



Farhan Ahmad, Senior Director, Investor Relations

Thank you, and welcome to Micron Technology's fiscal second quarter 2020 financial conference call. On the call with me today are Sanjay Mehrotra, President and CEO, and Dave Zinsner, Chief Financial Officer.

Today's call will be approximately 60 minutes in length. This call, including the audio and slides, is also being webcast from our Investor Relations website at investors.micron.com. In addition, our website contains the earnings press release and the prepared remarks filed a short while ago.

Today's discussion of financial results will be presented on a non-GAAP financial basis unless otherwise specified. A reconciliation of GAAP to non-GAAP financial measures may be found on our website. As a reminder, a webcast replay will be available on our website later today.

We encourage you to monitor our website at micron.com throughout the quarter for the most current information on the company, including information on the various financial conferences that we will be attending. You can follow us on Twitter at MicronTech.

As a reminder, the matters we will be discussing today include forward-looking statements. 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, specifically our most recent Form 10-K and 10-Q, 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 after today's date 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, Farhan.

Good afternoon. I hope all of you and your families are safe. These are unprecedented times, and I am calling from home today. In Micron's FQ2, we delivered strong results, including revenue at the high end of our guided range, even as the COVID-19 crisis began to unfold halfway through our quarter. We have now achieved positive free cash flow for 13 consecutive quarters. This performance represents a marked improvement from historical cycles and is evidence of the strength of the new Micron.



The emergence of the COVID-19 pandemic has created both operational challenges and macroeconomic concerns.

Micron has more than 37,000 team members in 18 countries around the world. Since the earliest signs of the outbreak in China, we have taken proactive measures to safeguard our employees.

Where possible, Micron employees are working from home, and we have suspended all local and international business travel globally. We implemented health screenings at all Micron locations. We were among the first in the industry to implement physical separation protocols at all our manufacturing sites globally to mitigate the risk of community spread, with blue teams and red teams that operate on alternate schedules. We have been requiring self-declaration and self-quarantine measures as this crisis has spread, whereby team members, contractors and their immediate families observe 14 days of work-from-home after any air or sea travel. As of yesterday, we have two employees who have tested positive for the novel coronavirus and are receiving appropriate medical attention. At the two sites where we have confirmed cases, we have used contact tracing to quarantine individuals who were in close contact with either infected team member; we have also implemented more restrictive controls of on-site access, social distancing and service protocols. As a result of stringent preventative measures in place, these events have not impacted our manufacturing operations thus far.

We have also taken measures to protect our raw materials supply and increase our supply chain flexibility.

First, we have been in close ongoing communication with our suppliers to ensure continuity and identify supply gaps. Second, we have increased our on-hand inventory of raw materials and have begun to store more of that supply on our sites to minimize the impact of any logistics delays. Third, we have increased our focus on multi-sourcing of parts to reduce supplier dependence risk. And fourth, we have added assembly and test capacity at both our captive and contract manufacturing sites to provide redundant manufacturing capability in multiple regions.

As COVID-19 spreads, we are complying with all government orders at our global sites. These orders may result in a temporary or prolonged shutdown of our sites, which could impact our shipments this quarter. For example, on March 16, the Malaysian government issued a Restriction of Movement Order, resulting in the closure of borders and most businesses in Malaysia. Subsequently, the Malaysian government added semiconductors to the list of essential services, and we were able to resume operations. Our assembly and test facilities in Muar and Penang, primarily used for packaging high-value NAND, were briefly shut down and have since been able to return to production on a very limited basis, in compliance with local regulations. We are using our global supply chain network and increased flexibility to try and mitigate this production impact, and we are working to keep our commitments to customers.



Turning now to COVID-19's effect on demand.

