

# Semiconductors

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# Executive Summary

<b>Sector</b>	Semiconductors			
<b>Analysis</b>	Sector Overview	NASDAQ: AMD	NASDAQ: NVDA	NYSE: TSM
<b>Rating</b>	BUY	HOLD	SELL	

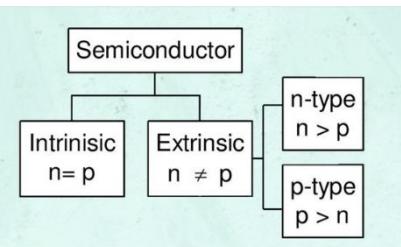
# What are Semiconductors?

## Sector Overview



### Overview

- Semiconductor is a material used in electrical circuits and components that partially conduct electricity
- Conducts electricity more than insulator, less than pure conductor
- Product categories: Memory, Microprocessors, Commodity Integrated Circuit, and Complex “System on a Chip” (SoC)
- “Brains” of modern electronics
- Goal: Develop products that are smaller, faster, and cheaper
- Highly cyclical, subject to periodic booms and busts



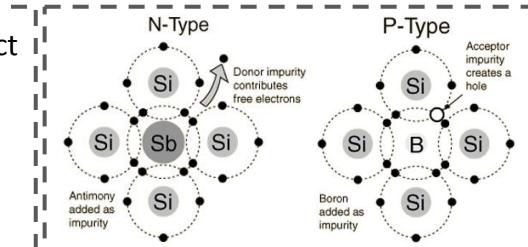
**Doping** – Adding impurities to semiconductors to change its conduct

**Intrinsic (pure) semiconductor** – Undoped semiconductor

**Extrinsic semiconductor** – Doped semiconductor

**N-type** – Extra electrons (negative charge carriers)

**P-type** – “Holes” or missing electrons (positive charge carriers)



# Semiconductor Materials

## Sector Overview

1

### Elemental Semiconductors

Made from a single element

Example: Silicon (Si), Germanium (Ge)

2

### Compound Semiconductors

Made from combination of two or more elements

Example: Gallium Arsenide (GaAs), Indium Phosphide (InP), Silicon Carbide (SiC)

3

### Organic Semiconductors

Made from carbon (C) and hydrogen (H) based polymer structures

4

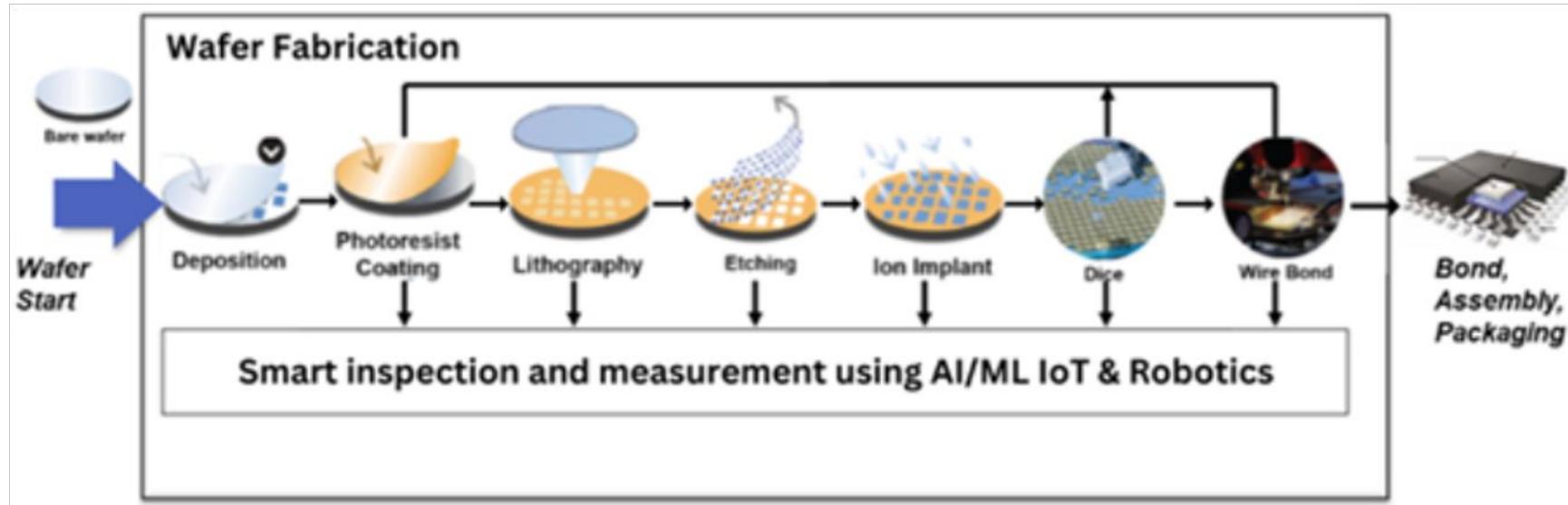
### Liquid and Amorphous Semiconductor

Noncrystalline structure and lacks defined lattice

Example: Hydrogenated amorphous silicon (a-Si:H)

# Manufacturing Process

## Sector Overview



# Design and Manufacturing Methods

## Sector Overview

### Photolithography

Use light to transfer a pattern on a substrate, such as silicon wafer.

### Electronic Design Automation (EDA)

Specialized software for designing electronic circuits. AI/ML can be applied in EDA.

Current “state of the art” lithography technique is extreme ultraviolet (EUV) lithography



### Computational Lithography

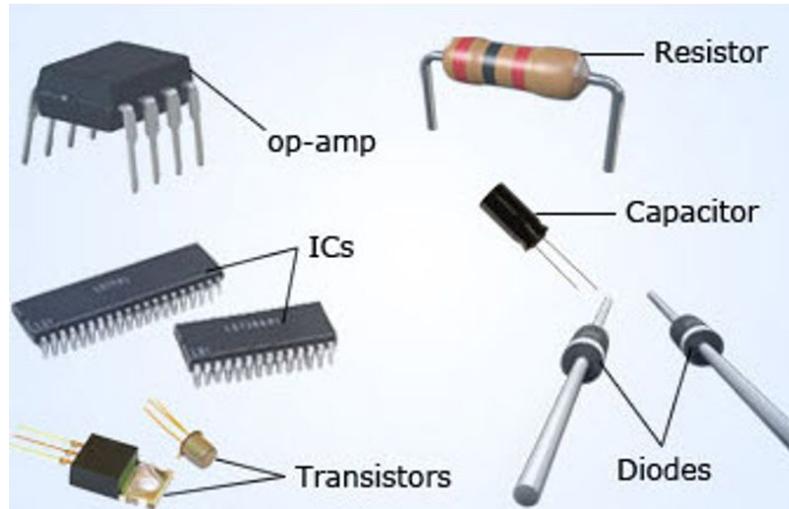
Use computers to create more perfect images on microchips. Techniques include RET, OPC, and SMO.

### Next-generation Lithography

Lithography techniques that will replace current technologies. Includes X-ray, electron beam, focused ion beam, nanoimprint, and quantum lithography.

# Semiconductor Components

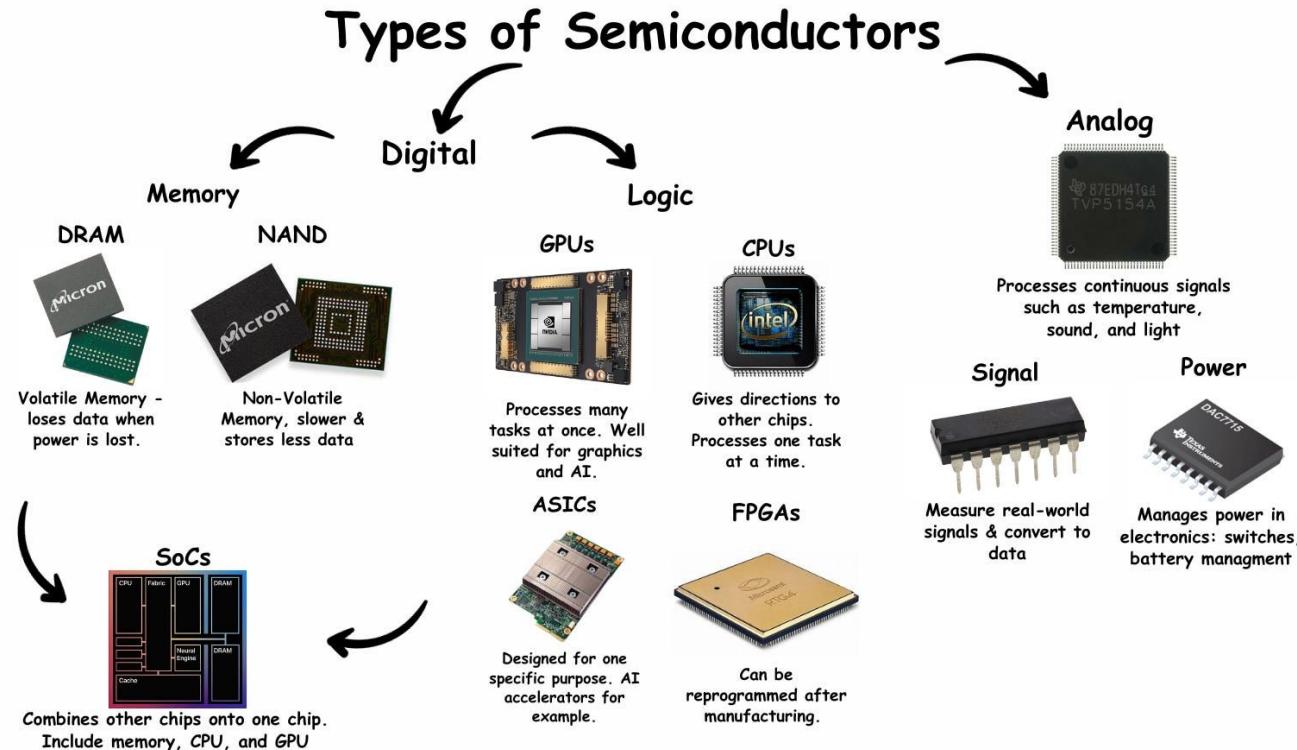
## Sector Overview



Semiconductors can be categorized by the circuit board components that use them. These include transistors, diodes, integrated circuits (ICs), optoelectronics, and sensors.

# Semiconductor Products

## Sector Overview



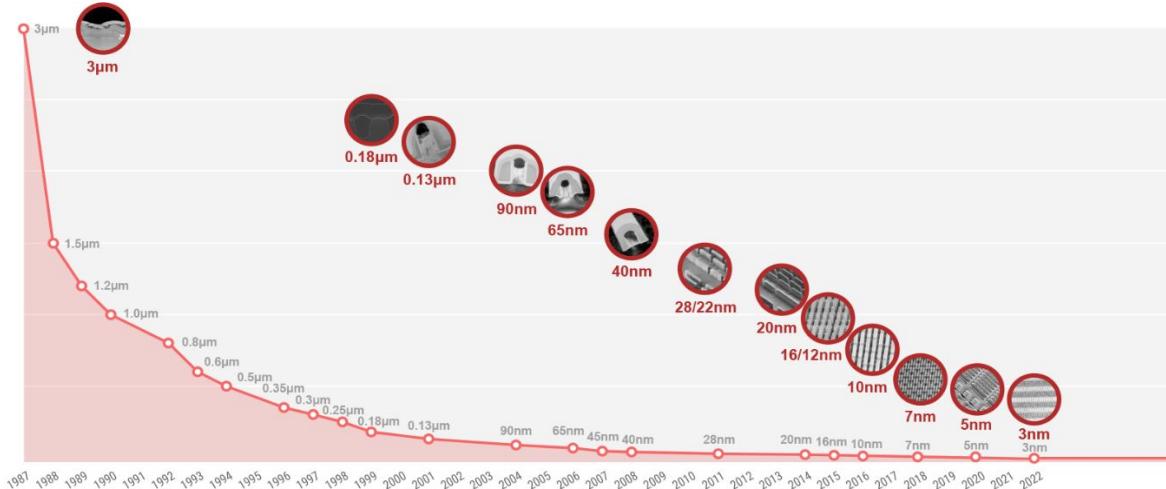
# Chip Size

## Sector Overview

Semiconductor size – or node size – is indicated in nanometers (nm) = one billionth of a meter (or 0.000000001m)

Chips with **14nm** and **10nm** are currently in mass production, but the industry continues to aim for small node sizes

**Common types of semiconductors:** Logic chips, memory-usually DRAM-chips, and analog chips



### 5nm Technology

2018: Samsung began production

2019: TSMC began production

### 3nm Technology

2022: TSMC and Samsung began production

### 2nm Technology

2024-25: TSMC, Samsung, and Intel announced they would start production

2027: Rapidus set target for production

# Case Study: IBM and 2nm Chip Technology

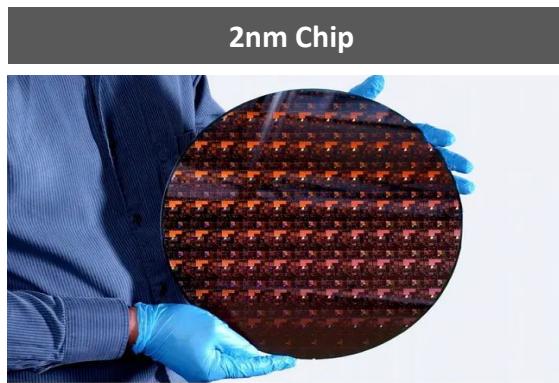
## Sector Overview

On May 6, 2021, IBM unveiled a breakthrough in semiconductor design and process with the development of the world's first chip announced with **2 nanometer (nm) nanosheet** technology. Demand for increased chip performance and energy efficiency continues to rise, especially in the era of hybrid cloud, AI, and the Internet of Things. IBM's new 2nm chip technology helps advance the state-of-the-art in the semiconductor industry, addressing this growing demand.



### IBM Semiconductor Innovation

First implementation of 7nm and 5nm process technologies, single cell DRAM, the Dennard Scaling Laws, chemically amplified photoresists, copper interconnect wiring, Silicon on Insulator technology, multi core microprocessors, High-k gate dielectrics, embedded DRAM, and 3D chip stacking.



**50 billion transistors on a fingernail-sized chip.** Increasing the number of transistors per chip can make them smaller, faster, more reliable, and efficient.

