



Sanjay Mehrotra, President and Chief Executive Officer

During the second quarter, Micron once again set company performance records across multiple metrics, including revenue, gross profit, EPS, and cash generation.

We are consistently delivering results that underscore our relentless focus on execution and solid progress on our strategic priorities. Specifically, we are evolving our product portfolio to a richer mix of high-value solutions, enhancing our financial performance, and cultivating deeper relationships with marquee customers across multiple megamarkets.

Our growing portfolio of Managed NAND solutions and low-power DDR4 products boosted our mobile business to record revenue and profitability during the quarter. We also grew our SSD share in our second quarter, with total SSD sales up 80 percent year-over-year, and sales of cloud and enterprise drives more than tripling over that same period.

Continued strong penetration of our highly competitive DDR4 products into cloud applications, and our industry-leading high-performance graphics memory portfolio into gaming, graphics, and crypto-mining applications contributed to a robust 15 percent sequential growth for our compute and networking business.

Strong demand for our DRAM and NAND products delivered record second quarter revenues for us in the automotive market.

We continue to execute well on our goal of introducing new products on our advanced technologies, delivering performance, quality, supply, and cost advantages to our customers.

In NAND, we are transitioning from being a components supplier to becoming a solutions provider. We launched and began qualifications of the industry's first cloud and enterprise SATA SSD drive incorporating 64-layer 3D TLC NAND. We also introduced discrete UFS solutions targeted at flagship smartphones. These solutions are also based on our 64-layer 3D TLC NAND, which has 50 percent higher performance and double the density of the prior technology. We have qualified a family of these products with a major chipset vendor, and we expect to complete customer qualifications in the coming months.

In DRAM, our focus remains on enhancing our cost competitiveness and accelerating our product execution. We have qualified our 1X nanometer DRAM at three of the world's largest hyperscale customers with other qualifications underway. We also garnered positive feedback on our 1X nanometer LPDRAM solutions and set industry benchmarks for power efficiency, which is particularly critical to our mobile customers.



Our comprehensive and expanding portfolio of DRAM, NAND, and NOR solutions has enabled us to achieve record design wins for our automotive business in the first half of FY2018. We believe we are well positioned to continue to support our share leadership in this rapidly growing market.

These achievements illustrate our focus and ability to deliver value to both our customers and shareholders.

I will now discuss some of the trends we are seeing across our end markets, which will continue to expand the significant opportunities for our business in the years ahead.

At Mobile World Congress recently, phone manufacturers featured high-end smartphones with larger 4K displays, multiple high-resolution cameras, and 4K HDR video recording. Capabilities like these have driven increased memory and storage requirements in recent years. But perhaps most impressive were the multiple implementations of artificial intelligence and virtual reality. OEMs are building new artificial intelligence, augmented reality, and lifelike virtual reality capabilities into high-end phones, including facial and voice recognition, real-time translation, fast image search, and scene detection.

To support these data-intensive capabilities, flagship and high-end smartphones are migrating toward 6 gigabytes of LPDRAM — a trend that bodes well for Micron given our leadership in LPDRAM power efficiency, which is essential for optimizing battery life. Average storage densities are also increasing across all smartphone classes with new flagship models using 64 gigabytes of flash memory as a minimum. Micron's portfolio of Managed NAND solutions is well suited to address this growing demand, and we are leading the industry in TLC utilization with a portfolio that leverages the strong attributes of our 3D NAND technology.

Of course, the growing adoption of AI is not limited to mobile. At the Consumer Electronics Show, several companies showed AI "smart cockpits" in new automotive models. These systems integrate the instrument dashboard, infotainment, and telematic systems with a centralized compute and storage architecture to create a "data center on wheels." Voice and gesture recognition — combined with driver-alert monitoring capabilities — are making automobiles more intelligent and much more compute-intensive, requiring higher capacity and more powerful memory and storage solutions. Micron is already working with automotive customers who will benefit from our highest-speed, automotive-grade LPDDR4 solutions in the near term and new memory technologies in the future, like our high-bandwidth GDDR6 graphics memory.

The new features in mobile, automotive, and other connected devices require rapid data analysis and storage in enterprise and cloud servers — including machine learning training, and inferencing — to complement the compute taking place at the edge. This is driving significant investments in the data center and growing demand for both memory and high-performance storage.



