

## Sanjay Mehrotra, President and Chief Executive Officer

Our fourth quarter results accentuate an unprecedented year for the company. I thank the Micron global team for maintaining intense focus on our key priorities and delivering outstanding results. Our fourth quarter revenue was \$6.14 billion with record gross margin, operating income, and free cash flow. Full-year revenue, profitability, and free cash flow also set company records. Our results were driven by favorable industry fundamentals and solid execution in deploying our next-generation, lower-cost technologies, and diversifying our product portfolio toward a richer mix of differentiated, high-value solutions. We are excited about future opportunities as customers increasingly recognize the strategic value of our memory and storage solutions across a range of high-growth markets.

Now, I will share details from each of our business units, followed by our perspectives on industry dynamics, and an outline of our corporate strategy.

In our Compute and Networking Business Unit we saw robust growth in Q4 revenue and profitability compared with the prior year. Our results were driven by strong demand in Cloud and Graphics, complemented by a healthy pricing environment. Revenue growth from these two segments significantly exceeded overall CNBU growth, which more than doubled compared with the year-ago quarter. Cloud sales are supported by increasing DRAM content per server, which is up nearly 50 percent versus a year ago. In Graphics, we continue to leverage our industry-leading GDDR5 and GDDR5X performance to address strong demand primarily from gaming.

The business unit is also benefitting from the initial ramp of our first-generation 1X 8Gb DDR4 product, which was sold primarily into the Client and Cloud segments. In fiscal Q1, we anticipate continued growth of our 1X portfolio, coincident with the ramp of our second-generation 1X 8Gb DDR4 and GDDR5 products, both of which have already been validated at certain partners and customers. We also received initial customer qualifications on our TSV-stacked DDR4 products, enabling modules with up to 128GB and the highest speeds supported on industry-standard server platforms. These products address the growing demand for analytics and in-memory databases in both the Enterprise and Cloud segments.

Fourth quarter revenues in our Mobile Business Unit were driven by a favorable pricing environment and significant growth in our eMCP business. Due to strong execution, sales from our mobile NAND and eMCP solutions nearly doubled year-over-year.

We believe that increased DRAM and Flash capacities in flagship smartphones will continue, due in part to new applications such as augmented reality in mobile devices. Our roadmap of new LPDRAM, discrete managed NAND and eMCP offerings position us well to address these market requirements.



In fiscal Q4, we achieved our first 1X LPDRAM qualification at a major Mobile OEM and have several others underway. Also, our technology capabilities in 1X LPDRAM Package-on-Package products allow us to offer cost effective, high capacity mobile solutions ranging from 3GB to 8GB. We expect volume shipments of these new products in fiscal 2018, following successful customer qualifications.

During the fourth quarter, we also qualified our first 3D TLC eMCP and eMMC solutions at a major chipset vendor, and now have dozens of high-density products in qualification with several OEMs. We expect production shipments to start later in 2017. Our 64-layer 3D TLC UFS products will also start OEM qualifications later in 2017, enabling us to participate in the mobile market's highest-density designs.

The Storage Business Unit recorded a revenue increase of 71 percent in Q4 compared with the prior year quarter, supported by strong demand for our SSD product portfolio. Late in the fourth quarter, we identified and corrected a flash component issue on select TLC 3D NAND products. We paused shipments of affected products as we worked to implement a solution to the issue, which appeared only under a narrow set of performance conditions. As a result, our SSD revenue declined sequentially during the quarter. Shipments have now restarted, and we expect to resume solid sequential SSD revenue growth in Q1.

We continued to garner positive momentum with our SSD products across a broad range of customers. Our flagship SATA 5100 SSD has been qualified at Enterprise server OEMs, Cloud service providers, and Fortune 500 companies. Demand for our Client SSDs is also strong, with Micron shipping solutions to most leading PC OEMs.

We see healthy demand trends for SSDs moving forward. Client SSD attach rates continue to increase. And although storage density growth has slowed temporarily due to a tight pricing environment, we foresee longer-term demand for higher-density SSDs. We made substantial progress in growing our relationships and our business with Cloud and Hyperscale customers in fiscal 2017. Cloud data center customers are seeking innovative memory and storage solutions tailored to their workloads. Micron's unique capabilities and expertise in DRAM, 3D NAND, and emerging memory technologies make us a compelling partner for these customers.