### Potential Benefits

Quadrupling cell phone battery life

Slashing the carbon footprint of data centers

Dramatically speeding up a laptop's function

Contributing to faster object detection

**“** The IBM innovation reflected in this new 2nm chip is essential to the entire semiconductor and IT industry **”**

# Chip Packaging

## Sector Overview

Chip packaging is the final stage of semiconductor fabrication, where the IC is encapsulated in a case

### Traditional Packaging Techniques

- Wire-Bonding
- Flip Chip

### Wafer-Level Packaging

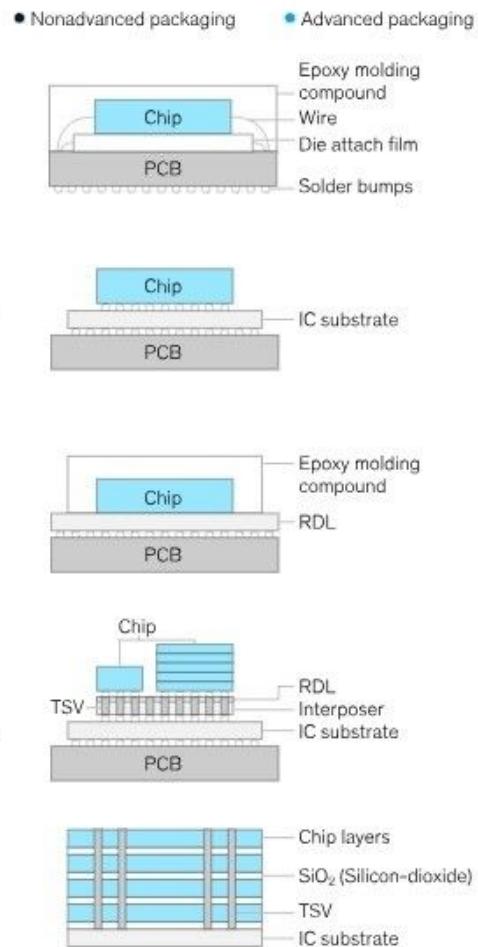
- Divided into two types: Fan-in and Fan-out

### Advanced Packaging Techniques

- Includes 2.5-D, 3-D, fan-out, and system-on-a-chip
- (SoC) packaging

### Timeline of packaging technology

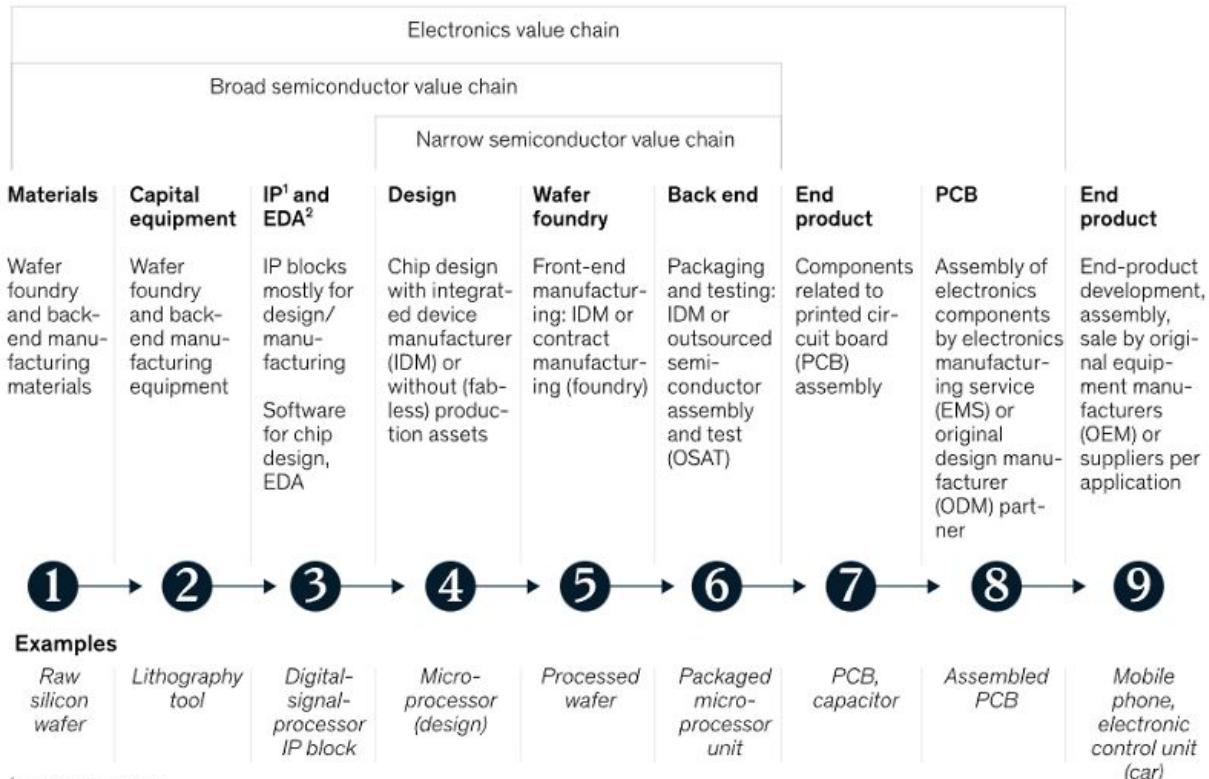
1950	<b>Wire bonding</b> Uses fine wire to connect the semiconductor chip to the printed circuit board (PCB)
1960	
1995	<b>Flip chip</b> Connects the chip to the PCB with solder bumps and, usually, an integrated-circuit (IC) substrate
1980	
2000	<b>Wafer level</b> Chips are packaged as part of the wafer using a redistribution layer (RDL) rather than individually sliced
2010	<b>2.5-D stacking</b> Chips are indirectly attached on the package substrate through an interposer layer of RDL, silicon bridge, through-silicon via (TSV), or glass
2015	<b>3-D stacking</b> Multiple chip layers are stacked rather than laterally connected, with or without interposers, and bonded using TSV or other material such as copper
2020	



# Semiconductor Value Chain

## Sector Overview

### Value chain areas



<sup>1</sup>Intellectual property.

<sup>2</sup>Electronic-design automation.

# Business Model

## Sector Overview

### Foundry

Companies that manufacture chips for other companies, do not design chips themselves



### Integrated Device Manufacturer

Companies that design, manufacture, and sell integrated circuits (ICs)



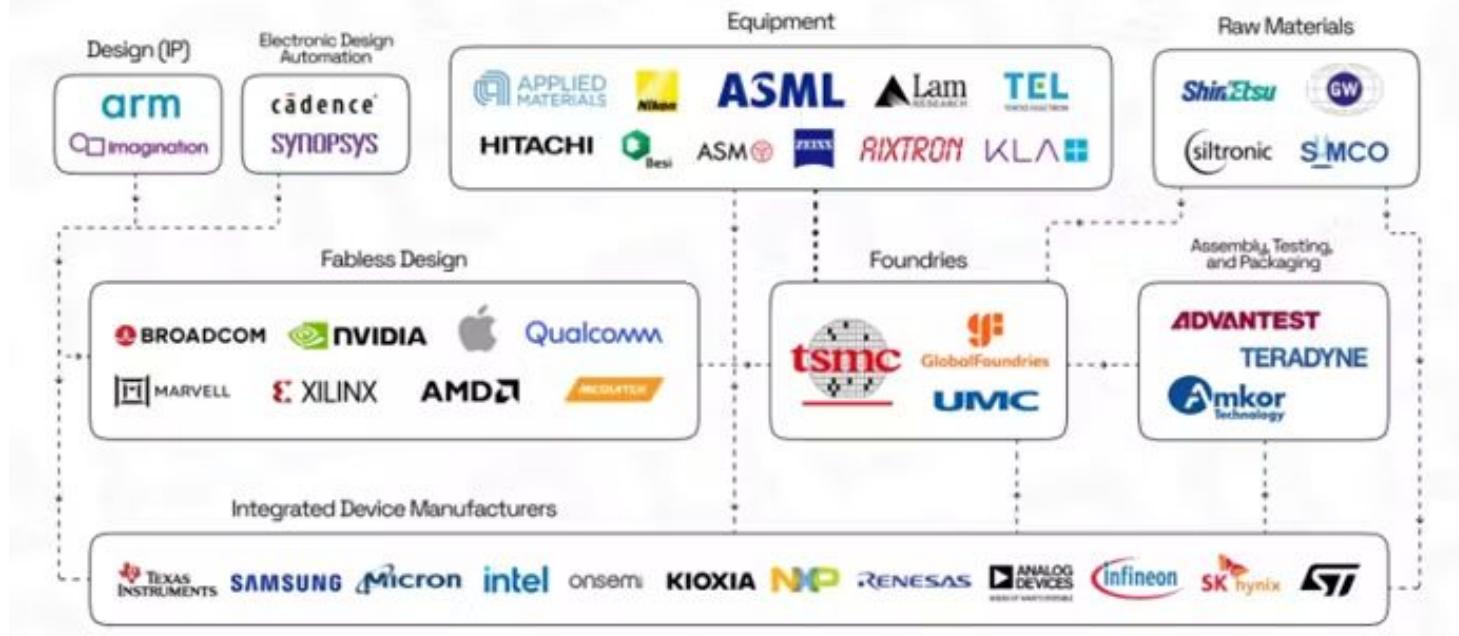
### Fabless

Companies that specialize in the design and marketing of integrated circuits but outsource manufacturing to foundries



# Semiconductor Supply Chain Investment Opportunities

## Sector Overview



# Industry Characteristics

## Sector Overview

### Moore's Law

- Named after Gordon Moore, a co-founder of Intel
- States that the number of transistors on a microchip doubles every two years, while the cost per transistor decreases
- Successful semiconductor companies produce smaller, faster, and cheaper products

### Cyclical Nature

- Short product-life as newer and faster applications are constantly being developed
- Periods of high demand followed by low demand

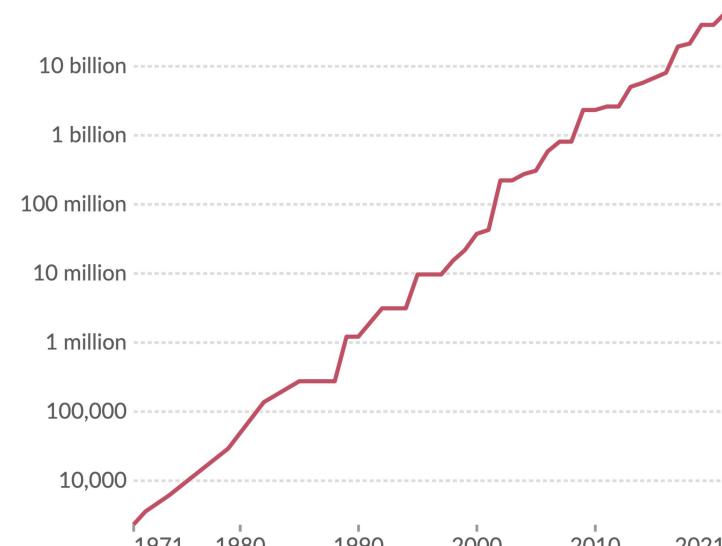
### Fierce Competition in the Industry

### Continuous Technological Innovations Drive Demand

### Demand Tracks End-market Demand for Electronics

### Semiconductors are Critical Components of the Economy

### Moore's law: The number of transistors per microprocessor



Data source: Karl Rupp, Microprocessor Trend Data (2022)

Our World  
in Data

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# Global Chip Shortage

## Sector Overview

### **COVID-19 Pandemic**

- Disruptions in supply chains
- Shift to stay-at-home economy increased demand for personal electronics

### **Existing Production Capacity Unable to Keep up with Demand**

- High demand for processors for cryptocurrency mining reduced supply

### **China-United States Trade War**

- U.S. imposed restrictions on Chinese computer chip companies

### **Severe Weather**

- Fires, droughts, storms forcing factory closures

### **Russia-Ukraine War**

- Constrained supply of neon and palladium

### **Surge in Cryptocurrency**

- Increased demand due to computing power required

The effects of the chip shortage woke many governments up to the importance of semiconductors. Supply risks arising from concentration of manufacturing in Asia.

Countries worldwide are prioritizing domestic manufacturing and geographical diversity of suppliers.

- Multi-billion-dollar incentive plans and government funding for chip manufacturing.
- The U.S. – CHIPS and Science Act (\$52 billion)
- The EU – EU Chips Act (\$47 billion)
- Bilateral trade and investment deals between countries.

More nationalization of technology and restrictive trade policies poses threat to the resilience of semiconductor supply chains.

Geopolitical tensions lead to uncertainty and disruptions.

# Global Chip Shortage

## Sector Overview

### Government Incentives by Major Region (Left to Right by Size of Chip)

	US	Mainland China	EU	Japan	South Korea	Taiwan
Guidance	Achieve resiliency in semiconductor supply chain	Reach 70% self-sufficiency by 2025	Gain 20% global share by 2030	Earn \$112B sales by 2030	Secure foothold in Logic, bolster fab leadership	Breakthrough 1 nm by 2030
Measures	<b>\$39B</b> in grants <sup>1</sup>	<b>\$142B</b> in equity funds	<b>\$47B</b> in grants	<b>\$17.5B</b> in grants	<b>\$55B</b> in tax incentives	<b>\$16B</b> in tax incentives <sup>4</sup>
Key Initiatives	25% investment tax credit  Grants under the CHIPS Act  State-level support	Big Fund I, II, III and local funds  State-owned enterprise leaders  National science fund	Grants and loans under EU Chips Act  Tax credits  State aid allowances <sup>2</sup>	National fiscal funding  Leading-Edge Semiconductor Technology Center	Tax incentives under K-Chips Act  Private-public education programs	Financial subsidies under the Chip Innovation Program  Industry-academia co-op, tax credits
Impact	New fab & ATP investments since 2020 <sup>3</sup>	26	~30 <sup>5</sup>	8	4	3
						7

# Geopolitical Environment

## Sector Overview

### The U.S-China Tech War and Export Controls

- Export bans on high-end chips (e.g. NVIDIA A100/H100) to China.
- NVIDIA developed the A800/H800 as downgraded version of the A100/H100 chip to meet U.S. export controls, later banned.
- Firms supplying EDA software (e.g., Cadence, Synopsys, and Siemens EDA) require licenses to ship to China.
- ASML faces export restrictions on more advanced EUV lithography systems.
- Licenses for shipment of DUV lithography systems (NXT:2050i and NXT:2100i) partially revoked by Dutch government.

### Trade Barriers and Tariffs Impact

- The U.S. and China imposed reciprocal tariffs, with tariffs exceeding 100%.
- China, which produces 95% of gallium and germanium, restricted exports of both minerals. The U.S. raised steel and aluminum tariffs to 25% under Section 232 (Trade Expansion Act of 1962).
- The U.S. reached agreement with China to accelerate rare-earth shipments in an efforts to end trade wars.

### “China +1” Strategy

- Strategy driven by corporations to diversify operations by expanding manufacturing or sourcing in pursuit of alternative supply chain while maintaining presence in China. Key beneficiaries: India, Vietnam, and Malaysia in semiconductor sector.
- Greenfield manufacturing foreign direct investments into China declined by 17%, while Southeast Asia rose ~20% (2019-2023).
- This helps reduce supply chain risks and overdependence on single region amid rising geopolitical tensions and uncertainty.

# Geopolitical Environment

## Sector Overview

### ASML and TSMC Chokepoints

- ASML (Netherlands) holds monopoly on EUV lithography machines, only tools capable printing circuit for 3nm and 2nm chips.
- TSMC (Taiwan) is the world's largest and most advanced dedicated foundry, with a 61% foundry market share and ~ 67% share of advanced nodes (sub-7nm).
- TSMC depends on ASML, making both firms critical chokepoints for advanced AI chip production.
- The U.S. restricts ASML from selling advanced EUV/DUV tools to China, using export controls to maintain its technological lead.
- China is accelerating efforts to build domestic capabilities but faces significant technological hurdles.