COVID-19 is significantly impacting China's economic growth in the calendar first quarter, reflected in the sharp decline of smartphone and automobile unit sales. Weaker sell-through of consumer electronics and our customers' factory shutdowns in China were headwinds for us late in our FQ2. In China, lower consumer demand was offset by stronger data center demand due to increased gaming, e-commerce and remote-work activity. Looking to the third quarter, as these trends also take shape worldwide, data center demand in all regions looks strong and is leading to supply shortages. In addition, we are seeing a recent increase in demand for notebooks used in the commercial and educational segments to support work-from-home and virtual learning initiatives occurring in many parts of the world. We are also encouraged to see manufacturers in China increasingly returning to full production, and we have recently started to see China smartphone manufacturing volumes recover. Nevertheless, as the world deals with the outbreak of COVID-19, we expect that overall demand for smartphones, consumer electronics and automobiles will be below our prior expectations for the second half of our fiscal 2020. Once the U.S. and other major economies have demonstrated containment of the virus's spread, we expect a rebound in economic activity. Much depends on potential government stimulus and the rate, pace and effectiveness of containment efforts. We are modeling an improvement in the trajectory of economic activity later into the second half of calendar 2020, with a further rebound in economic momentum into 2021. This is a very fluid situation, and we will learn more about the virus, its spread and its economic impact over the next few weeks and months.

Anticipating changes to our customer demand, we have been moving supply from smartphone to service the strength in data center markets, for both DRAM modules as well as SSDs. Just like we have increased our raw materials inventory in these uncertain times, it is possible that certain customers are similarly increasing their inventory of DRAM and NAND products. We will manage our business with prudent and proactive action and continue to work closely with customers to understand their latest demand outlook. We are evaluating our production levels and capex plans for calendar 2020 and will adjust to the most recent demand requirements.

Once we emerge from this low-visibility environment that is impacted by COVID-19, we expect the industry to resume its long-term growth trajectory, with a DRAM demand growth CAGR in the mid-to-high teens and NAND in the 30% range. For both DRAM and NAND, we expect our multiyear supply growth CAGR to be in line with the industry's demand growth CAGR. Focusing on 2020, we returned our DRAM operations to full utilization at the beginning of the calendar year, and our NAND operations continue to run with reduced wafer starts as we deploy capital efficiently through our conversion to replacement gate. While we returned our DRAM utilization to full production, we remain flexible to adjusting these levels depending on the near-term demand environment.

Node transitions and industry supply growth in calendar 2020 could be impacted by disruptions to equipment companies' operations, including travel restrictions hindering field service and engineering



support. Recently, some equipment companies have also indicated delays in equipment deliveries due to the impact of various government actions to combat COVID-19.

The situation with coronavirus is rapidly evolving, and disruptions could be much larger than we can see today. However, our continued focus on innovation and execution, combined with our rock-solid balance sheet, puts us in an excellent position to navigate this period of uncertainty and capitalize on the long-term opportunities driving our industry once conditions eventually normalize.

Stepping away from the COVID-19 discussion, I want to spend a few minutes talking about the tremendous progress we've made on our technology and products. This progress is contributing to the underlying strength of the new Micron and is a source of excitement for us as we look to the future.

STRONG TECHNOLOGY AND ROADMAP EXECUTION

The new Micron is undergoing a dramatic transformation to combine product leadership with technology, manufacturing and supply chain excellence. Our objective is to have leading process technology so that we can deliver differentiated products to our customers and maintain a competitive cost structure. We are making good progress on this front in both DRAM and NAND.

In DRAM, we were the first to introduce 1Z in volume production and expect over half of our bit production to be on 1Y and 1Z by the summer of 2020. We are managing the construction schedule of our new Taiwan cleanroom expansion carefully and currently remain on target for first output in calendar 2021. In FQ2, we began sampling 1Z-based DDR5 modules and are on track to introduce high-bandwidth memory in calendar 2020. We are also making good progress on our 1-alpha node.

In NAND, we made significant progress on our replacement gate, or RG, transition and expect to begin volume production in our current quarter, with revenue shipments to follow in our FQ4. We expect replacement gate production to be a meaningful portion of our total NAND supply by the end of this calendar year.

Micron continues to lead on QLC NAND, which lowers costs for SSDs and helps us target market segments that are currently served by HDDs. QLC SSD bit shipments rose by 60% sequentially in our FQ2, with a meaningful portion of our consumer SSDs now shipping with our QLC technology. We expect QLC to continue growing in the second half of the fiscal year as market adoption increases.

In FQ2, we made significant progress on increasing the mix of high-value NAND bits to over 70% of total NAND bits, and we remain on track to drive this figure to around 80% in FY2021. Despite normal seasonal weakness and COVID-19, mobile MCP products had record revenue in the quarter and showed strong sequential growth. SSD revenue also grew approximately 20% sequentially, led by a greater than 50% growth in data center SSDs. The resolution of the assembly and test constraints we experienced in FQ1,



combined with market share gains, drove strong growth in these product lines. This mix improvement increases our profitability and reduces the volatility in our margins.