Our Embedded Business Unit delivered strong performance, growing revenue 39 percent for the full year. We strengthened our leadership position in Automotive in fiscal 2017, with growth driven by increasing connectivity and electronics content in vehicles. Automotive applications continue to require leading-edge performance; as a result, we have seen significant ramp of our 20nm DDR and LPDDR technologies this quarter and began sampling automotive-grade 1X DRAM to meet these needs.

The growth in edge analytics in both industrial and consumer/connected home applications led to record quarterly revenues in both segments. We saw strong growth through the year of our NAND and LPDDR



MCP products, driven by form factor and performance needs in applications like machine-to-machine communications, surveillance, drones, and home automation.

Turning to Micron's technology progress, our 1X DRAM and our 64-layer NAND production rollout is proceeding on plan, and we expect to achieve mature yields in both technologies before the end of calendar 2017. We are pleased with our 1Y DRAM technology progress and are focused on the late stages of technology and product development. Our third-generation 3D NAND development is also proceeding well, with production expected to commence later in 2018. This latest-generation technology continues to utilize Micron's industry-leading CMOS under the array architecture, which yields smaller die sizes.

We have made significant progress in our technology development and volume ramp execution. We see meaningful opportunities to further shorten the cadence of new technology node introductions, accelerate new technologies into volume production, upgrade our fab infrastructure and expand our captive assembly operations. Through successful execution, we expect to narrow our technology cost gap and optimize bit output growth in both DRAM and NAND, with a disciplined focus on profitable growth. Our fiscal year 2018 capex plan targets achieving these objectives through technology migrations, with no new wafer capacity. Ernie will discuss our capex plans in further detail later in the call. Our ability to successfully execute our technology transition plans will be a key enabler of our cost reduction and supply bit growth capability in the foreseeable future.

Moving on to the demand and supply fundamentals, we expect the industry to remain moderately undersupplied for the rest of 2017 for both DRAM and NAND.

We see DRAM industry supply bit growth of about 20 percent in calendar 2017, and expect it to grow at relatively similar levels in calendar 2018. The DRAM industry supply/demand balance is expected to stay healthy throughout calendar 2018, driven in part by ongoing strength in data center and Cloud computing trends.

We expect Micron's fiscal 2018 DRAM bit output growth to be slightly below the industry growth rate. Our bit growth is supported by our 1X DRAM ramp, which represented mid-teens percent of our DRAM bit output in Q4, and will grow throughout the next several quarters to achieve bit output crossover as we exit calendar year 2018.

We expect industry NAND bit supply growth to finish calendar 2017 in the high 30 percent range. At these levels, supply remains below demand, which has created a constrained environment. As the industry continues to transition to 64-layer 3D NAND, we estimate industry bit supply growth in calendar 2018 will approach the 50 percent range, which should better satisfy the current unfulfilled demand.



We expect that Micron's ongoing transition to 64-layer 3D NAND in fiscal 2018 will result in bit output growth that is somewhat higher than the industry range. In fiscal Q4, 64-layer NAND represented mid-teens percent of our trade NAND bit output, and we expect to achieve bit output crossover during the second half of our fiscal 2018.

The dynamic industry transition to 3D NAND is taking place in the context of a NAND market that has consistently exhibited demand elasticity. We expect this behavior to continue for the foreseeable future as higher-density SSD solutions increasingly displace HDDs in client computing, Cloud data centers, and Enterprise environments, and as average capacities continue to grow with more performance-sensitive, storage-hungry devices, and applications in Mobile and other end markets. These trends support our view that NAND demand drivers will remain healthy into 2018.

As I begin my first new fiscal year as CEO, I would like to outline our strategic priorities.

First, we are focused on driving our cost competitiveness to best-in-class levels, primarily by accelerating the percentage of our output on leading-edge technology, in both DRAM and NAND.

Second, we will drive execution excellence, delivering solutions to customers quickly, predictably and in line with their product launch windows.

Third, we will accelerate our transition to high-value solutions. We intend to lead the industry in deploying disruptive memory and storage solutions.

Fourth, we will leverage the full breadth of our capabilities to develop deeper collaboration and partnerships with marquee customers, maximizing our value in the market.

And finally, we are strengthening our focus on our teams, investing in the best talent and driving a winning culture.

We believe our diligent emphasis on the speed and urgency with which we execute these strategic priorities will have a transformative effect on our market competitiveness and financial performance. I look forward to sharing the results of our progress with you in the year ahead.