### Synopsys–Ansys Merger

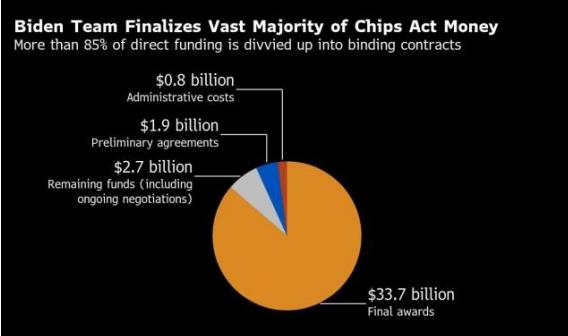
- China postponed approval of a proposed \$35 billion merger between software companies Synopsys and Ansys after Donald Trump tightened export controls against China and banned chip design software sales.
- Both Synopsys and Ansys conduct business in China, requiring approval from China's State Administration for Market Regulation (SAMR). The deal entered the final stage of SAMR approval and was expected to close by the end of June.
- This illustrates how China can use regulatory process to retaliate or exert pressure in response to U.S. policies.

# Geopolitical Environment

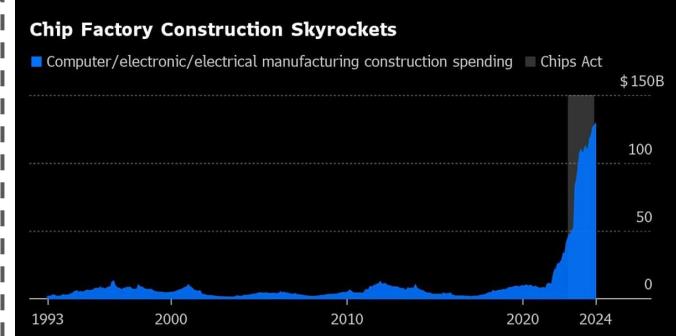
## Sector Overview

### CHIPS and Science Act 2022

- On August 9, 2022, President Joe Biden signed into law the CHIPS and Science Act of 2022, a \$280 billion bipartisan bill
- The Act authorizes historic investments in curiosity-driven, exploratory research and use-inspired, translational research.
- These investments will advance the most innovative ideas across all areas of science and engineering — accelerating their translation to solutions for today's challenges and tomorrow's — at speed and scale.
- Provides \$52 billion in manufacturing grants and research investments, and establishes a 25% investment tax credit (ITC)
- Incentivizes semiconductor manufacturing in the U.S. to construct, upgrade, and expand new and existing facilities, revitalizing the U.S. semiconductor manufacturing, strengthening supply chain, and advancing national security.



*Allocated \$39 billion in grant funding to usher in a chip-factory building boom. Initiative spurred more than \$400 billion in planned company investments. Much of the job remains unfinished and broader upheaval in the chip industry will only add to the challenges.*



# Geopolitical Environment

## Sector Overview

### Donald Trump Reshapes the CHIPS Act

- Onshore more advanced semiconductor supply chain from Asia, support domestic players and limit China's capabilities.
- While tax provisions in Trump's proposed policy bill expand on those in the Biden administration's CHIPS Act, his overall approach to the semiconductor industry differs.
- Earlier this year, Trump called for a repeal of the CHIPS Act, citing "Your CHIPS Act is a horrible, horrible thing"
- Stated that tariffs, as opposed to the CHIPS Act grants, would be the best method for onshoring semiconductor production, further accelerated by increased investment tax credits.

### One, Big, Beautiful Bill Act (H.R. 1)

- Donald Trump signed into law a massive package of tax and spending bills during Fourth of July picnic at the White House.
- The bill cut back federal safety-net programs and increased funds for aggressive immigration enforcement.
- Significant tax cuts were introduced, building on the 2017 tax cuts from Trump's first term.
- Temporary tax exemptions for tips and overtime, which boosts pay for hourly and service workers.
- Imposed new restrictions to Medicaid, which provides healthcare to low-income and disabled people, and on SNAP, also known as food stamps, which helps low-income people afford food:
  - Medicaid cutbacks will leave **11.8 million** people without healthcare
  - **8 million** people will lose SNAP benefits
- Spending package will allocate **\$170 million** to immigration enforcement to engage in "mass deportations".

# Geopolitical Environment

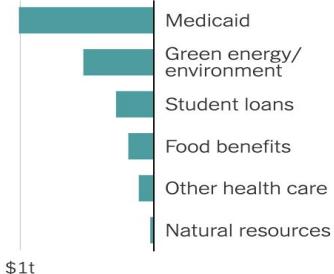
## Sector Overview

### Donald Trump's One, Big, Beautiful Bill Act (H.R. 1)

#### 10-year costs



#### 10-year savings



#### Advanced manufacturing investment credit

Increase the credit for semiconductor manufacturing

\$15 bil.

#### Full expensing for new capital investments

Permanently allow immediate expensing of 100 percent of the cost of qualified property acquired on or after Jan. 19, 2025

\$363 bil.

#### Depreciation allowance for qualified production property

Allow immediate deductibility of 100 percent of the cost of certain new factories and improvements

\$141 bil.

#### Expensing of certain depreciable business assets

Increase dollar limitations

\$25 bil.

#### Foreign-derived intangible income and global intangible low-taxed income deductions

Permanently expand deductions

\$87 bil.

*The Congressional Budget Office projects that the bill would increase federal deficit over the next 10 years by nearly \$3.3 tn*

# Geopolitical Environment

## Sector Overview

### Semiconductor Industry Association (SIA) and One, Big, Beautiful Bill Act (H.R. 1)

- SIA applauds the passage of the One Big Beautiful Bill Act (H.R. 1) by the U.S. House of Representatives.
- Bill includes several major wins for the U.S. semiconductor industry:
  - Increase rate of advanced manufacturing investment credit (AMIC) from **25%** to **35%** for eligible projects before **2026** deadline, boosting support for chip manufacturing and expansion in the U.S.
  - Permanently modified deductions on foreign-derived intangible income (FDII)
  - Restoration of full deductibility of domestic research and development expenditures
- According to SIA President John Neuffer, the enhanced AMIC will:
  - Secure advanced manufacturing in America over the long term and promote sustained investment in the U.S. semiconductor ecosystem
  - Triple domestic chip manufacturing capacity by **2032**
  - Create and support more than **500,000** American jobs
  - Support additional investment into the domestic chip ecosystem and make America more globally competitive

# Geopolitical Environment

## Sector Overview

### Big, Beautiful Bill Act and Value Creation for TSMC

1

#### Increased Tax Credits



Makes it significantly cheaper for TSMC to build and expand its advanced fabs in the U.S. Reduces capital expenditure and improves returns on projects.

2

#### Enhanced Incentives



Building on the CHIPS Act, TSMC benefits from direct subsidies and larger tax breaks. Making it an attractive location for future investments and manufacturing.

3

#### U.S. Supply Chain



Aims to reduce reliance on Asian supply chains, it incentivizes domestic production as evident by their Arizona location. This can increase opportunities with American customers and government contracts.

4

#### Export and Trade Uncertainty



Ongoing tensions and restrictions on sales on chip sales to China, enhances TSMC to mitigate revenue risks by shifting production to the U.S.

# Key Success Factor

## Sector Overview

### Leadership



### Long-term Research and Development



### Supply Chain Resistance



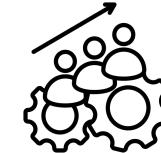
### Talent



### Collaborative Ecosystem



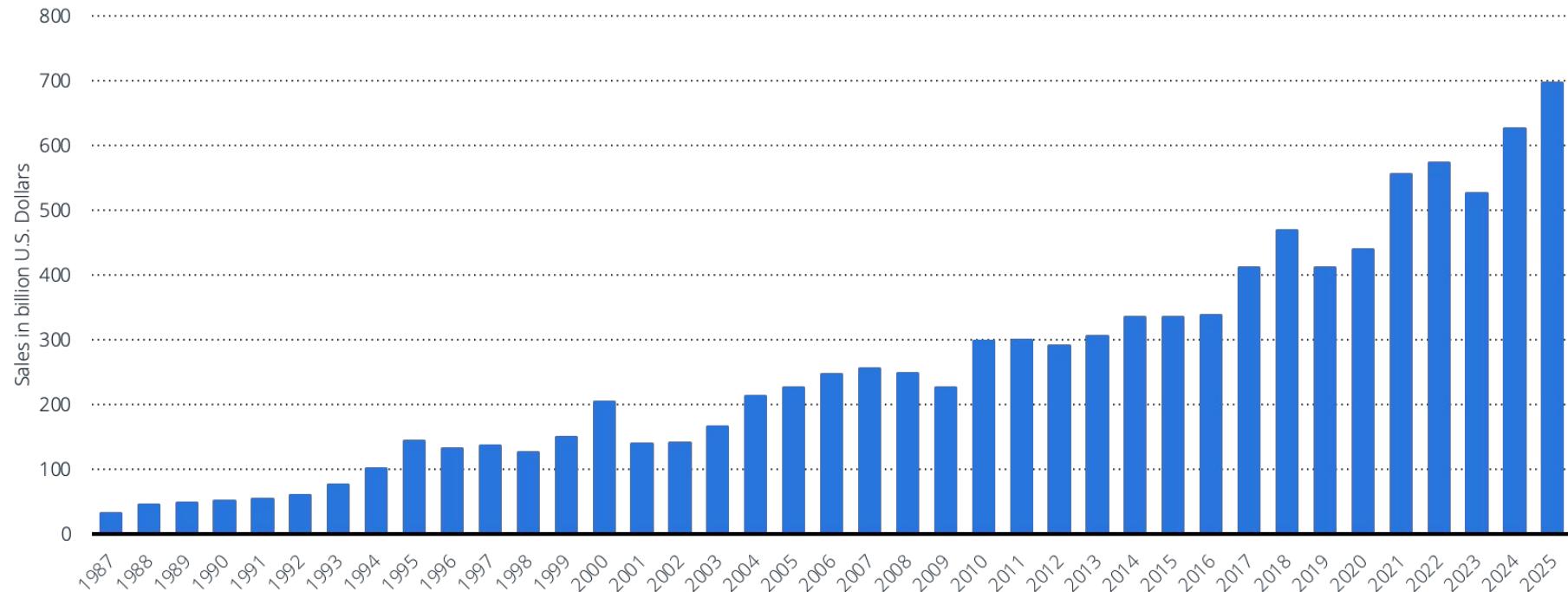
### Greater Capacity



# Market Analysis

## Sector Overview

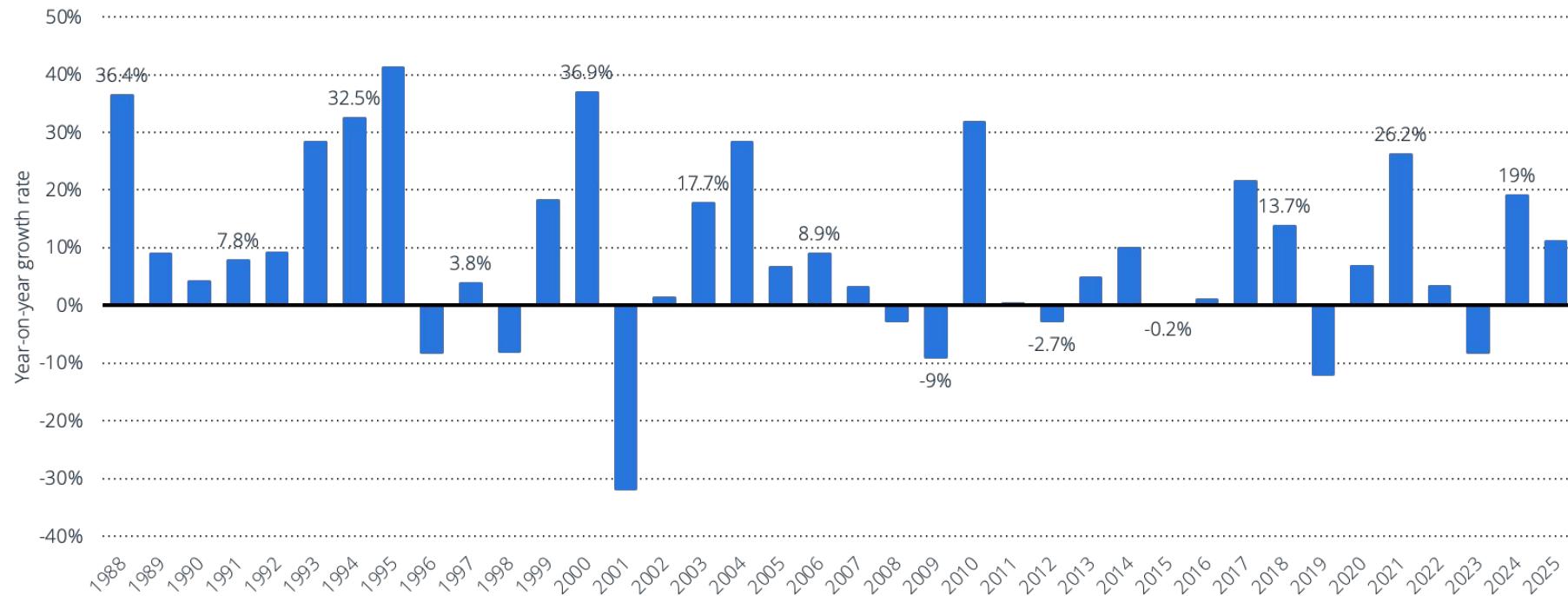
### Semiconductor Market Revenue Worldwide from 1987 to 2025



# Market Analysis

## Sector Overview

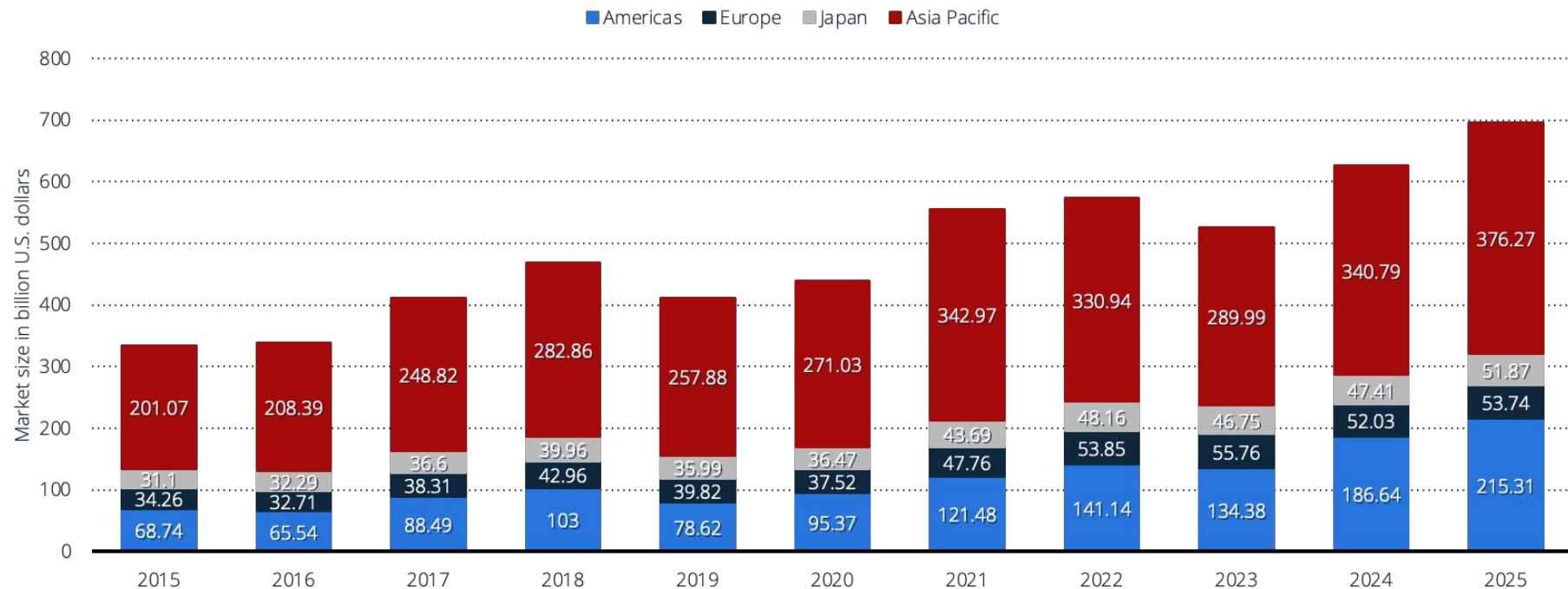
### Semiconductor Market Revenue Growth Worldwide 1988 to 2025



