as we grew NAND bits 80 percent quarter-on-quarter. DRAM and NAND content will continue to grow in mobile devices in FY2019, driven by customer preferences and the need to support new camera and video features utilizing machine learning.

Looking at the industry broadly, calendar 2018 has been a phenomenal year so far, with the total DRAM and NAND TAM on track to reach record highs, and total industry revenues forecasted to grow 29 percent year-over-year to \$168 billion.

As we discussed at our investor day event, we expect industry cyclicality to be more dampened than in the past, as industry supply growth from node transitions slows structurally and supply growth requires higher levels of capex. In addition, we continue to see robust, diversified demand drivers and are confident in the long-term outlook for our business.

Turning to bit growth, in DRAM, we see the calendar 2018 industry bit output growth tracking slightly above 20 percent, with Micron growing in line with the industry. NAND industry bit output growth is tracking close to 45 percent in calendar 2018, and we expect to grow roughly in line with the industry.

Looking ahead to calendar 2019, we plan to grow DRAM bits in line with estimated industry growth of approximately 20 percent, and plan to grow NAND bits somewhat above our expectation of industry growth of 35 percent to 40 percent.

In FY2019, we expect that DRAM profitability will remain strong as the market continues to benefit from long-term structural growth drivers and from structurally slowing supply growth.

Turning to NAND, we have seen an acceleration in supply growth in calendar 2018, driven by the ramp of highly efficient 64-layer 3D NAND across the industry. Looking ahead, we expect a moderation in supply growth beginning in the first half of calendar 2019 as the industry transitions to more challenging 96-layer designs, which provide less benefit node-over-node. We also expect higher demand due to elasticity, resulting in higher SSD adoption, and increasing average capacities across multiple end markets.

In our FQ1, we see some impact to our client compute customers due to a shortage of CPUs. In addition, there is some limited inventory adjustment underway at a few customers, but their end-customer demand remains solid.



Turning to capex, Dave will provide more details, but I want to emphasize that our FY2019 capex plans are consistent with our strategy to focus on technology transitions while maintaining existing wafer capacity. As we have highlighted previously, future technology transitions in NAND and DRAM require substantially more cleanroom space than prior nodes. As a result, our FY2019 capex related to manufacturing facility construction and facility upgrades is increasing by nearly \$2 billion year-over-year, primarily due to our previously announced NAND and DRAM cleanroom expansions. This investment will provide us the flexibility to better manage our manufacturing operations and drive the manufacturing ramp of new technologies in a timely manner.

As I reflect on the tremendous progress we have made improving our competitive position this year and the amazing opportunities that drive our industry, I am very excited about Micron's future. Against this backdrop, we certainly view our stock as being undervalued at current prices and are aggressively implementing our stock buyback program. We will continue to maintain a healthy balance sheet, and will use strong free cash flow to support our \$10 billion buyback and assess opportunities to accelerate the timeline for its completion.

With that I will pass this over to Dave.

Dave Zinsner, Senior Vice President and Chief Financial Officer

Micron continues to perform exceptionally well and delivered strong financial results in FQ4. We set new records for revenue, gross margin, free cash flow, and EPS. In addition, we continue to strengthen our financial foundation, achieving our highest-ever net cash position.

Total FQ4 revenue was \$8.4 billion, up 8 percent from FQ3 and 38 percent from the prior year. For FY2018, total revenue was \$30.4 billion, up 50 percent from FY2017.

Gross margins for the quarter expanded to a record 61 percent, up approximately 50 basis points from the prior quarter and up from 51 percent in the prior year. In FQ4, we saw the benefit of strong execution on technology transitions for both DRAM and NAND. This strong execution resulted in a significant sequential cost decline, which drove expanded gross margins in both DRAM and NAND. For FY2018, gross margins were 59 percent, up from 43 percent in FY2017.

Operating expenses came in at \$740 million, approximately flat from FQ3 2018. As previously communicated, moving forward, we expect to increase our investments in R&D for FY2019 as we add resources to expand our portfolio of new, high-value solutions and phase out partner contributions for technology development.



Our record revenue and gross margin performance drove strong profitability in FQ4 and operating income grew to \$4.4 billion, representing 53 percent of revenue. This compares with operating margins of 52 percent in FQ3 and 41 percent in the year-ago period.