I'll now turn it over to Ernie, who will walk through the specifics of our financial performance this quarter.

## **Ernie Maddock, Senior Vice President and Chief Financial Officer**

Our solid operational execution and favorable market dynamics resulted in excellent financial performance in our fourth fiscal quarter and the full year. For the full fiscal year, we achieved record revenue of \$20.3 billion dollars, up 64 percent from the prior year. We narrowed the technology cost gap with our



competitors by successfully executing our technology migration plans. Our efforts resulted in strong levels of DRAM and NAND bit output growth for fiscal year 2017 — enhancing our competitiveness while maintaining our wafer output.

I'll now provide some further details on Q4 results, starting with a breakdown by technology and business unit.

DRAM represented 66 percent of our Q4 revenue with the following segmentation:

- Server held steady at approximately 30 percent;
- Mobile was 20 percent;
- Specialty DRAM, which includes Networking, Graphics, Automotive, and other embedded technologies, remained in the mid-20 percent range, and;
- PC was also in the mid-20 percent range.

Our trade NAND revenue represented 30 percent of total revenue.

The three segments comprised of:

- SSDs:
- Mobile, which includes managed NAND discrete solutions and MCPs, and;
- Automotive, Industrial, and other embedded applications,

Each represented approximately 20 percent of our quarterly trade NAND revenue. The remaining 40 percent of our trade NAND was made up primarily of component sales to partners and customers.

Turning to performance by business unit:

The Compute and Networking Business Unit reported record FQ4 revenue of \$2.8 billion, more than doubling on a year-over-year basis. The growth was supported by strong demand from Cloud customers, who are architecting data centers and computing capabilities that enable them to execute their specific strategies. Our successful conversion to 20nm DRAM production and the initial ramp of 1X DRAM output boosted Q4 CNBU operating income to \$1.6 billion, or 56 percent of revenue, up 31 percent compared with Q3.

The Mobile Business Unit delivered its highest ever revenue quarter at \$1.2 billion, up 76 percent from the year-ago quarter. Mobile operating income also set a record at \$364 million, or 31 percent of revenue. Our results are due in part to the positive progress we've made in qualifying our mobile NAND solutions and we expect this momentum to continue in fiscal 2018.



The Storage Business Unit reported fiscal Q4 revenue of \$1.3 billion, up 71 percent on a year-over-year basis. Revenue and operating income were slightly lower quarter-over-quarter, due to the NAND component issue that Sanjay discussed earlier. With this issue behind us, we are focused on leveraging the progress we've made in penetrating the SSD markets over the past year. We estimate that our global SSD market share nearly doubled in fiscal 2017, enabling record fiscal year revenue for the Storage Business Unit. Our operating income for the fourth quarter was \$250 million, or 19 percent of revenue — compared with a loss of \$57 million in the same period last year.

The Embedded Business Unit also achieved record performance in fiscal Q4, with revenue of \$827 million, up 18 percent sequentially and 61 percent on a year-over-year basis. Growth in the quarter was driven by solid sales for consumer applications, which include home automation. Automotive also remains a key revenue driver for this business, as the shift toward smarter and connected cars is driving increased memory content. These trends bode well for Micron as we continue to capture new design wins and strengthen our leadership position. Operating income for EBU was \$348 million in Q4, or 42 percent of revenue — more than doubling year-over-year.

Moving on to overall company results:

Revenue for the fourth fiscal quarter was \$6.1 billion, up 10 percent from last quarter and 91 percent on a year-over-year basis. Sales of server and SSD solutions each were more than three times higher than year-ago levels, reflecting our focus toward a higher-value-add revenue mix.

Non-GAAP gross margin was 51 percent, up 3 percentage points from Q3 and 33 points from the fourth quarter of fiscal 2016. The improvement reflects the successful adoption of products based on our advanced technologies, combined with a healthy industry pricing environment.

Non-GAAP net income was \$2.4 billion, or \$2.02 per share.

For the full fiscal year, we achieved non-GAAP net income of \$5.6 billion, or \$4.96 per share, compared with \$273 million, or 26 cents per share for fiscal 2016.