# Market Analysis

## Sector Overview

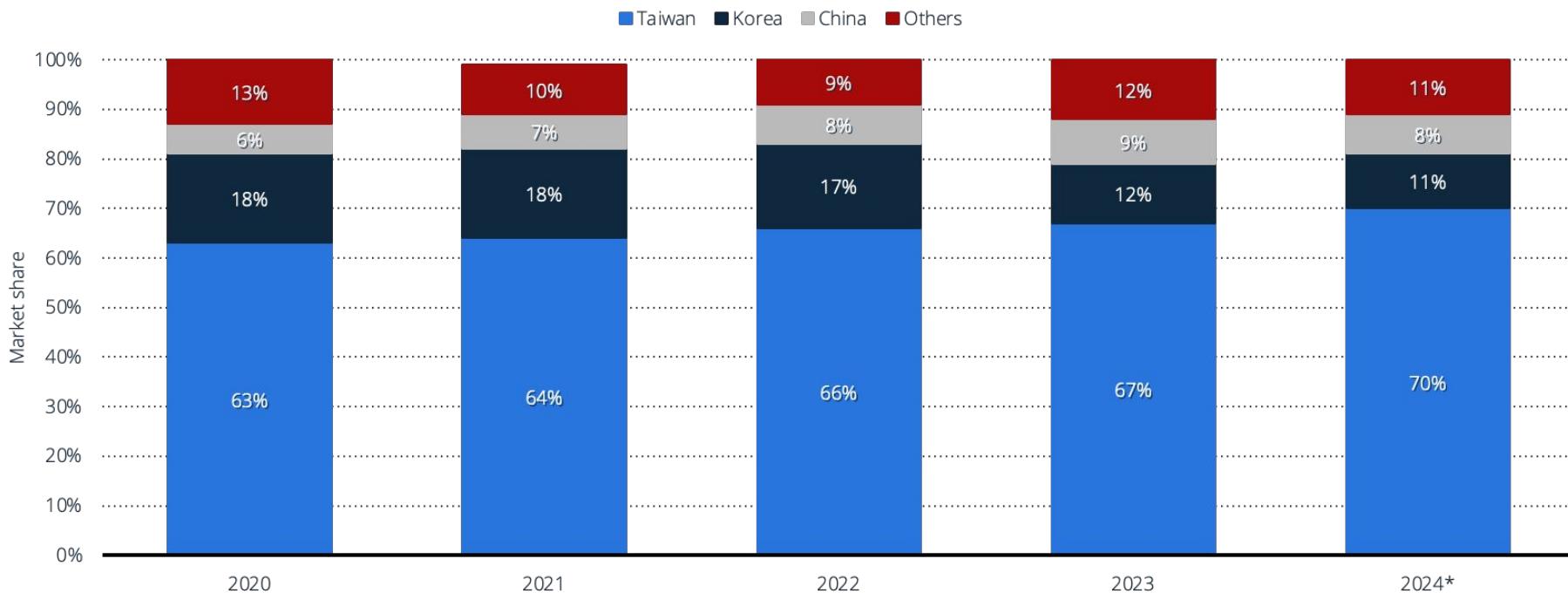
### Semiconductor Market Sales Worldwide From 1988 to 2025, by Region



# Market Analysis

## Sector Overview

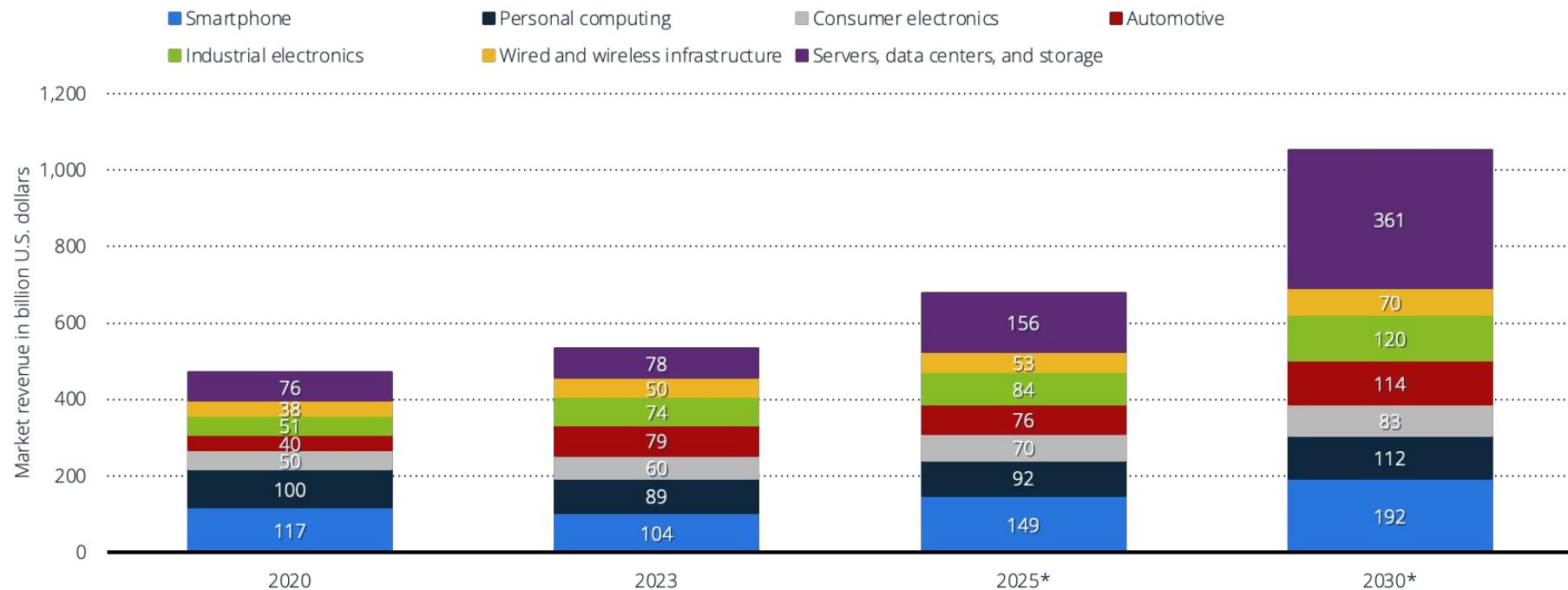
### Semiconductor Foundries Market Revenue Share Worldwide from 2020 to 2024, by Region



# Market Analysis

## Sector Overview

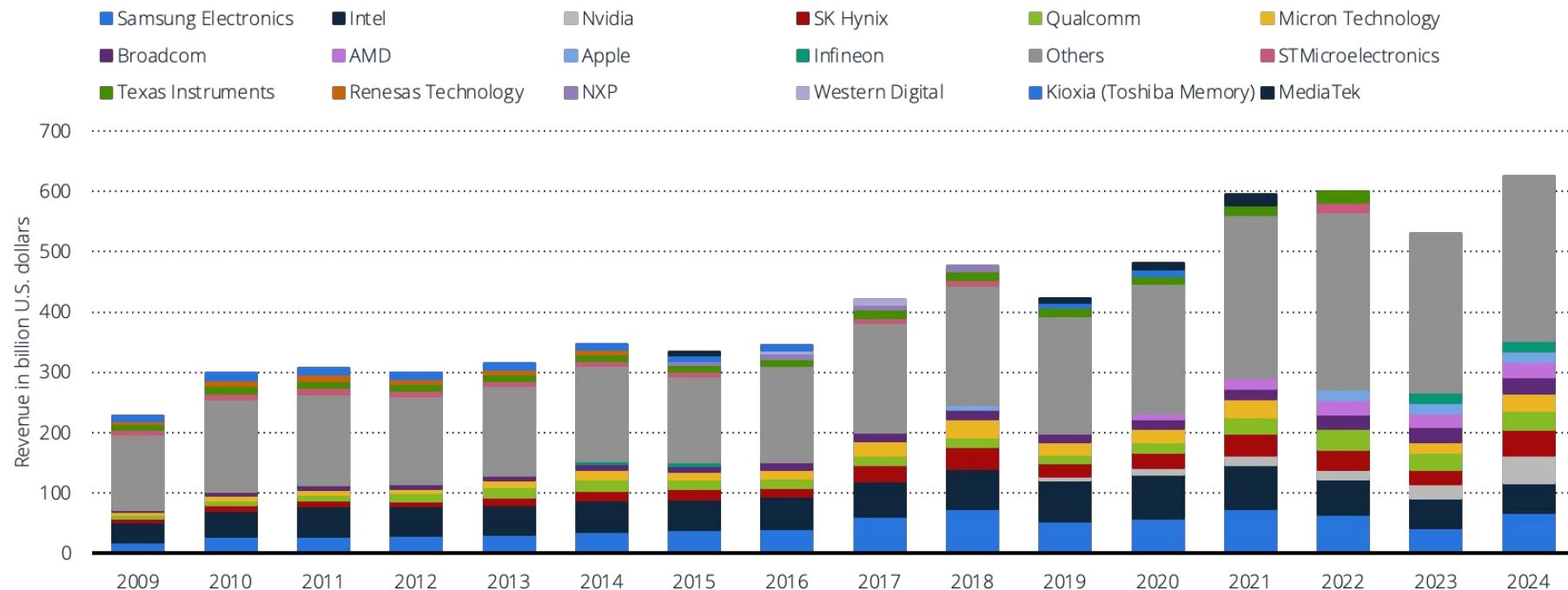
### Semiconductor Market Revenue Worldwide from 2020 to 2030, by End Market



# Market Analysis

## Sector Overview

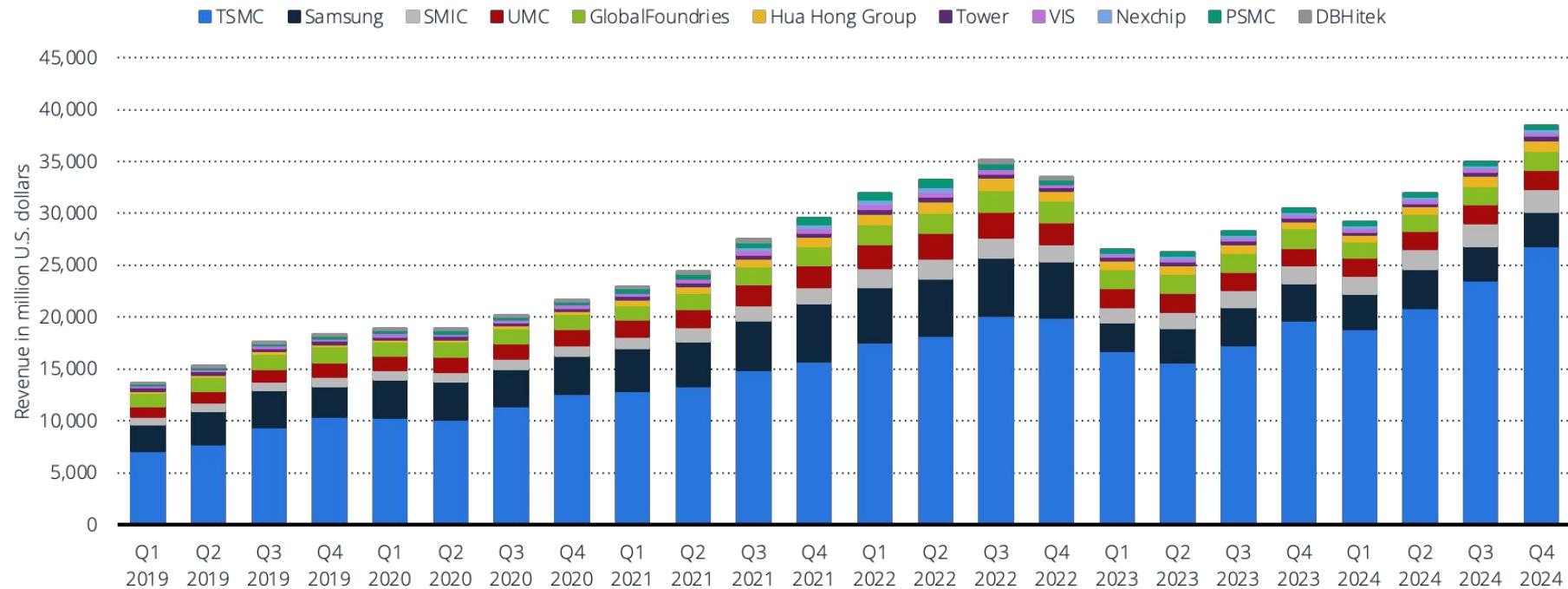
### Semiconductor Companies Market Revenue Worldwide from 2009 to 2024



# Market Analysis

## Sector Overview

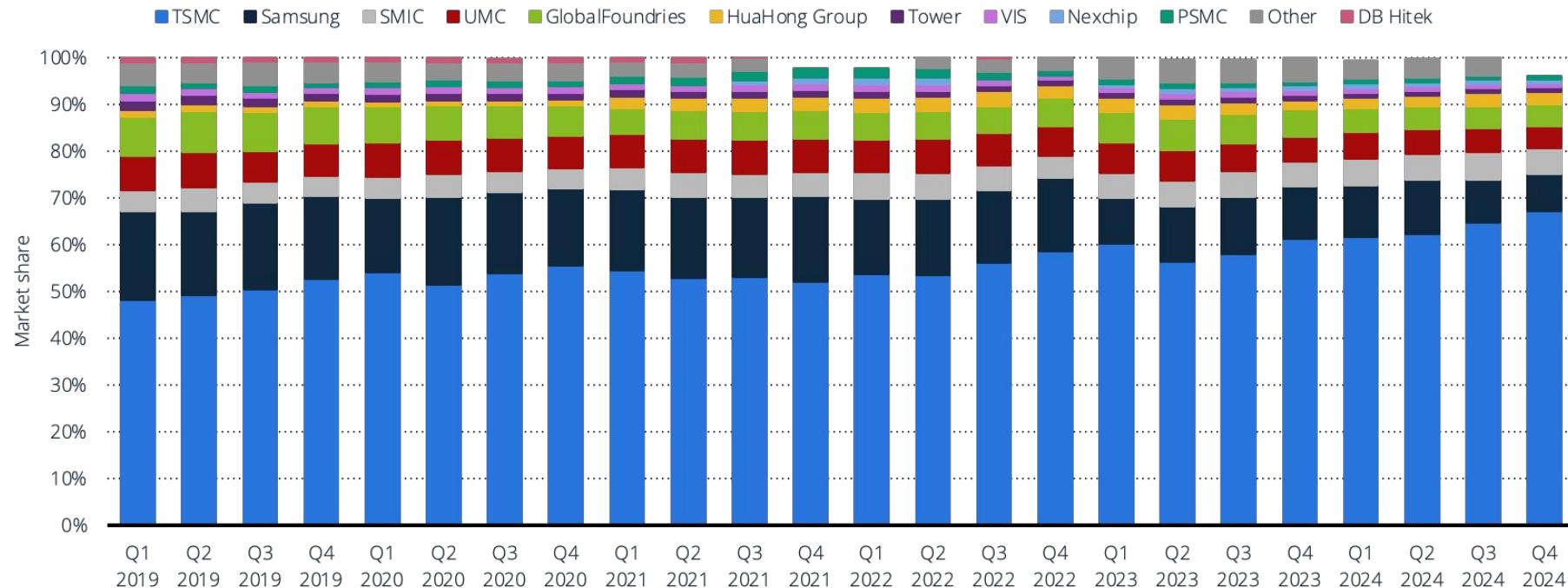
### Semiconductor Foundries Market Revenue Worldwide from 2019 to 2024, by Quarter