Now let's turn to 3D XPoint.

As the only company in the world with a portfolio of DRAM, NAND and 3D XPoint™ technologies, Micron is uniquely positioned in the marketplace. We are encouraged by the customer reception of our first 3D XPoint product — the X100 — which is the fastest storage device in the world. It's a great start to our portfolio of differentiated 3D XPoint products built in collaboration with our customers. As we mature this X100 solution, we look forward to engaging a broader set of customers this year and delivering the value of 3D XPoint to the data center market.

Early in March, we entered into a new 3D XPoint wafer sale agreement with Intel that replaces previous agreements. Intel has been an important partner over the years, and this new agreement ensures a continuation of our close relationship.

Now turning to highlights by products and markets.

MARKETS: SSD

In SSDs, we had record consumer SSD revenue assisted by growth of our QLC NVMe consumer SSDs. We expect strong sequential bit growth in our NVMe product portfolio in FQ3 as we continue the transition from SATA to NVMe. In SATA, we achieved several customer qualifications for our newest 96-layer SATA-based data center SSD.

MARKETS: MOBILE

In FQ2, we became the first company to deliver LP5 mobile DRAM products to customers, including Xiaomi, which is using our LP5 in its 5G-capable Mi 10 smartphones in 8GB and 12GB configurations. More recently, we have begun sampling the world's first LP5 DRAM-based UFS MCPs. These LP5 DRAM products will enable longer smartphone battery life and high-performance image processing. They are great examples of how Micron is innovating for our customers to enhance the end-user experience. We are encouraged that LP5 and UFS will become even more important as 5G adoption accelerates, reigniting smartphone unit sales and driving content growth.

In just two short years, we have gone from trailing the competition in our mobile product portfolio to leading the industry with innovative, first-of-a-kind products, consistent with our new Micron strategy.



MARKETS: DATA CENTER AND GRAPHICS

In the data center market, we benefitted from strong demand for our products from key cloud and enterprise customers, driven in part by ongoing strength in cloud markets, increased use of online properties such as e-commerce, and the surge in remote-work requirements due to COVID-19 containment measures.

In the graphics market, GDDR6 bit shipments increased more than 40% quarter-over-quarter, and we anticipate strong growth with the launch of new gaming consoles that are expected to feature 16GB of GDDR6. These new consoles will also deploy SSDs in place of hard drives for the first time.

MARKETS: PC

In the PC market, DRAM bit shipments and revenue declined sequentially, driven by slow seasonal demand and continued CPU shortages. Our client SSD sales also declined sequentially.

MARKETS: AUTO AND INDUSTRIAL

In the automotive market, we delivered record DRAM and NAND revenue despite soft global automobile unit sales, as content growth remains strong in this market. Micron continues to lead the auto market with the industry's highest-quality products. Power efficiency is increasingly important in the auto market, creating an opportunity for Micron to leverage our strength in low-power DRAM. LPDRAM now makes up approximately half of our auto DRAM revenue.

In the industrial market, we had record bit shipments for both DRAM and NAND. In the longer term, we expect secular growth in the industrial IoT market as 5G rolls out and increases the importance of AI, machine learning and compute at the edge.

I'll now turn it over to Dave to provide our financial results and guidance.

Dave Zinsner, Senior Vice President and Chief Financial Officer

Thanks Sanjay.

OPENING

We executed well in FQ2, and our reported financial results largely came in at the high end of our guidance ranges despite the uncertainty and impacts related to COVID-19. Prior to the advent of COVID-19, we had outlined our expectation that FQ2 would mark the low point of our financial performance in this cycle, and



our business trajectory has been consistent with those expectations. While we still expect improvements in our financial results, these expectations now need to reflect the evolving impacts of COVID-19. As Sanjay said, the situation remains fluid, and we continue to assess our plans and make real-time changes to adapt and optimize our operations.

REVENUE

Total FQ2 revenue was approximately \$4.8 billion, the high end of the guidance we provided for the quarter. Revenue was down 7% sequentially and down 18% percent year-over-year.

FQ2 DRAM revenue was \$3.1 billion, representing 64% of total revenue. DRAM revenue declined 11% sequentially and 26% year-on-year. Bit shipments were down by approximately 10% sequentially and up more than 20% on a year-on-year basis. ASPs were flat sequentially.

