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Equity Research Report

MICRON TECHNOLOGY TICKER: MU



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Business model and overview

MICRON TECHNOLOGY



First founded in 1978 by a group of 4 individuals, Micron Technology "Micron" has grown into one of the world's largest semiconductor companies, recently ranking 10th largest in the world by market capitalisation, coming in at approximately \$140 billion. Headquartered in Boise, Idaho, Micron focuses on the design, manufacturing and sale of memory and storage products globally.

Some of Micron's main products include dynamic random access memory (DRAM) devices, NAND and NOR memory products, which are essential for various applications across cloud server, enterprise, client, graphics, networking, smartphone, and mobile-device markets.

Over the last year, Micron has underperformed financially due to increased competition in the semiconductor space with names such as TSMC, Nvidia and AMD taking market share from Micron and as a result, 2023's earnings were negative.

Key Business Segments

- **Computer & Networking Segment** This segment is the main driver of Micron's revenue, and accounted for 36% of Micron's 2023 revenue.
- Mobile Segment Micron's Mobile segment focuses on providing memory and storage solutions for smartphones and tablets. Some of Micron's products are used in the Apple VisionPro and other storage solutions used in the Samsung Galaxy S24. Micron's Mobile segment made up 27% of their 2023 revenue.
- Storage and Embedded Segments 16% of Micron's revenue was from its Storage segment and 22% was from its Embedded segment in 2023.



2022 Revenue and Costs breakdown



1978 Micron Technology was founded in 1978



Financials and Institutions

MICRON TECHNOLOGY



Overview In 2023, Micron faced significant challenges, experiencing a sharp decline in key financial metrics compared to previous years. The company's revenue decreased by 49.48%, reflecting the volatile conditions in the semiconductor industry and global economic pressures impacting demand and pricing.

Micron also saw a dramatic decline in gross profit, with a year-over-year decrease of 110.19%, indicating intense cost pressures and reduced sales volume. This reflects broader challenges in the sector, including increased competition and rising production costs.

The company's operating income turned deeply negative, with total operating losses amounting to \$4,169 million for the year. This highlights the severe operational challenges faced by the company.

In summary, 2023 was a year of financial contraction for Micron, as the company navigated through economic and industry-specific challenges. The significant declines in revenue, gross profit, operating income, and EPS highlight the difficulties faced but also set the stage for potential strategic pivots and recovery efforts in the coming years.

Micron's Income Statement and Growth Rates 2021-2023

\$ Millions Of Dollars	2023	2022	2021
Revenue	15 <mark>,</mark> 540	30,758	27,705
Gross Profit	(1,416)	13,898	10,423
Operating Expense	4,169	5,773	4,631
Operating Income	(5,585)	8,125	5,792
No. of shares outstanding	1,093	1,112	1,120
EPS \$	-0.41	0.25	1.15



Ratios	2023	2022	2021	
Revenue Growth (%)	-49.48%	11.02%	29.25%	5
Gross Profit Growth (%)	-110.19%	32.72%	59.83%	
Operating Income Growth (%)	-59.11%	154.41%	209.22%	B
EPS Growth (%)	-168.90%	50.78%	116.67%	
ROE	-12.41%	18.51%	14.13%	S
ROA	-8.94%	13.88%	10.42%	F

Shareholder	% Ownership	Current Value
Vanguard Group	8.73%	\$12.1 Bn
BlackRock	8.15%	\$11.3 Bn
Capital Group	6.24%	\$8.7 Bn
State Street	4.17%	\$5.8 Bn
PRIMECAP	3.40%	\$4.7 Bn

\$-3.43

Micron's February'24 P/E

-35.74



for 2023

Management Team

MICRON TECHNOLOGY









Sanjay Mehrotra: President and Chief Executive Officer (CEO)

Sanjay Mehrotra, President and CEO of Micron Technology, has over 40 years in the semiconductor industry and co-founded SanDisk. Since joining Micron in 2017, he's led the company through key advancements in computing and AI. Sanjay holds 70+ patents and has received numerous honours, including induction into the National Academy of Engineering. He promotes STEM education, diversity, and equity in tech, and serves on various industry boards. He earned his degrees from UC Berkeley and completed Stanford's Executive Program.