# Market Analysis

## Sector Overview

### Semiconductor Foundries Market Share Worldwide from 2019 to 2024, by Quarter

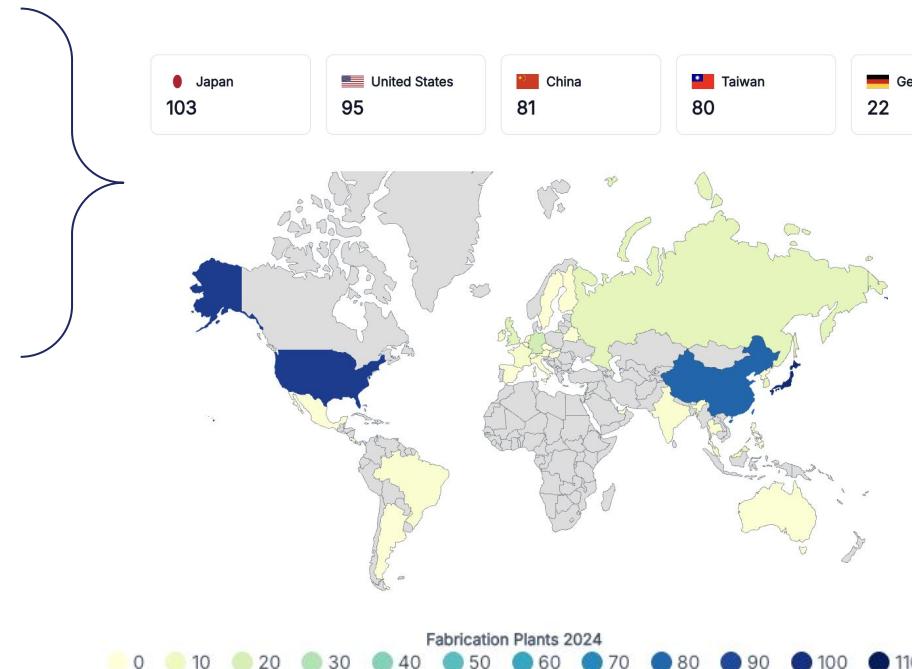


# Global Manufacturing Capacity

## Sector Overview

Country	Production Rank	# of Fabrication Plants (Dec. 2024)
Japan	1	103
United States	2	95
China	3	81
Taiwan	4	80
Germany	5	22
United Kingdom	6	16
Singapore	7	16
Russia	8	15
South Korea	9	15
Malaysia	10	8

## Top Five Countries with the Most Semiconductor Manufacturing Plants



# Global Manufacturing Capacity

## Sector Overview

### Top Five Countries That Produce the Most Semiconductors

#### Taiwan

1

Taiwan Semiconductor Manufacturing Co. (TSMC) manufactures ~ 50% of world's semiconductors.

#### South Korea

2

Semiconductors produced by Samsung and other companies in the country's 70+ fabrication plants are South Korea's largest export. Comprised 15% of the country's total exports in 2021.

#### Japan

3

Over 100 semiconductor fabrication plants, most owned by Japanese, American, or Taiwanese firms.

#### United States

4

~ 12% of the world's global chip manufacturing as of 2021 (37% in 1990). Semiconductors exports added \$62 billion (USD) to the U.S. economy in 2021. Held 12% of the world's total semiconductor manufacturing capacity in 2021. U.S. based companies held ~46.3% of total semiconductor market share.

#### China

5

Expected to produce up to 25% of world's semiconductors by 2030.

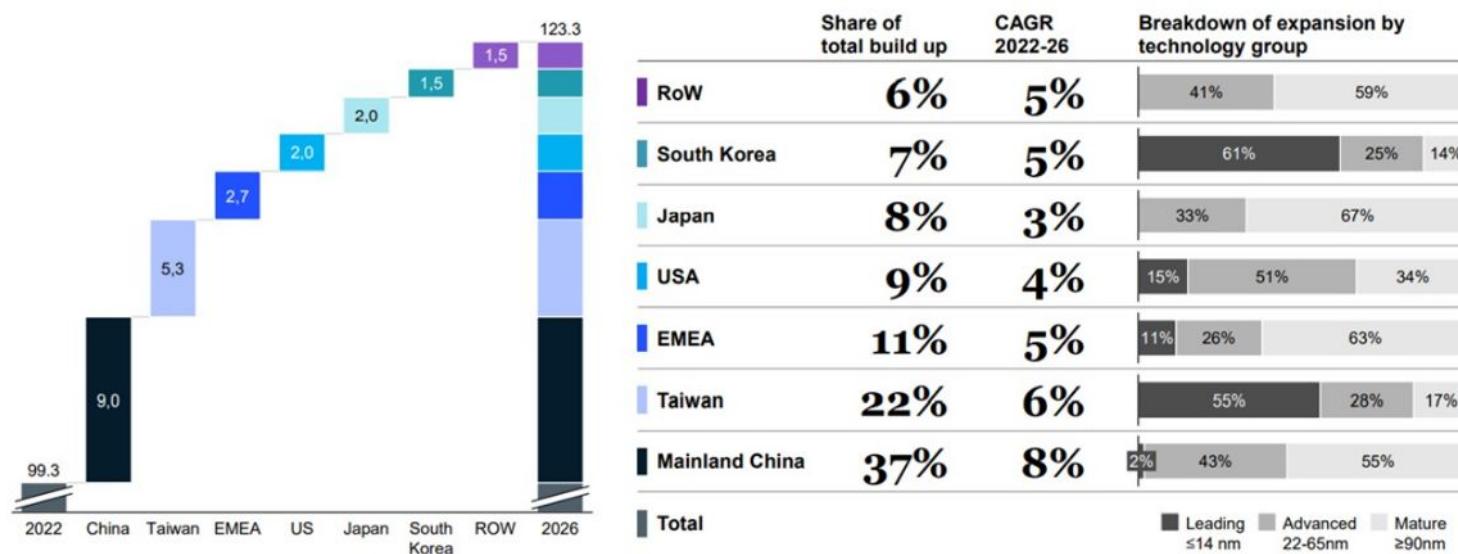
# Global Manufacturing Capacity

## Sector Overview

**Most new capacity is added in Mainland China and Taiwan, leading edge capacity expansion mainly in South Korea and Taiwan**

Non-memory only

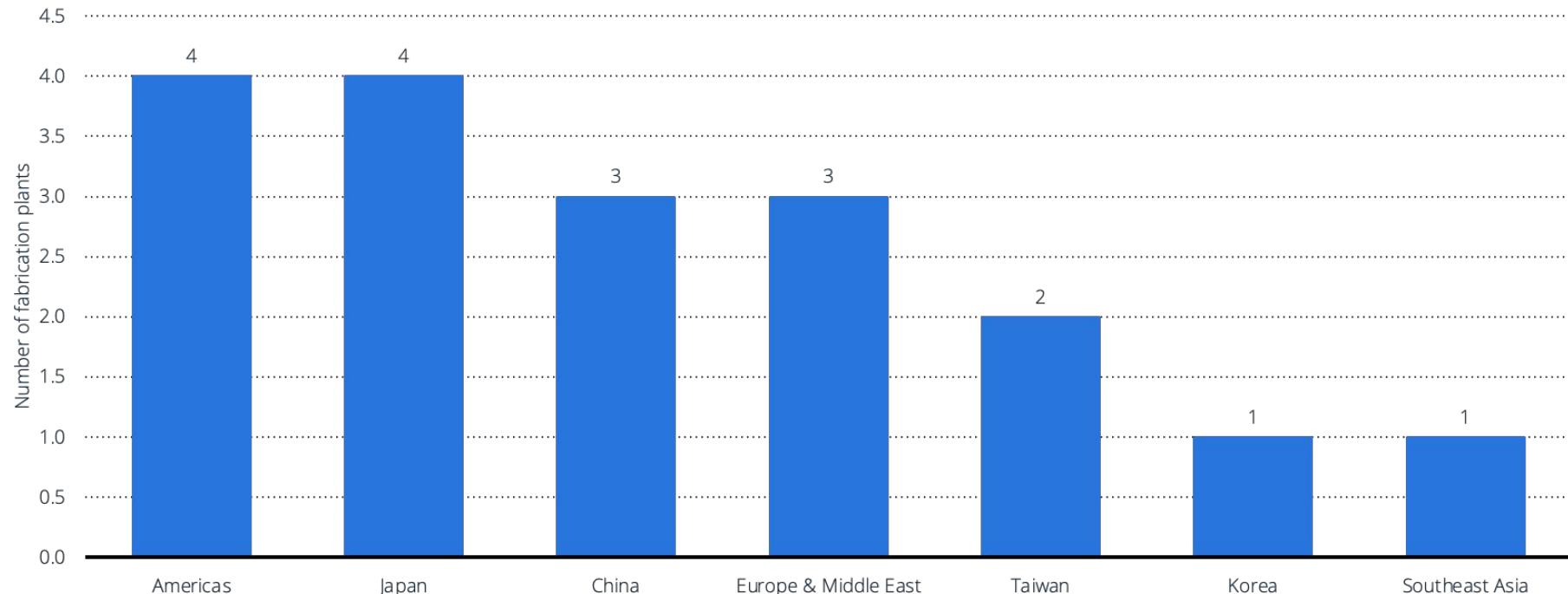
Share of 2022-2026 semiconductor manufacturing capacity build-up by regions, capacity in mn 300mm eq. wafers



# Global Manufacturing Capacity

## Sector Overview

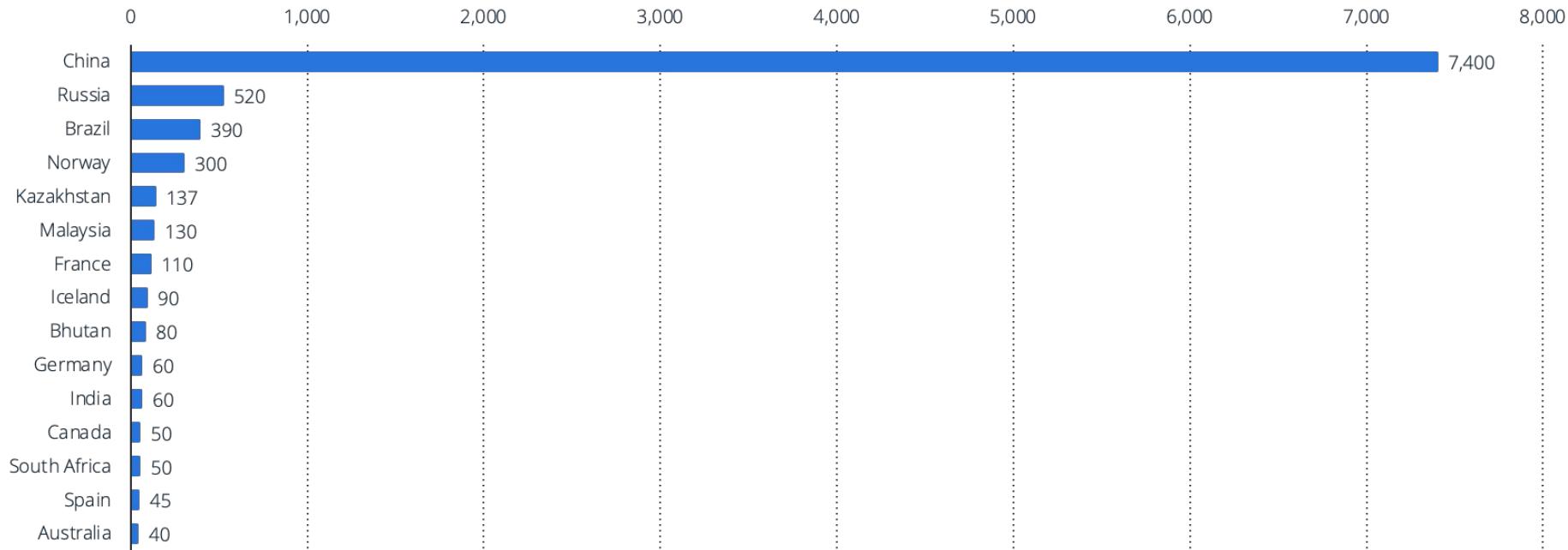
### Number of New Semiconductor Fabrication Plants Starting Construction Worldwide in 2025, by Region



# Global Manufacturing Capacity

## Sector Overview

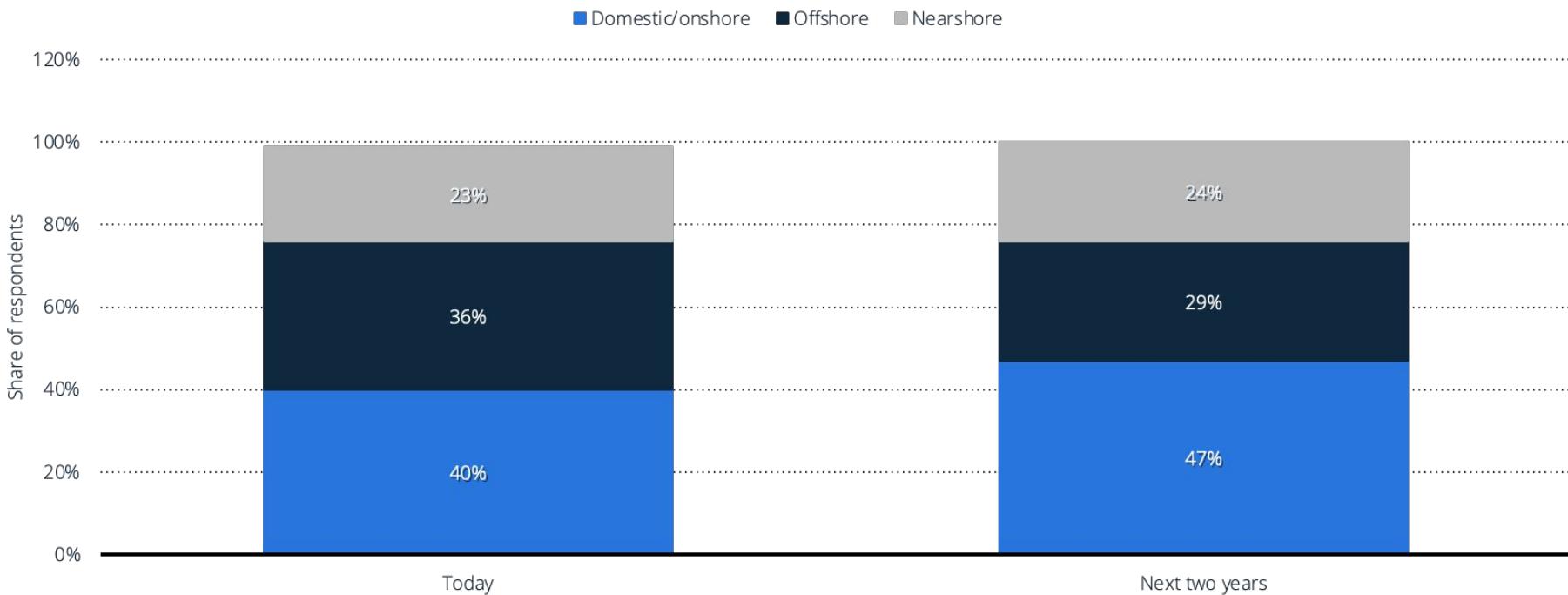
### Leading Silicon Producing Countries Worldwide in 2024