Micron's broad technology portfolio and strong innovation engine position us well for these growth trends. We continue to partner with our customers to ensure our technology and engineering roadmaps deliver the critical features for tomorrow's solutions.

Now I will provide an update to near-term industry supply/demand dynamics.

The DRAM market today is very different from the PC-dominated market of the past. This market now supports a healthy demand environment, with several secular demand drivers that I have discussed earlier. More specifically, memory is making possible applications such as AI and VR and enabling new cloud-based business models, which deliver a fundamental value far in excess of a price per bit. Against this healthy demand backdrop, we project DRAM industry bit output to grow in the 20 percent range for calendar 2018, maintaining favorable industry fundamentals.

For the NAND markets, we believe the ongoing transition to 64-layer 3D NAND creates the opportunity for a more balanced industry dynamic in calendar 2018 versus the constrained conditions we saw in 2017. We expect industry bit output growth to be somewhat higher than 45 percent in calendar 2018, providing incremental supply to address the increasing demand created with the further displacement of HDDs in client, enterprise, and cloud applications.

From a Micron perspective, we continue to make significant strides to strengthen our competitive position through technology and cost improvements.

In DRAM, we are focused on accelerating our technology transition cadence and ramped our 1X nanometer technology to mature yield faster than any of our previous technology nodes. We remain on track to achieve 1X nanometer bit output crossover relative to our 20-nanometer node by the end of calendar 2018. We now expect Micron's calendar 2018 DRAM bit output growth to be in line with the industry's 20 percent range.

In NAND, our 64-layer technology continues to ramp very well with yields somewhat ahead of plan. We continue to execute plans to achieve bit output crossover on our 64-layer 3D NAND technology, relative to 32-layer, in the second half of FY2018. We believe we will be somewhat above industry bit output growth in calendar 2018 for NAND.

We expect to deliver qualification samples to OEM customers of both our 1Y DRAM technology and our third-generation 3D NAND technology by the end of FY2018, and we continue to expect to ramp initial volume for each of these new nodes in the second half of calendar 2018.

For some time now, industry participants have pointed out that the cost and complexity of DRAM and NAND scaling is increasing with each subsequent technology node. Additional space and equipment is required to manufacture the increasingly complex architectures of these leading technologies to maintain



wafer capacity and meet market demand. Accordingly, we are executing plans to add cleanroom space in our NAND and DRAM fab network. With the support of the Singapore Economic Development Board, we have finalized plans to build additional shell space in Singapore, adjacent to our existing NAND Center of Excellence. The primary purpose for this new cleanroom space will be to transition our existing wafer capacity to future 3D NAND nodes. This location will enable us to drive efficiencies of scale. We expect to build out this facility in phases aligned with our manufacturing requirements and market demands. The first phase of this cleanroom is expected to be completed by the summer of 2019, with initial wafer output from the facility expected in the fourth quarter of calendar 2019.

We are also building out incremental cleanroom space in our fab in Hiroshima, Japan, which will be available for production at the beginning of calendar year 2019. This cleanroom space will be used to continue our 1Y nanometer DRAM transition. For FY2018, we expect our capital expenditures to be in the upper end of our previously guided range of \$7.5 billion, plus or minus 5 percent. Long term, we target capital expenditures as a percentage of revenue to be in a low 30 percent range.

Before we move to the next section of our call, I would like to address a supplier maintenance issue disrupting nitrogen supply to one of our Taiwan DRAM fabs, which occurred on Tuesday of this week. We expect the event will impact our DRAM production output by 2 to 3 percent for the quarter. Our teams are working around the clock to recover from this situation and we expect to return to full production within the next week.

Lastly, I would like to welcome Dave Zinsner as our CFO. Dave brings years of experience within the semiconductor industry, and we are happy to have him on board.

Dave will now provide details on our second quarter results and third quarter outlook.

Dave Zinsner, Senior Vice President and Chief Financial Officer

I am excited to be joining Micron at a time when the company is accelerating its focus on execution, including the delivery of more high-value solutions, and the ongoing improvement of cost competitiveness. During my first few weeks at the company, I have been diving into the details of the business and operations, and I am more convinced than ever that there is a fantastic opportunity to build an even stronger company while continuing to enhance shareholder value.