Mark Murphy: Executive Vice President and Chief Financial Officer (CFO)

Mark Murphy, Executive Vice President and CFO at Micron Technology since 2022, leads the company's finance operations, focusing on optimizing growth and shareholder returns. With over 25 years of experience, he has held leadership roles at Qorvo, Delphi Automotive, and Praxair. Mark also serves on Albany International's board and Boise State University's Advisory Council. He holds a bachelor's degree from Marquette University, an MBA from Harvard, and is a U.S. Marine Corps veteran.

Manish Bhatia: Executive Vice President of Global Operations

Manish Bhatia, Executive Vice President of Global Operations at Micron Technology since 2017, oversees end-to-end operations, including manufacturing, supply chain, and IT. With over 25 years of experience, he has held executive roles at Western Digital, SanDisk, and McKinsey & Company. Manish also serves on the board of the U.S.-Japan Business Council. He holds bachelor's and master's degrees in mechanical engineering and an MBA from MIT.



\$18.3B Computer and Networking Segment Revenue 2023



Social Media

MICRON TECHNOLOGY





Micron Technology maintains a diverse social media presence across multiple platforms, actively engaging a wide audience by sharing company news, technological innovations, and industry insights.

On LinkedIn, they post updates on advancements in memory and storage solutions, highlight employee achievements, and promote STEM education, diversity, and sustainability. Their Twitter feed offers real-time updates, product launches, and industry event coverage, engaging followers with interactive content.

On Facebook, Micron connects with a broader audience through company news, employee stories, and community engagement activities and Instagram showcases Micron's latest products, company culture, and community outreach programs with high-quality images and videos.

YouTube provides detailed insights into their technologies through product demos, webinars, and educational series. Additionally, on platforms like TikTok and Pinterest, they share creative content to reach different demographics. Micron's social media strategy emphasizes its role in driving technological progress and fostering a connected, informed community of tech enthusiasts and professionals.









Competitors

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NVIDIA

NVIDIA Corporation, founded in 1993, is a leading technology company known for its graphics processing units (GPUs) and related technologies. It holds approximately 80% of the discrete GPU market, driven by the popularity of its GeForce series for gamers and its Quadro and Tesla product lines for professionals and data centres. In fiscal year 2023, NVIDIA reported around \$27 billion in revenue and \$4.3 billion in net income. The company employs over 22,000 people globally, headquartered in Santa Clara, California. NVIDIA's pioneering CUDA architecture and its advancements in AI, autonomous driving, and high-performance computing reinforce its strong market position and continuous growth in the tech industry.

AMD - Advanced Micro Devices

Advanced Micro Devices, Inc. (AMD), founded in 1969, is a prominent semiconductor company known for its CPUs, GPUs, and related technologies. AMD holds a significant share of both the CPU and discrete GPU markets, with its Ryzen and EPYC processors gaining popularity among consumers and enterprises, and its Radeon graphics cards competing strongly in the gaming and professional sectors. In fiscal year 2023, AMD reported around \$23 billion in revenue. The company employs over 15,000 people globally, with its headquarters in Santa Clara, California. AMD's innovative architecture, such as the Zen CPU cores and RDNA GPU technology, along with its advancements in high-performance computing and data centres, contribute to its competitive stance and growth in the semiconductor industry.

TSMC - Taiwan Semiconductor Manufacturing Company

Taiwan Semiconductor Manufacturing Company (TSMC), founded in 1987, is the world's largest dedicated independent semiconductor foundry. TSMC holds a dominant market position, producing chips for a broad array of companies including Apple, NVIDIA, and AMD, covering a substantial portion of the global semiconductor market. In fiscal year 2023, TSMC reported revenue of approximately \$75 billion. TSMC currently employs over 65,000 people globally, with its headquarters located in Hsinchu, Taiwan. TSMC's cutting-edge manufacturing processes, such as its 5 nanometer and 3nanometer technologies, and its continual advancements in semiconductor manufacturing, drive its leadership and innovation in the technology industry.