# Global Manufacturing Capacity

## Sector Overview

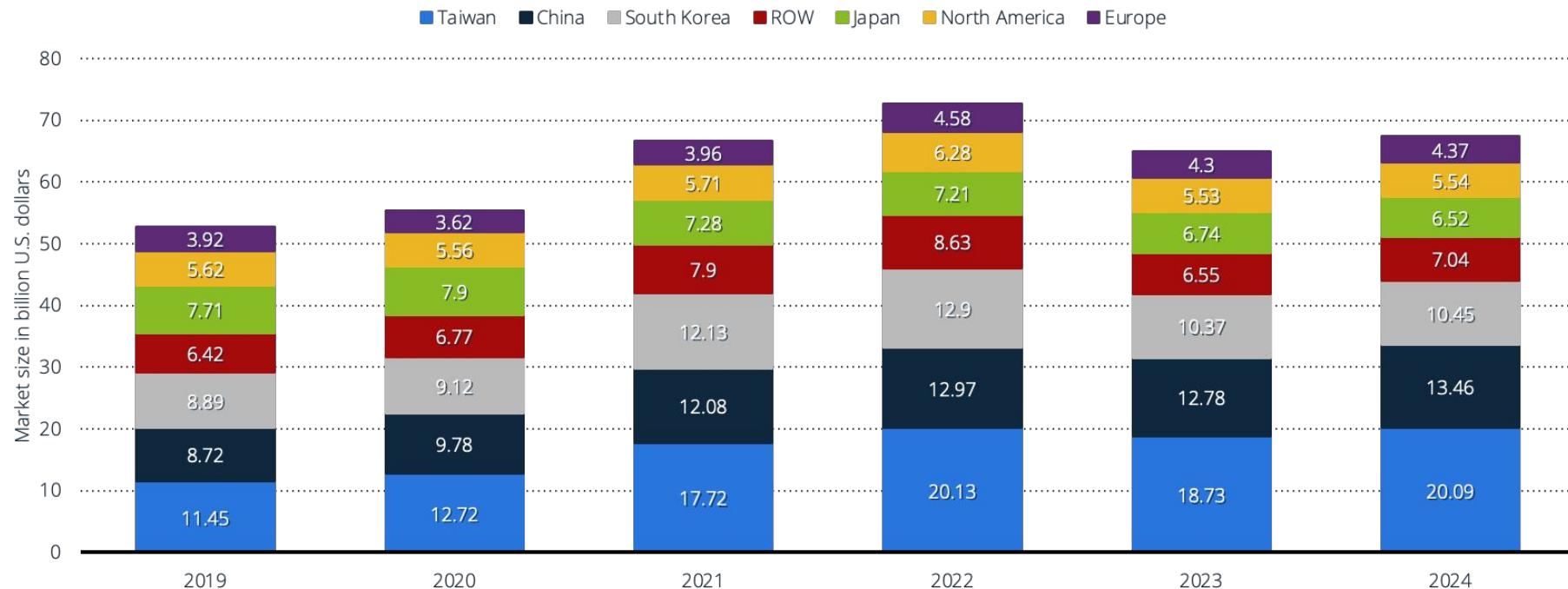
### Change in Semiconductor Sourcing Capacity Over the Next Two Years Worldwide as of 2024



# Global Manufacturing Capacity

## Sector Overview

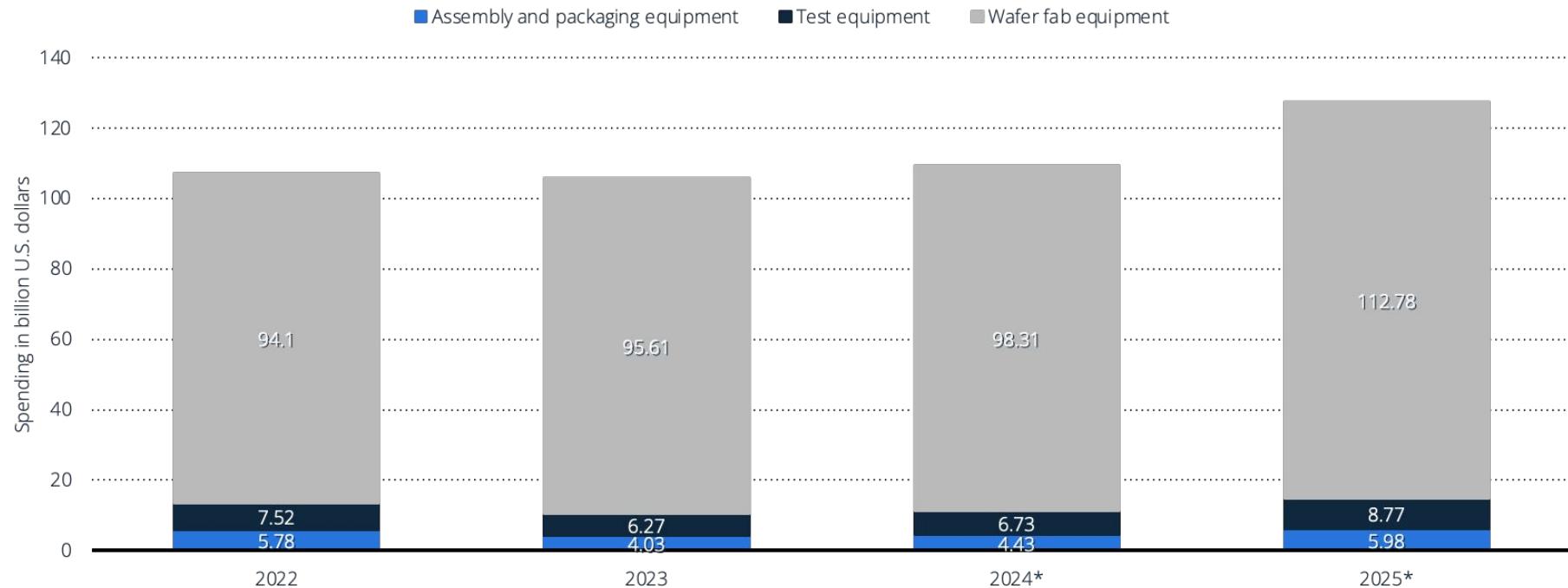
### Semiconductor Materials Market Revenue Worldwide From 2019 to 2024, by Region



# Global Manufacturing Capacity

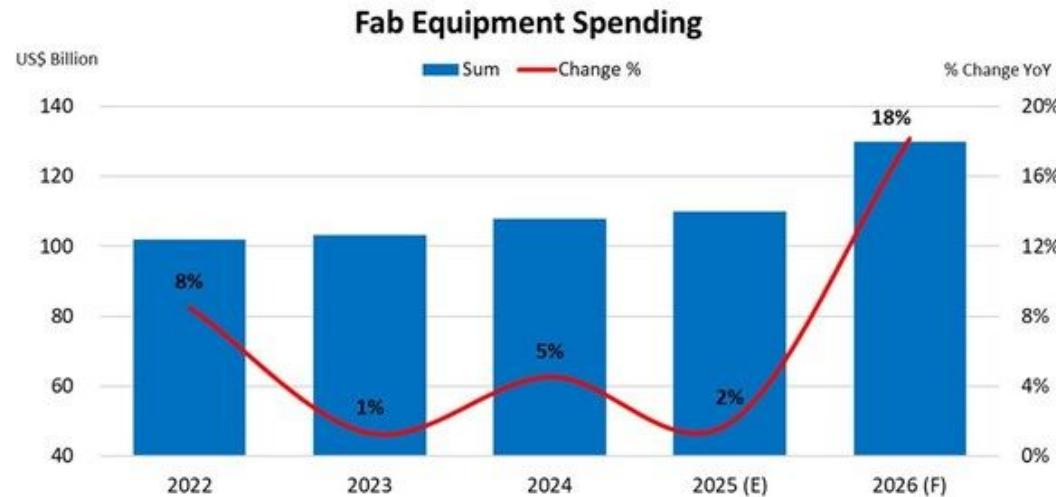
## Sector Overview

### Semiconductor Equipment Spending Worldwide 2022 to 2025, by Segment



# Global Manufacturing Capacity

## Sector Overview



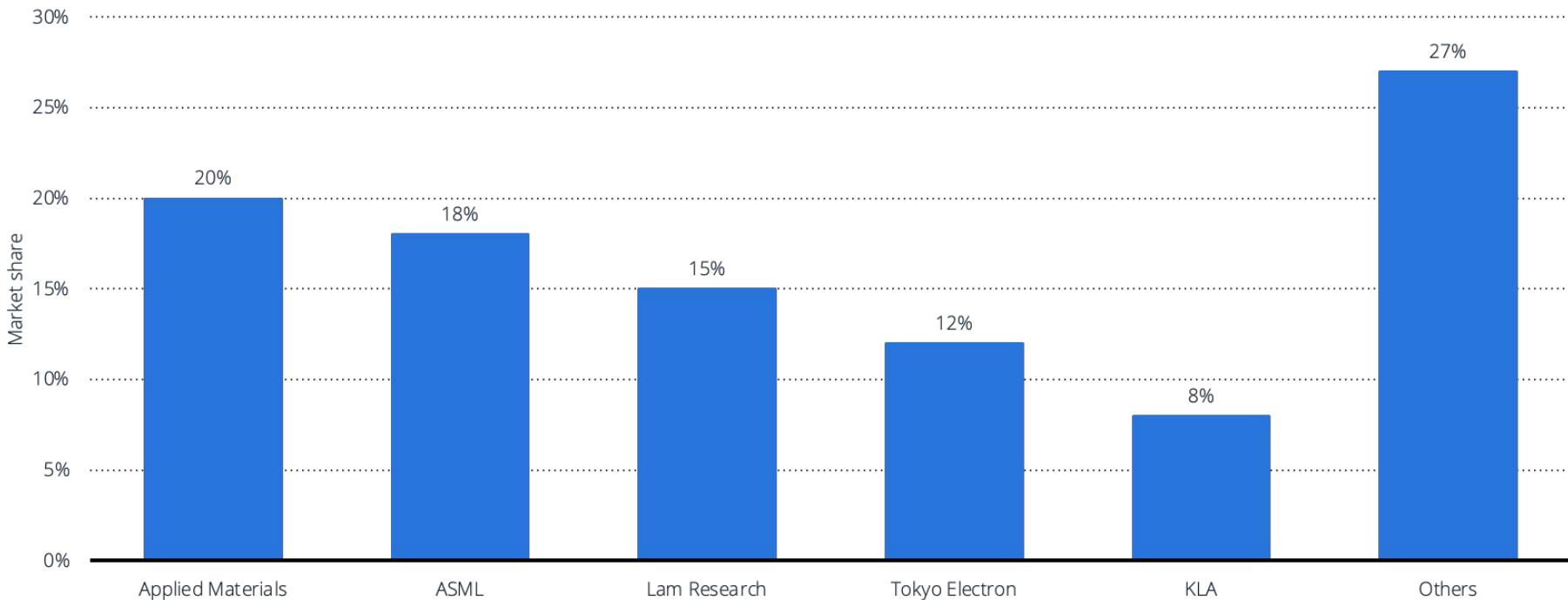
Source: World Fab Forecast Report, 1Q25 Update, Published By SEMI

*Global fab equipment spending for front-end facilities in 2025 is anticipated to increase by 2% year-over-year (YoY) to \$110 billion, marking the sixth consecutive year of growth since 2020.*

# Global Manufacturing Capacity

## Sector Overview

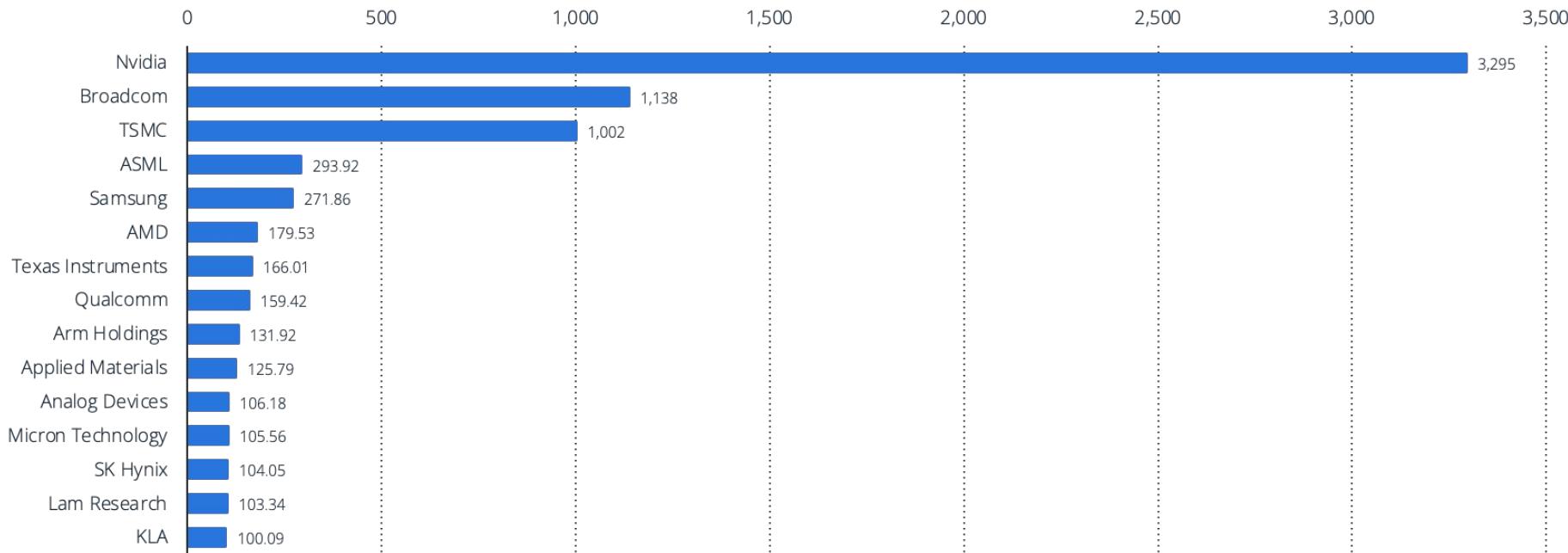
### Semiconductor Wafer Fabrication Equipment (WFE) Vendor Market Share Worldwide in 2023