Turning to results by product line:

DRAM revenue more than doubled on a year-over-year basis and increased 13 percent sequentially. The sequential results reflect a 5 percent increase in bit shipments. DRAM non-GAAP gross margin for the fourth quarter was 59 percent, up 39 percentage points from year ago levels, and up 5 points, sequentially, benefitting from an 8 percent increase in ASPs. We are seeing the benefits of execution on our technology migration plans and the continued strong market environment.



Trade NAND revenue increased 81 percent on a year-over-year basis. Sales were 8 percent higher quarter-over-quarter, supported by demand from mobile and embedded segments and a 5 percent increase in ASPs. Trade NAND non-GAAP gross margin for the quarter was 40 percent, up 24 percentage points from a year ago, and down 1 percentage point, sequentially, as a result of the NAND-related issues mentioned earlier. NAND bit shipments increased sequentially by 3 percent during the quarter. Our fiscal year results reflect strong adoption of our 3D TLC NAND products and a strong market environment.

As we consider the ongoing progress of the business, as well as the competitive environment, we plan to make a few changes to our disclosures, beginning with FQ1 2018. Specifically, we will be eliminating the presentation of changes in cost-per-bit and market segmentation detail for each technology. The evolution of our business to higher-value-add solutions, which often have higher BOM costs and higher margin opportunities, makes cost-per-bit comparison a less reliable indicator of our progress. Relative to the market segmentation by technology, we will continue to provide qualitative color through our business unit reporting.

Non-GAAP operating expenses for the quarter were \$601 million, essentially flat from the prior quarter.

The company generated operating cash flow of \$3.2 billion in fiscal Q4, compared to \$896 million in the year-ago period.

During the quarter, we deployed \$1.5 billion for capital expenditures, net of partner contributions and \$5.1 billion for the full fiscal year. DRAM investments were between 40 and 45 percent of the full year spend, and non-volatile memory was around 30 percent.

Free cash flow for the quarter was \$1.7 billion, and for the full year it was \$3.3 billion, compared to negative \$2.7 billion in fiscal 2016.

In fiscal 2017, we deployed \$1.6 billion or approximately 50 percent of our free cash flow for de-levering activities. The result of these activities represents approximately 7 cents of annualized EPS accretion.

We ended the fourth quarter with cash, marketable investments and restricted cash of approximately \$6.2 billion.

Turning to more near-term matters, as we have been discussing for some time, our two key priorities for cash flow are accelerating the Company's cost competitiveness and improving our financial foundation through reducing leverage. Our fiscal 2018 plan enables both priorities.



We currently expect our fiscal 2018 capex, net of partner contributions, to be in the range of \$7.5 billion, plus or minus 5 percent. Our investments will be focused on technology transition and product enablement. Generally, we expect that between 35 and 45 percent of capex will be deployed for DRAM, 35 to 45 percent for non-volatile memory and the remainder for technology and product enablement. There are no wafer capacity additions planned for fiscal 2018.

We will continue to target our free cash flow generation for the opportunistic retirement of debt. We see the opportunity to reach our interim target of \$8 to \$9 billion of gross debt during fiscal 2018. These actions, together with the progress that we have made in fiscal 2017, would drive annualized EPS improvement of between 18 and 23 cents. We also see the potential to be net cash positive as we exit fiscal 2018.

Moving on to guidance for fiscal Q1 2018. On a non-GAAP basis, we expect the following:

- Revenue in the range of \$6.1 to \$6.5 billion;
- Gross margin in the range of 50 to 54 percent;
- Operating expenses between \$575 and \$625 million;
- Operating income ranging between \$2.65 and \$2.85 billion, and;
- EPS ranging between \$2.09 and \$2.23 per share, based on 1 billion 191 million diluted shares.

## Sanjay Mehrotra, President and Chief Executive Officer

As part of our strategic planning process, Micron developed a new vision statement that embodies how we see the opportunities in front of us. As we close out one year and look to the next, I'd like to now share it with you.

Our vision — Transforming how the world uses information to enrich life — captures the tremendous potential Micron possesses. New technologies like Artificial Intelligence will change the world in ways we can barely imagine today. Fast data access and high-performance data analytics will be at the heart of those transformations, making memory and storage core to the data-centric world that is taking shape in front of our eyes.

I believe our strategy to tighten our focus, accelerate our technology and product development, and strengthen our presence in critical markets will make Micron an increasingly prominent player in the industry as these revolutionary new technologies take shape. Fiscal 2017 was a record year for us, but I am confident that the best is yet to come for Micron.



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