For the second fiscal quarter, revenues were \$7.35 billion, up 8 percent from the prior quarter and 58 percent from the prior year. The overall strength reflects a positive business environment and broad-based demand for our memory and storage solutions, particularly for cloud, enterprise, and mobile



markets. Non-GAAP gross margins for the quarter were 58.4 percent, up 300 basis points from the prior quarter and up from 38.5 percent in the prior year. Our ability to drive a richer mix of high-value products, strong execution on our cost goals, and favorable market conditions contributed to the gross margin expansion. Non-GAAP operating margin was 49 percent, up from 46 percent in the prior quarter and 25 percent in the prior-year period.

Non-GAAP operating expenses were \$666 million, up approximately 9 percent from both the prior quarter and prior-year periods. The sequential increase is primarily attributed to expenses associated with shifting our portfolio to high-value solutions and accelerating our technology and product development. These expenses tend to fluctuate quarter-to-quarter. We are also beginning to incur the impacts of solely funding the development of our fourth-generation 3D NAND technology. We continue to manage operating expenses tightly and are generally only increasing operating expenses for developing and qualifying new products and technologies.

Turning to performance by business unit. The Compute and Networking Business Unit grew revenue to \$3.7 billion dollars in the second quarter, up 15 percent from the prior quarter and 93 percent year-over-year. Cloud server revenues were up nearly 30 percent quarter-over-quarter as hyperscale customers continue to invest in data center infrastructure and broaden their service offerings. We also benefitted from strong demand for graphics memory, with cryptocurrency mining augmenting sales for gaming applications. Operating income increased to \$2.3 billion or 63 percent of revenue and reflects higher sales of our 1X nanometer DRAM solutions, along with tight supply conditions.

The Mobile Business Unit achieved its highest-ever revenue and operating income in the second quarter of \$1.6 billion and \$689 million, respectively. These results compare to \$1.1 billion of revenue and \$170 million of operating income for the same period last year. Our performance underscores our laser focus to meet customers' needs.

The Embedded Business Unit reported revenue of \$829 million dollars in the second quarter, in line with last quarter and up 41 percent year-over-year. The automotive business had a record quarter driven by strong sales of ADAS and in-vehicle experience applications. We also saw an increase in our industrial business, driven by the growing industrial IoT markets spanning factory automation, transportation, and surveillance applications. Operating margins were 44 percent in FQ2, expanding by 260 basis points compared with FQ1.

Finally, turning to the Storage Business Unit, revenue was \$1.3 billion, up 20 percent year-over-year, supported by record revenue in SSDs. On a sequential basis, SBU revenue declined by 9 percent with the strong growth in SSDs offset by a reduction in components revenue. The sequential revenue comparison was impacted by mix shift within our NAND component sales, which I will elaborate on momentarily. We are continuing to penetrate the SSD market and expand sales across each end market: consumer, client, enterprise and cloud. The growth is most pronounced in the enterprise and cloud SSD portion of the



market. Our sales for these end markets were up nearly 30 percent quarter-over-quarter and more than 230 percent year-over-year.

As we have previously noted, product development for 3D XPoint™ solutions is now underway. During the second quarter and over the next few quarters, we have incurred, and will likely continue to incur, costs associated with production capacity underutilization in advance of volume ramp of these new 3DXP products.

These charges negatively impacted our SBU operating margins by approximately 500 basis points this quarter. Including these charges, second quarter operating margins were 20 percent, compared with 29 percent in FQ1 and 7 percent in the prior-year period.

Moving to performance by product line, DRAM represented 71 percent of total company revenue in FQ2. DRAM revenue in the quarter was up 14 percent from the prior quarter and 76 percent year-over-year. Sequentially, shipment quantities increased in the mid-single-digit percentage range while ASPs increased in the low double-digit percentage range. DRAM non-GAAP gross margin was 66 percent in the second quarter, up 4 percentage points from the prior quarter and up 22 percentage points from the year-ago quarter.