# Industry Leaders

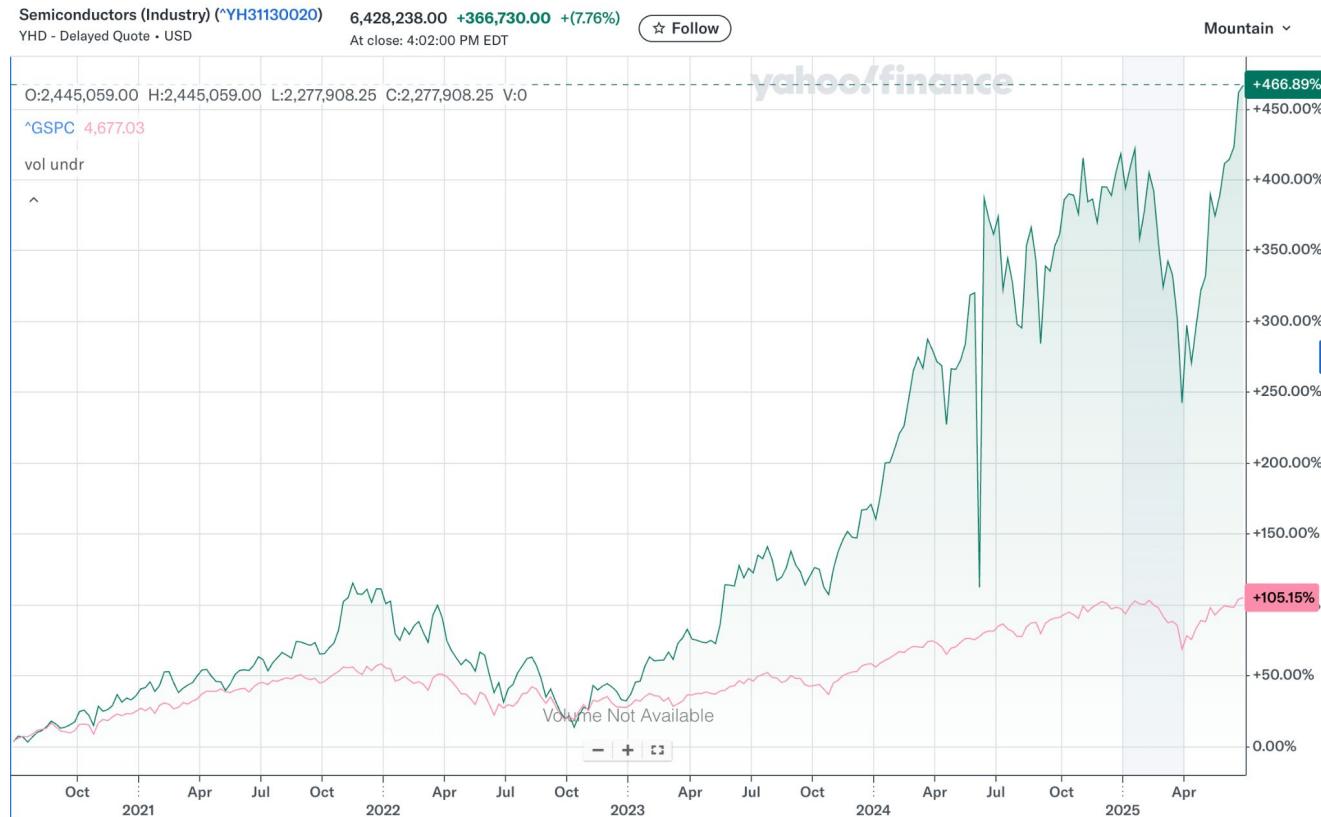
## Sector Overview

**Leading Semiconductor Companies Worldwide in 2025, by Market Capitalization**



# Industry Stock Performance

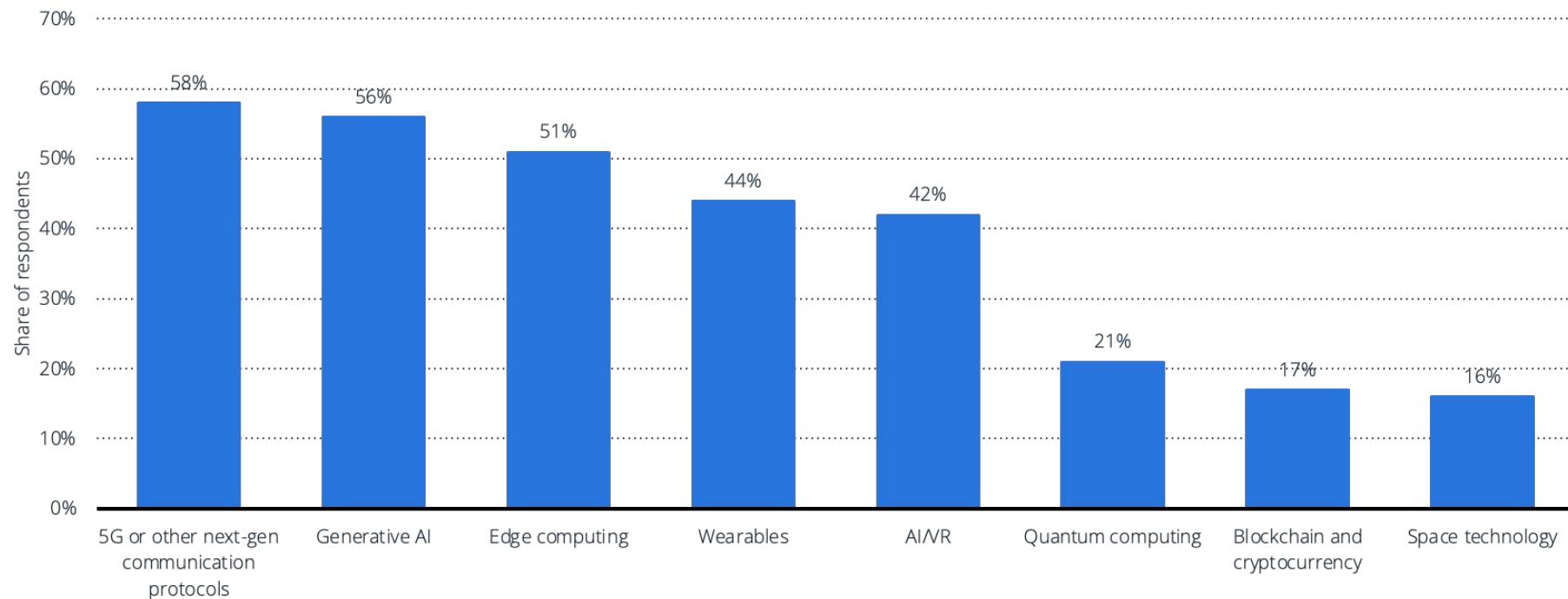
## *Sector Overview*



# Semiconductor Trends

## Sector Overview

### Technological Drivers of Semiconductor Manufacturing Strategies Worldwide in 2024



# Semiconductor Trends

## Sector Overview

### Long-term Growth Drivers

**~2000 USD**

expected semiconductor content per car due to ADAS and electrification (currently 500 USD)

**5 ppt**

increase in semiconductor content for the average phone in 2030 due to **5G**

**10%**

increase in average selling price of smartphones due to rise in discretionary income **until 2030**

**2x**

**Hyperscaler capex** until 2026

**>20% p.a.**

continued growth in the **smart speaker** market

**25%**

expected smart home penetration **by 2025** (currently 10%)

**>10%**

growth in the **industrial IoT** market driven by, e.g., AI and ESG

**40% p.a.**

CAGR growth for related hardware platforms driven by **Metaverse**

**>25% p.a.**

**mobile data traffic** growth over the coming years

# Semiconductor Trends

## Sector Overview

### Key Semiconductor Industry Trends 2025

#### Generative AI Accelerator Chips



Generative and traditional AI chips, including lightweight versions, are increasingly used in computers, smartphones, and other edge devices such as IoT applications.

#### Talent Shortage



The industry needs to add 1 million skilled workers by 2030 (100,000 annually) and talent challenge intensifies as countries globally are not producing enough skilled workers to meet demand.

#### Shift-Left Design



Testing, verification, and validation are moved up earlier in the process as optimization evolves from simple PP metrics to system-level metrics.

#### Resilient Supply Chain and Escalating Political Tension



Geopolitical tensions, export controls, material restrictions, and climate-related disruptions are making supply chain complex and vulnerable.

# Semiconductor Trends

## Sector Overview

### Signposts for the Future

**Gen AI Monetization** – Mismatch between high spending on semiconductors for Gen AI and companies ability to monetize offerings. If belief that “underinvesting is riskier than overinvesting” changes, demand becomes weak.

**Startup Threat** – Agile chip startups raised US \$7.6 billion in late 2024, challenging incumbents with specialized solutions, including RISC-V-based applications, chiplets, LLM chips, photonic ICs, chip design, and chip equipment.

**Shifting Merger and Acquisition Landscape** – Falling interest rates fuel more chip industry merger and acquisition especially in AI and IP companies, but together global regulations and trade tensions may limit activities.

**Escalating Geopolitical Risks** – Geopolitical conflicts, export controls, and shifting alliances could disrupt semiconductor supply chains and demand planning pushing companies to be more agile in sourcing and pricing.

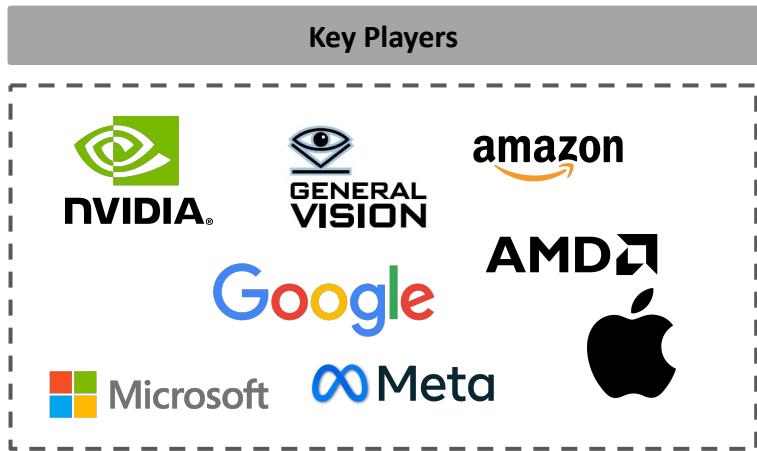
**Overreliance on AI Capital Expenditures** – Capital expenditures and revenue growth driven by AI and advanced wafers, but weak demand from auto and consumer sectors means slowdown in AI investment across supply chain.

# AI Chip Market

## Sector Overview

PRECEDENCE  
RESEARCH

ARTIFICIAL INTELLIGENCE (AI) CHIP MARKET SIZE, 2023 TO 2032 (USD BILLION)



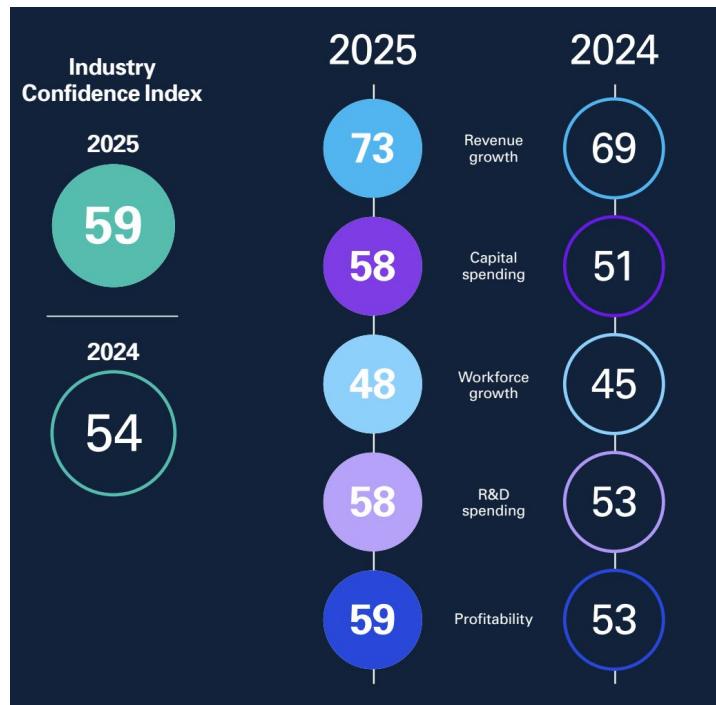
CAGR of 29.72% from 2023 to 2032

North America will lead the global AI chip market during the forecast period 2023 to 2032

# Industry Outlook

## Sector Overview

### 2025 Semiconductor Industry Confidence Index



#### Summary

The Semiconductor Industry Confidence Index (ICI) score rose to 59 for 2025, exceeding last year's score of 54, due to increased confidence across all factors. A value above 50 indicates a more positive outlook than negative.

Strongest:  
Company revenue growth (73)

Weakest:  
Workforce growth (48)

Biggest positive shift:  
Capital expenditure (58), followed by profitability change of the global semiconductor industry next year (59)

# Industry Outlook

## Sector Overview

## Key Findings

### INDUSTRY ISSUES AND STRATEGIC PRIORITIES



**Territorialism/Tariffs and talent risk** tied as the biggest issues facing the semiconductor industry over the next three years.

**Supply chain flexibility and talent development/retention** tied as the top strategic priorities over the next three years, followed by digital transformation and implementing generative artificial intelligence (GenAI).



**As nontraditional semiconductor companies** (tech giants, platform companies, and automotive companies) expand their chip capabilities, executives are most concerned that there will be increased competition for talent as new competitors emerge.

### GROWTH APPLICATIONS AND PRODUCTS

**Microprocessors, including GPUs,** again ranked as the top product opportunity for industry growth over the next year.

**#1** **AI** has become the most important application driving semiconductor revenue for the first time, and cloud/data centers has risen to second.

**Automotive**, which topped the survey for the last two years as the most important revenue driver, fell to fourth place this year.

### FINANCIAL EXPECTATIONS



**86%** project their company's revenue will grow in 2025.

**63%** expect to increase semiconductor capital spending.

**72%** predict an increase in R&D spending.

### OPERATIONAL EXPECTATIONS



**Increasing geographical diversity**

is the top change leaders expect to make to improve their company's supply chain agility and resiliency.