Micron Market Share





Micron Revenue

8.31B

1.28 Micron's 5 year Beta

SWOT Analysis

MICRON TECHNOLOGY

Strengths

- Micron Technology is a well-known company that is highly regarded for its constant innovation in the field of semiconductor technology. Their inventions in DRAM and NAND memory (types of memory operating systems) have placed them at the forefront of the industry.
- Micron has a vertical integration strategy that spans from chip design to manufacturing. This approach gives them greater control over the production process, leading to increased efficiency, quality, and cost-effectiveness.
- Micron has a diverse product portfolio that includes memory solutions for a variety of applications, including data centres, mobile devices, and automobiles. This range of products helps mitigate risks associated with market fluctuations.

<u>Weaknesses</u>

- Micron heavily relies on the volatile memory markets, which makes the company susceptible to price fluctuations and demand variations. As a result, Micron's financial performance can be impacted significantly with an example of this being in 2023, when Micron made a major loss.
- Additionally, the semiconductor industry is highly competitive, with major players such as Samsung and SK Hynix posing a challenge to Micron's market share and pricing power.
- Furthermore, the industry is characterized by periodic downturns in demand and oversupply situations, which may affect Micron's profitability and growth prospects due to its cyclical nature.

Opportunities

- Emerging Technologies: Expansion into emerging technologies such as artificial intelligence, IoT, and 5G presents opportunities for Micron to diversify its product offerings and capture new market segments.
- Data Center Growth: The increasing demand for cloud services and data storage fuels the growth of data centres, driving the need for high-performance memory solutions, a market where Micron can capitalize.
- Strategic Partnerships: Collaborations with technology giants or strategic alliances with complementary businesses could enhance Micron's market presence, facilitate technology exchange, and foster innovation.

<u>Threats</u>

- Technological disruption is a major concern for Micron, as rapid advancements in alternative memory technologies could make their existing products obsolete, which poses a threat to their market position and revenue streams. Another concern is supply chain disruptions.
- Global supply chain vulnerabilities, such as shortages of raw materials, geopolitical tensions, or natural disasters, could cause disruptions in production and impact Micron's ability to meet demand. Lastly, market saturation is also a significant challenge.
- Saturation in key markets along with price erosion due to intense competition and excess supply
 may put pressure on Micron's margins and profitability, which could limit their growth
 opportunities.

\$5.8 BILLION 2023 Net Loss





Technical Analysis

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Micron stock (MU) is up 87.6% year to date, having rallied 63% from its Feb low of \$79.55 to an all-time high of \$131.02 in early April. The sharp uptick in Micron's stock price was due to the recent rally in AI and semiconductor-related stocks, which was fuelled by the introduction of Open AI's ChatGPT.

Micron's stock price is currently trading above its 20, 50, 100 and 200-day Moving Average (MA), with price retracing and crossing the 20 and 50-day MA during a drawdown period in April after price hit an all-time high of \$131.02 Micron's most recent earnings beat on the 20th of March led to an 18% jump in price, which this acting as a catalyst, leading Micron's stock to surge 34% in just a 15 day period. A double bottom can be seen in the chart above with this pattern causing an ascending triangle to form, both of these suggesting bullish sentiment in Micron.

Micron has been assigned a strong buy grade with a consensus rating of 1.47. The current average analyst price estimate is \$133.96, with estimates ranging from a low of \$80 to a high of \$225. This indicates an upside of only 4% based on current price however recently Micron has been outperforming expectations leading to increases in analysts' price targets leaving room for more upside.

92.08 200-day Moving Average



50-day Moving Average



52 week low

Final Thoughts

MICRON TECHNOLOGY



Samuel Thompson

Micron is a strong company with good fundamentals which has allowed it over the last decade to become one of the top 10 most important companies in the semiconductor space and as a result of the recent AI rally their share price has surged over the last year.

I believe that Micron stock is in a good position to continue to rise after the recent retracement that we have seen in the last month, however, Micron's success in making this happen I believe is heavily dependent on Nvidia's next earnings on the 22nd after market close, as this will significantly impact if the "AI rally" will continue. Macro conditions such as Biden's new tariff legislation and FED monetary policy decisions will also impact Micron's future significantly.

Luke Verney

I believe that Micron Technology has great growth potential in the AI and semiconductor industries however this wasn't reflected in their 2023 revenues which fell. If Micron Technology can maintain a steady high revenue growth rate there is no reason why Micron could not become as big a company as NVIDIA or AMD in a few years assuming that profitability margins remain constant or grow.



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