Revenue from trade NAND represented 25 percent of overall company revenue in FQ2. Trade NAND revenue in the quarter was down 3 percent sequentially and up 28 percent year-over-year. On a sequential basis, shipment quantities increased in the low double-digit percentage range, while ASPs declined in the mid-teens percentage range. The sequential ASP decline in NAND increased in part due to a meaningful last-time purchase of higher-priced MLC NAND in the FQ1 quarter. This is the mix shift in our SBU NAND components that I had referenced earlier. Trade NAND non-GAAP gross margins were at 47 percent in the second quarter, down 2 percentage points from the prior quarter but up 16 percentage points from the year-ago quarter. Gross margins for both SSDs and Managed NAND solutions increased quarter-over-quarter, offsetting the declines in component margins. This change in mix illustrates the importance of shifting our sales towards high-value solutions.

I would like to take a moment to update you on the impact of U.S. tax reform on Micron. The one-time impact related to the taxation of accumulated offshore earnings and cash was largely neutral for the Company. The impacts of this repatriation transition tax were largely offset by our accumulated tax losses and other tax credits. For the remainder of the year, we expect our non-GAAP tax rate to remain in the low-to-mid single digits percentage since we are not yet subject to certain provisions of the new tax code. For FY2019 and beyond, we expect our non-GAAP tax rate to settle in the low teens percentage range. Going forward, we will benefit from having greater flexibility to access our worldwide cash deposits.

Our non-GAAP earnings per share were \$2.82, up 15 percent from the prior quarter and up over 200 percent from the prior year.



As a result of our record performance, we generated \$4.3 billion in cash from operations, which represented 59 percent of revenue. This compares to \$1.8 billion in the year-ago period. Capital spending, net of third-party contributions, was \$2.1 billion, resulting in a very strong free cash flow, adjusted for third-party capital contributions of \$2.2 billion, or 30 percent of revenue. This compares to free cash flow of approximately \$600 million in the year-ago period.

As Sanjay mentioned earlier, we expect capital spending, net of third-party contributions, to be at the upper end of our FY18 guided range of \$7.5 billion, plus or minus 5 percent.

As a result of the strong free cash flow, we ended the quarter with approximately \$8.7 billion in cash, marketable investments, and restricted cash. The face value of our debt increased approximately \$200 million to \$9.5 billion. A \$300 million reduction in debt, due to scheduled debt repayments, was offset by a \$500 million increase in debt at our IMFT joint venture. Since the first of our 3D XPoint products are expected to launch in calendar 2019, we chose to defer funding for IMFT. Our partner is contractually able to make the funding and designate it as debt on IMFT's balance sheet. That debt is then counted as part of our debt for the purpose of GAAP reporting.

We still expect to be in a net cash positive position in the fourth quarter and possibly sooner — depending on the extent and timing of any future convertible note redemptions. This net cash positive position remains a significant milestone in the ongoing strengthening of our financial foundation. We continue to evaluate additional opportunities to accelerate our de-leveraging actions while providing a high rate of return.

This strong financial profile is the result of consistent execution and focus across the entire company.

Turning to FQ3 guidance, as Sanjay mentioned, we had a maintenance issue at one of our Taiwan DRAM fabs this week, which is impacting production. We expect this event to decrease our total revenue by approximately 2 percent in the third quarter, which we've accounted for in our guidance.

Having said that, we continue to experience a strong demand environment and we therefore expect FQ3 revenue to be in the range of \$7.2 billion to \$7.6 billion, and non-GAAP gross margins to be in the range of 57 percent to 60 percent. We expect to see an increase in operating expenses, again associated with product and technology qualifications and the funding of our fourth-generation 3D NAND technology, both of which primarily impact R&D. Considering these costs, non-GAAP operating expenses are expected to be \$725 million, plus or minus \$25 million. We expect non-GAAP operating income to be in the range of \$3.6 to \$3.8 billion. Based on a share count of approximately 1.25 billion shares, these results should drive non-GAAP EPS of \$2.83, plus or minus 7 cents.



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Micron will be celebrating our 40th anniversary this fall. Innovation has always been a key cornerstone to our success, ensuring that our technologies and products quickly adapt to serve the world's growing appetite for faster data. As we look ahead, we remain focused on nurturing and fostering an accelerated pace of innovation, and I know our team is fired up and ready for the challenge. The opportunity to create a dramatic impact on the world around us is undeniable, and I am excited to be part of this team, shaping that future.

I am looking forward to speaking with all of you at our analyst and investor event in May. You can expect us to provide more detail on how we see secular market trends creating new opportunities for memory and high-performance storage, and why we believe Micron is well positioned to win.



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.