FQ2 NAND revenue was approximately \$1.5 billion, or 32% of total revenue. Revenue increased 6% sequentially and was up 9% year-on-year. Bit shipments declined in the low single-digit percentage range sequentially and increased approximately 20% year-on-year. ASPs increased in the upper single-digit percentage range sequentially.

BUSINESS UNIT RESULTS

Now turning to our revenue trends by business unit.

Revenue for the Compute & Networking Business Unit was approximately \$2 billion, down approximately 1% sequentially and down 17% year-over-year. We have now started to include all 3D XPoint revenue in CNBU reporting, as the use cases for 3D XPoint technology are more closely aligned with memory expansion and this business is being managed by CNBU. Excluding 3D XPoint, CNBU revenue would have been down 7% sequentially, primarily driven by weaker sales in the PC market.

Revenue for the Mobile Business Unit was \$1.3 billion, down 14% sequentially and down 22% year-over-year. The sequential decline was primarily driven by seasonality in certain products, as well as our decision to walk away from some business due to our concerns regarding pricing.

Revenue for the Storage Business Unit in FQ2 was \$870 million, down 10% from FQ1 and down 15% year-over-year. Without 3D XPoint, SBU revenue was up 9% sequentially. Operating profit margins for SBU improved sharply in the quarter and were at approximately break-even levels.

Finally, revenue for the Embedded Business Unit was \$696 million, down 5% sequentially and down 13% year-over-year.



GROSS MARGIN

The consolidated gross margin for FQ2 was 29.1%, exceeding the high end of the guidance range. The quarter-over-quarter margin improvement was driven by portfolio mix improvements and NAND pricing, and approximately \$50 million of benefit came from the NAND depreciable life change we made in the prior quarter.

The impact of underutilization at our Lehi fab was approximately \$142 million or 295 basis points in FQ2. We expect underutilization to be approximately \$160 million in FQ3. We are continuing our efforts to reduce spending in our Lehi fab, which we expect will begin to materialize in FY2021.

OPEX

Operating expenses were \$856 million in FQ2. Given the increased uncertainty, we have taken additional steps to control our opex. These actions include freezing our near-term hiring and cutting back significantly on discretionary spending. As a result, we expect opex to decline sequentially in FQ3. For modeling purposes, our FQ4 will be a 14-week quarter. As a result, we expect an uptick in operating expenses for FQ4 that is consistent with the extra week in the quarter.

OPERATING INCOME

FQ2 operating income was \$542 million, representing 11% of revenue. Operating margin was nearly flat compared to the prior quarter.

NET INTEREST EXPENSE

Net interest expense was \$6 million, compared to \$7 million of net interest income in the prior quarter. Since the Federal Reserve has cut short-term interest rates, we anticipate lower interest income on our cash balance for FQ3. With the increased debt from the drawdown of our revolver, we expect net interest expense to be approximately \$35 million in FQ3, and it will likely be modestly higher in FQ4 with a full-quarter impact of the lower interest income.

TAXES

Our FQ2 effective tax rate was 3.2%. For the remainder of FY2020, we expect our tax rate to be approximately 5%. We expect our long-term tax rate to be in the high single-digit to low double-digit range.



EARNINGS PER SHARE

Non-GAAP earnings per share in FQ2 were \$0.45, down modestly from \$0.48 in FQ1 and \$1.71 in the year-ago quarter.

OPERATING CASH FLOW

Turning to cash flows and capital spending, we generated \$2 billion in cash from operations in FQ2, representing 42% of revenue.

CAPEX

During the quarter, net capital spending was approximately \$1.9 billion, up slightly quarter-over-quarter. We are continuing to project FY2020 capex in the range of \$7 to \$8 billion, including some increases for assembly and test flexibility that Sanjay mentioned.

FREE CASH FLOW

Free cash flow in the quarter was \$63 million compared to \$86 million in the prior quarter.

This marks the 13th consecutive quarter of positive free cash flow. Our ability to generate cash consistently through the cycle is largely the result of the structural improvements made to Micron's profitability, which has led to more than \$1.5 billion of operating cash flow improvement and more than 25 percentage points of operating cash flow margin improvement compared to the trough quarter of the prior cycle.

SHARE REPURCHASE

We repurchased approximately 785,000 shares for \$44 million in FQ2.