Now turning to our revenue trends by business unit. We achieved record revenue for the Compute and Networking Business Unit of \$4.4 billion in FQ4, up 9 percent from the prior quarter, and 53 percent year-over-year. Growth trends were strong in cloud and graphics, which almost doubled year-on-year. FQ4 operating income in CNBU was up 11 percent sequentially to \$2.9 billion, or 67 percent of revenue.

Revenues for the Mobile Business Unit increased to a record \$1.9 billion, up 8 percent quarter-over-quarter, and 60 percent year-over-year. Sequential growth was primarily led by multichip packages and discrete managed NAND. FQ4 operating income increased 14 percent quarter-over-quarter to a record \$979 million, or 52 percent of revenue.

The Embedded Business Unit continues to deliver solid results with record revenue of \$923 million, up 3 percent versus FQ3 and up 12 percent year-over-year. Sequential growth was driven by the automotive and industrial markets. FQ4 operating income in EBU was \$382 million, or 41 percent of revenue.

Finally, turning to the Storage Business Unit, FQ4 revenue was \$1.2 billion, up 9 percent sequentially and down 4 percent year-over-year. We set a record for overall SSD revenues, driven by our continued success in the SATA SSD market. FQ4 operating income in SBU was \$157 million or 13 percent of revenue, which included the impact from the underutilization charges related to 3D XPoint.

Moving to performance by product line. DRAM represented 70 percent of total company revenue in FQ4. DRAM revenue was up 7 percent from the prior quarter and 47 percent year-over-year, as Micron executed well in a robust market environment. On a blended basis, ASPs were flat compared to the prior quarter while shipment quantities were up mid-to-upper single-digit percent. Gross margins for DRAM were 71 percent, up from 69 percent in the prior quarter, as costs benefitted from the ramp of our 1X nanometer technology.

Trade NAND revenue represented 26 percent of total company revenue in FQ4. Trade NAND revenue was up 15 percent quarter-over-quarter and 21 percent year-over-year, driven by strong sequential growth in managed NAND products. Our overall NAND ASP decreased in the mid-teens percentage range and shipment quantities increased in the mid-30 percentage range compared to the prior quarter. Trade NAND gross margins were 48 percent, up 50 basis points from the prior quarter and up 720 basis points from the year-ago quarter, driven by robust cost reductions and product mix improvements.

Our solid execution and healthy industry environment led to record non-GAAP earnings per share of \$3.53, up 12 percent from the prior quarter and 75 percent from the prior year. For the full FY2018, we achieved



net income of \$14.7 billion, or \$11.95 per share, compared with \$5.6 billion, or \$4.96 per share for fiscal 2017.

In FQ4, we generated a record \$5.2 billion in cash from operations, representing 61 percent of revenue. Micron has historically shown strong cash flows from operations even in our most difficult years, and our current cash flow levels are now structurally higher as we have made significant improvements on our underlying cost competitiveness and enhanced our product mix.

Capital spending, net of third-party contributions, was \$2.1 billion in FQ4 and \$8.2 billion for the fiscal year. While our annual capital spending was well below our capex model of low 30's as a percent of revenue in FY2018, we do plan to increase our capex as a percent of revenue in FY2019. We currently expect our FY2019 capex, net of partner contributions, to be in the range of \$10.5 billion, plus or minus 5 percent. Our investments will continue to be focused on technology transitions for DRAM and NAND, while maintaining flat wafer capacity. We expect that about 25 percent of our capital spending will be associated with facilities expansions and facilities upgrades needed for successful technology transitions. These expansion and upgrade projects are underway, and as a result, capex will be more weighted toward the first half of the fiscal year. Our strategy is to be flexible and disciplined regarding our capex, and we will be responsive to market conditions. As an example, we have cut back our fab equipment capex for NAND in FY2019, compared to FY2018 levels.

In FQ4, our free cash flow was \$3.1 billion, up \$900 million from FQ3 and up nearly \$1.4 billion from the prior-year period. Free cash flow for the full fiscal year was \$9.2 billion compared to \$3.3 billion last fiscal year.