In the first half of FY2020, we've returned \$94 million of capital through repurchases, representing approximately 65% of our free cash flow.

INVENTORY

Ending FQ2 inventory was \$5.2 billion or 134 days. The increase was expected and largely due to the seasonally weaker demand experienced in FQ2 combined with our strategy of holding more NAND inventory as we approach our transition to replacement gate later in the calendar year. We have also increased our raw material levels as a precaution, given increased uncertainty in the supply chain with these materials. As we had outlined on our prior earnings call, we continue to walk away from unfavorably priced business, which also added to our near-term inventory level.



TOTAL CASH/DEBT

We ended the quarter with total cash of \$8.1 billion and total liquidity of approximately \$10.6 billion. FQ2 ending total debt was \$5.4 billion. To preserve ready access to our liquidity in a period of macroeconomic uncertainty, early this quarter we drew \$2.5 billion from our revolving credit facility.

OUTLOOK

Now turning to our outlook. Based on our conversations with our customers, the demand for our products remains strong and the pricing trends are favorable. However, it is important to note that we are a lagging indicator relative to end demand, and macro projections have significantly weakened in the near term. It is also currently unclear the extent to which inventory builds related to COVID-19 supply concerns might be masking weakness in end demand. In addition, we also face the continued risk of production and logistics disruptions due to government actions, labor and material shortages, and to travel and border restrictions.

Given these unusual uncertainties, our guidance ranges are wider than usual. However, these wider ranges do not reflect the magnitude of all the risks, and results could vary significantly from these ranges. Our guidance ranges also include expenses for COVID-19 mitigation efforts.

GUIDANCE

With all these factors in mind, our non-GAAP guidance for FQ3 is as follows. We expect revenue to be in the range of \$4.6 to \$5.2 billion, gross margin to be in the range of 31%, plus or minus 150 basis points, and operating expenses to be approximately \$825 million, plus or minus \$25 million. Finally, based on a share count of approximately 1.14 billion fully diluted shares, we expect EPS to be \$0.55, plus or minus \$0.15.

CLOSING

In closing, notwithstanding the near-term uncertainty, we are pleased with Micron's financial execution exiting this cyclical downturn.

FQ2 revenue was approximately 65% higher and gross margins 11 percentage points higher than in the prior trough, which occurred in FQ3 of 2016. This revenue growth far outpaced the growth of the overall semiconductor industry in this period. As we assess our cross-cycle performance from the last trough to this trough, we have delivered average returns as follows: gross margins of more than 40%, EBITDA margins of 50%, capex to rev in the 30s and ROIC exceeding 20%. While the near-term business environment is uncertain, we believe that long-term demand trends for Micron remain robust. Our focus on execution, our strong product portfolio and our solid balance sheet ensure that Micron is in the best position to capitalize on the secular trends driving our business.



I'll now turn the call over to Sanjay for closing remarks.

Sanjay Mehrotra, President and Chief Executive Officer

Thank you, Dave.

I want to close by thanking our extraordinary Micron team around the globe. These recent weeks have placed unforeseen challenges on businesses, but more importantly on people and families. Micron's team has responded with professionalism and care during this period, and our team members are the reason we can execute our business plan and deliver the strong results we have reported today.

To assist during this period, we are offering U.S. team members earning less than \$100,000 per year a special one-time payment of \$1,000. These figures are adjusted for market rates worldwide and 68% of our team is eligible.

In addition, we are establishing an emergency relief fund for employees facing financial hardship. We are also focused on assisting the communities in which we operate through this difficult time. As part of that effort, we are contributing an additional \$10 million through the Micron Foundation to address the impact of COVID-19, on top of what we have already donated in China, Italy and the U.S. We are also working with local officials to make space in our facilities available if needed for emergency services, as well as providing support through our supply chain operations to help source needed screening and protective equipment. Finally, we are accelerating our payment terms to our small business vendors to help with their liquidity.

I've said many times that the new Micron is stronger than ever, and we are showing that strength today. Micron is leveraging our core expertise to drive leadership in technology, products and manufacturing, delivering differentiated solutions that enrich life for end-customers around the world.

While the near-term environment creates uncertainty for all of us in our daily lives, the long-term fundamentals of our industry are strengthening and opportunities are expanding. With these opportunities in front of us, we will continue to execute with tenacity and resilience as we make demonstrable progress toward our vision.

We will now open for questions.