We ended the fiscal year in a record net cash position of \$2.7 billion, with approximately \$7.4 billion in cash, marketable investments, and restricted cash, and \$4.6 billion in debt. During the fiscal year, we used \$9.4 billion for the repurchase or prepayment of debt and redemption of converts, and we reduced our debt position by \$6.5 billion. In FQ4 alone, we reduced our debt position by approximately \$2.7 billion, including the repayment of \$2 billion of Taiwan secured debt.

Combining the debt and equity components, we spent about \$1.3 billion for redeemed convertible notes during FQ4. Our convert redemptions in FQ3 and FQ4 have lowered the share count in the first quarter by approximately 31 million or 2.5 percent from what it would have been had the converts not been redeemed.

Prior to turning to our outlook, I wanted to provide some context for our FQ1 guidance. As Sanjay indicated, our markets remain healthy and demand from our customers is strong, but we are seeing some impact of CPU shortages in the client compute market and limited inventory adjustments at select customers.



We expect gross margins to remain very healthy in FQ1, although lower than FQ4 levels, and our gross margins will also be impacted in the near term, by the announced 10 percent tariff on \$200 billion of imports from China, which will go into effect on September 24. We are working to gradually mitigate most of the impact from these tariffs over the next three to four quarters.

Our FY2019 tax rate should increase to approximately 12 percent versus 2.8 percent in FY2018 with the new U.S. corporate tax rules enacted this year.

With the revenue, gross margin, and tax factors in mind, our non-GAAP guidance for FQ1 is as follows. We expect revenue to be in the range of \$7.9 billion to \$8.3 billion and gross margins to be in the range of 57 percent to 60 percent. Operating expenses are expected to be \$750 million, plus or minus \$25 million. Based on a share count of approximately 1.2 billion fully diluted shares, we expect EPS to be \$2.95, plus or minus \$0.07.

Let me take a moment to provide an update on our share repurchase program. I'm pleased to report that our buyback has been in effect since the beginning of September and for FQ1 we are committed to spend at least \$1.5 billion in programmatic repurchases, with an additional amount allocated for opportunistic repurchases. Beyond FQ1, we expect to be active buyers of our stock by repurchasing Micron shares regularly. We are committed to deploying at least 50 percent of our ongoing free cash flow towards our \$10 billion buyback program, and as Sanjay mentioned, we are assessing an accelerated rate of completion of this program. The total buyback program of \$10 billion represents approximately 19 percent of the current equity value.

Before I turn the call back over to Sanjay, I would like to discuss an update to our disclosures. As we typically do this time of year, we reviewed the financial information we disclose to make sure that we are appropriately balancing the needs of investors to make an informed investment decision, with the desire to keep confidential, as much proprietary information as possible. In doing so, we also review information disclosed by competitors.

As a result, beginning in FQ1 we will no longer be disclosing gross margins by our DRAM and NAND product categories. We view this information as sensitive and proprietary. To help investors understand the drivers of our corporate gross margins, we will provide color on factors affecting gross margins. We will continue to provide revenue and operating margin information by segment in our quarterly and annual financial filings with the SEC.



Sanjay Mehrotra, President and Chief Executive Officer

I am proud of the Micron team's execution in FY2018. In October, we will celebrate the 40th anniversary of Micron's founding. Our proven track record in delivering technology and design innovation, and building close partnerships with a broad range of customers, has laid a solid foundation. We are now driving a culture of agility, efficiency, and speed, and executing on product-level innovations in high-value solutions. This transformation to the new Micron continues to build strong momentum. I am really excited about our future, and the best is yet to come.



This document contains forward-looking statements regarding the company's strategic position and financial results, and future financial performance of the company and the industry. These forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially. Please refer to the documents the company files with the Securities and Exchange Commission, specifically its most recent Form 10-K and Form 10-Q. These documents contain and identify important factors that could cause the company's actual results to differ materially from those contained in its forward-looking statements. These certain factors can be found at <http://www.micron.com/certainfactors>. Although the company believes that the expectations reflected in the forward-looking statements are reasonable, it cannot guarantee future results, levels of activity, performance, or achievements. The company is under no duty to update any of the forward-looking statements after the date of this release to conform these statements to actual results.