**Reducing on-hand inventory levels** is the number one response to the current economic environment.

**29%** say an **excess supply** of semiconductor inventory already exists, while another

**25%** believe **demand will match supply** for the next four years due to emerging technologies.

# NASDAQ: AMD

# Key Info



Source: XX

# Valuation Multiples



## Valuation Measures

Annual 

Quarterly 

Monthly 

	Current	3/31/2025	12/31/2024	9/30/2024	6/30/2024	3/31/2024
Market Cap	224.45B	166.88B	195.92B	266.30B	262.18B	291.70B
Enterprise Value	221.87B	163.96B	193.62B	263.21B	259.15B	288.93B
Trailing P/E	101.04	102.74	106.89	195.33	235.09	340.55
Forward P/E	37.17	22.08	24.27	30.12	47.39	53.76
PEG Ratio (5yr expected)	0.76	0.41	0.31	0.42	1.49	0.73
Price/Sales	8.15	6.52	8.13	11.55	11.61	12.93
Price/Book	3.88	2.90	3.44	4.71	4.67	5.22
Enterprise Value/Revenue	8.00	6.36	7.97	11.31	11.37	12.74
Enterprise Value/EBITDA	37.15	31.18	40.51	60.31	62.54	69.64

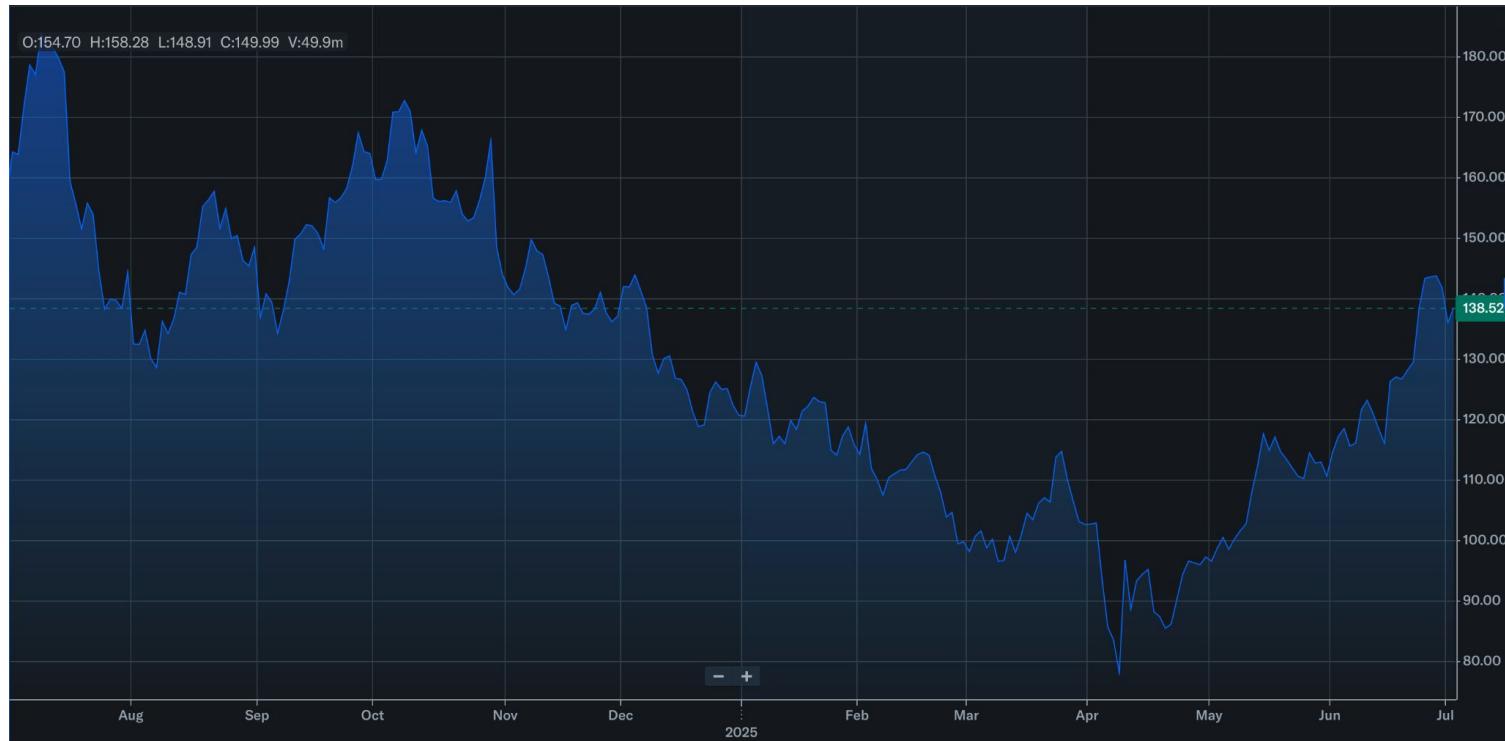
# Institutional Investors

## Top Institutional Holders

Holder	Shares	Date Reported	% Out
Vanguard Group Inc	152.37M	Mar 31, 2025	9.40%
Blackrock Inc.	134.55M	Mar 31, 2025	8.30%
State Street Corporation	71.49M	Mar 31, 2025	4.41%
Geode Capital Management, LLC	36.18M	Mar 31, 2025	2.23%
Morgan Stanley	29.63M	Mar 31, 2025	1.83%
NORGES BANK	23.74M	Dec 31, 2024	1.46%
UBS AM, a distinct business unit of UBS ASSET MANAGEMENT AMERICAS LLC	21.36M	Mar 31, 2025	1.32%
Amundi	17.83M	Mar 31, 2025	1.10%
Northern Trust Corporation	16.48M	Mar 31, 2025	1.02%
Barclays Plc	14.48M	Mar 31, 2025	0.89%

# Performance

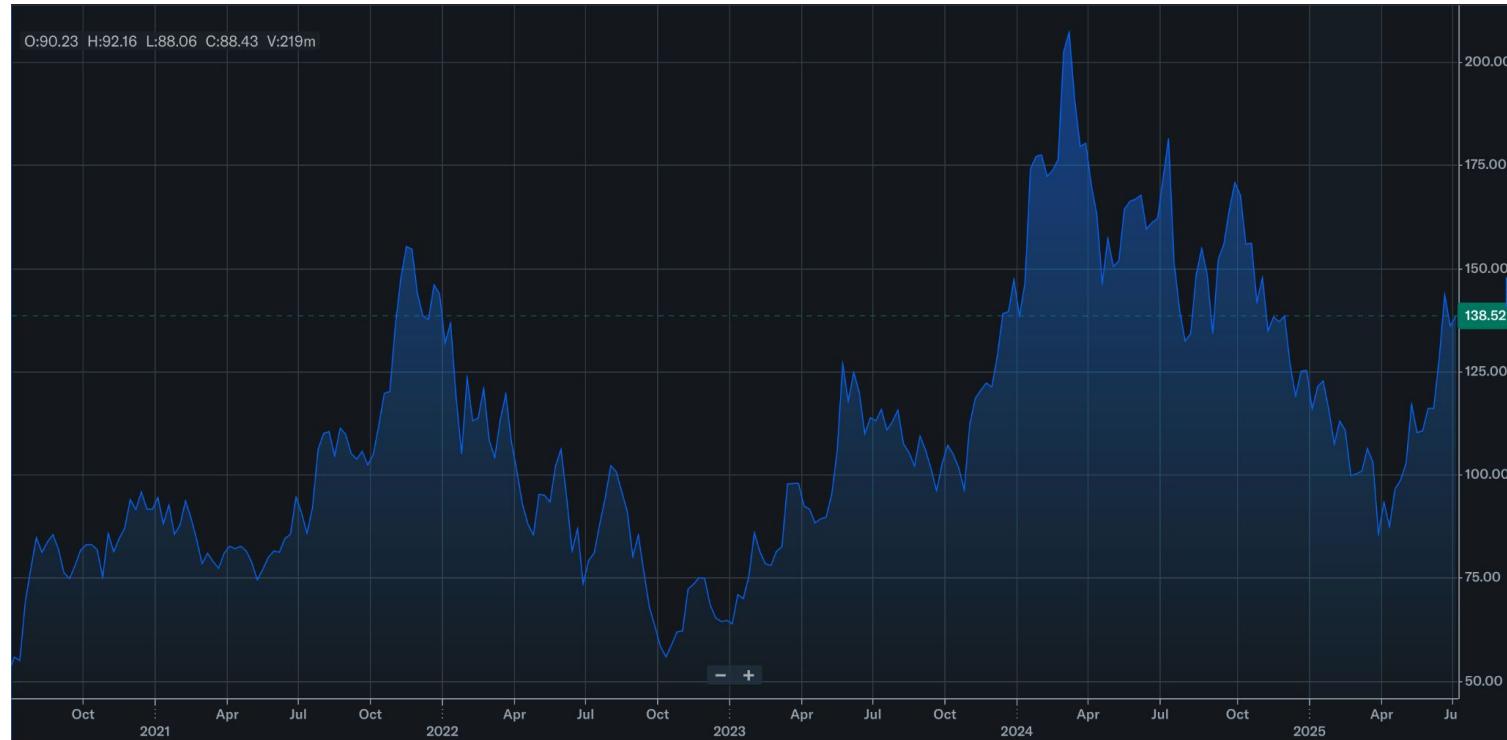
# 1 Year Chart



# 1 Year Chart Vs NVDA & TSM



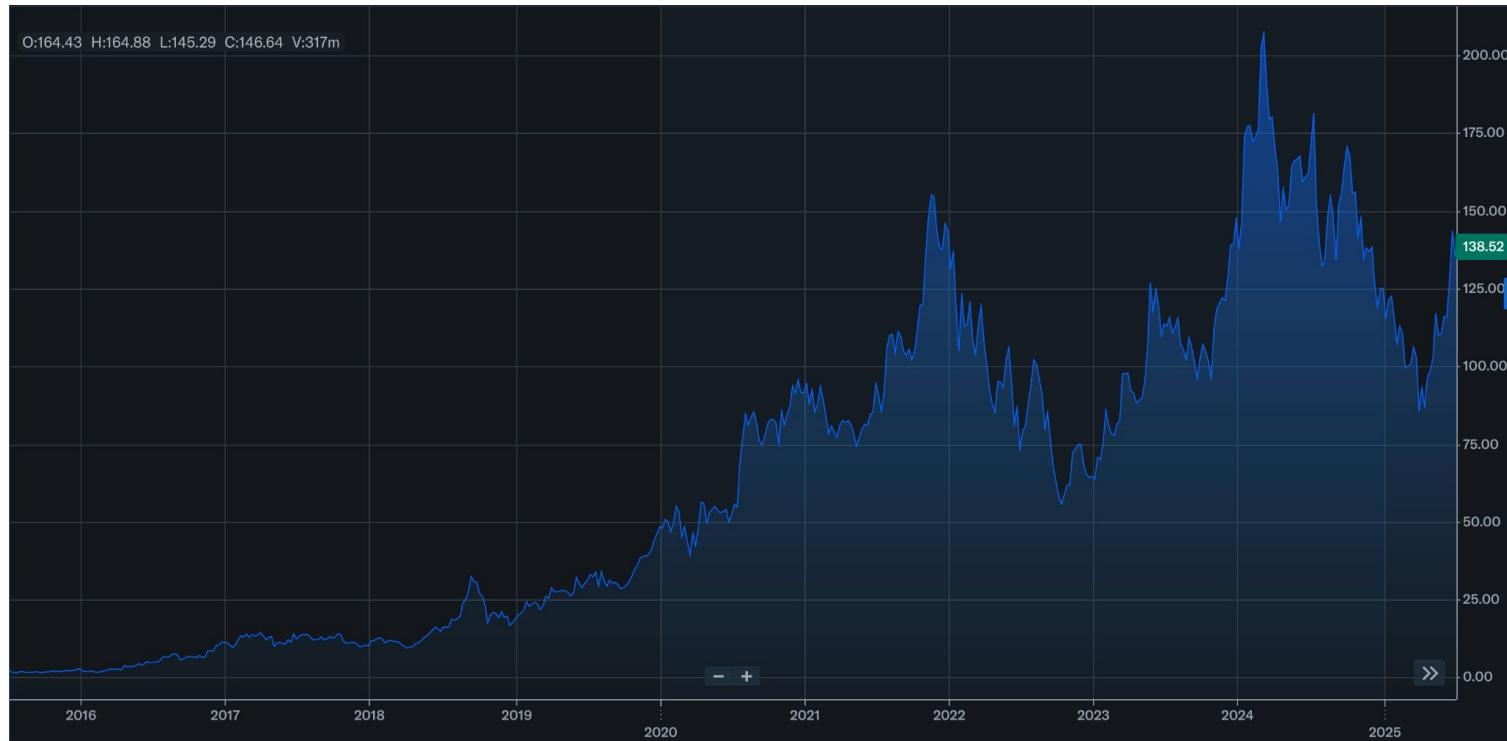
# 5 Year Chart



## 5 Year Chart Vs NVDA & TSM



# 10 Year Chart

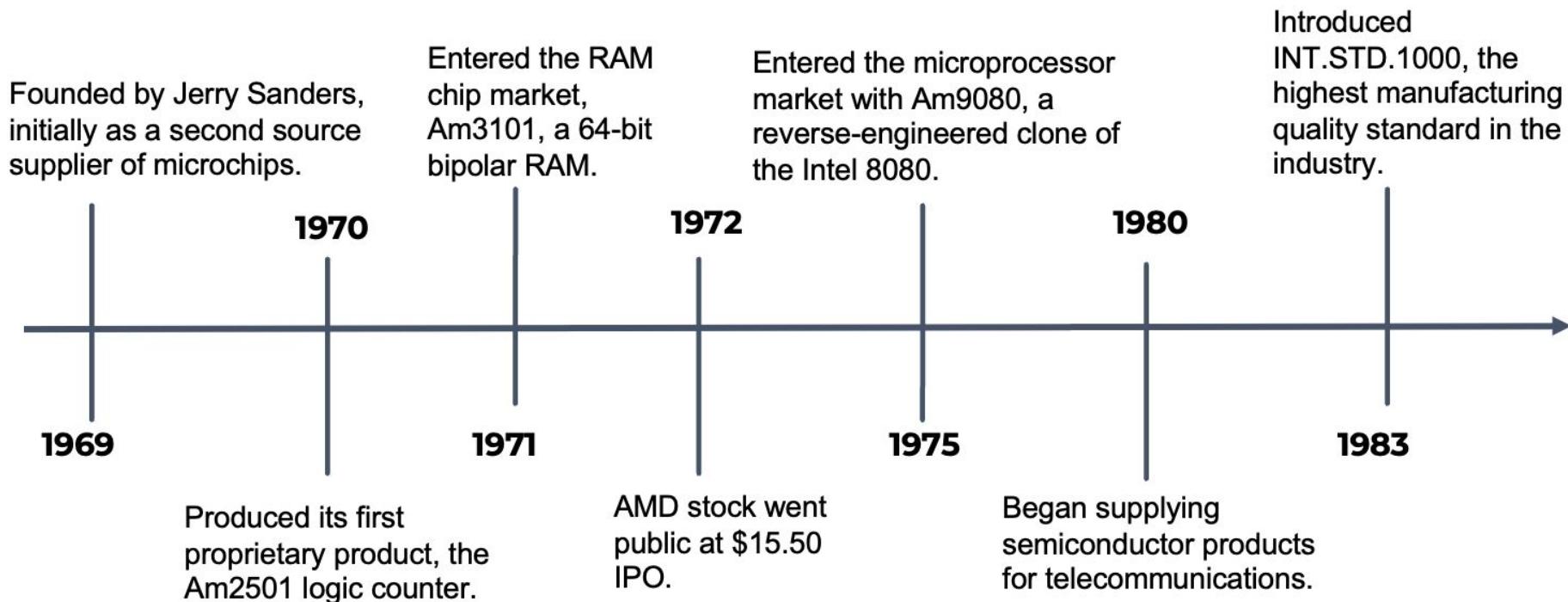


# 10 Year Chart Vs NVDA & TSM



# Timeline

# Timeline



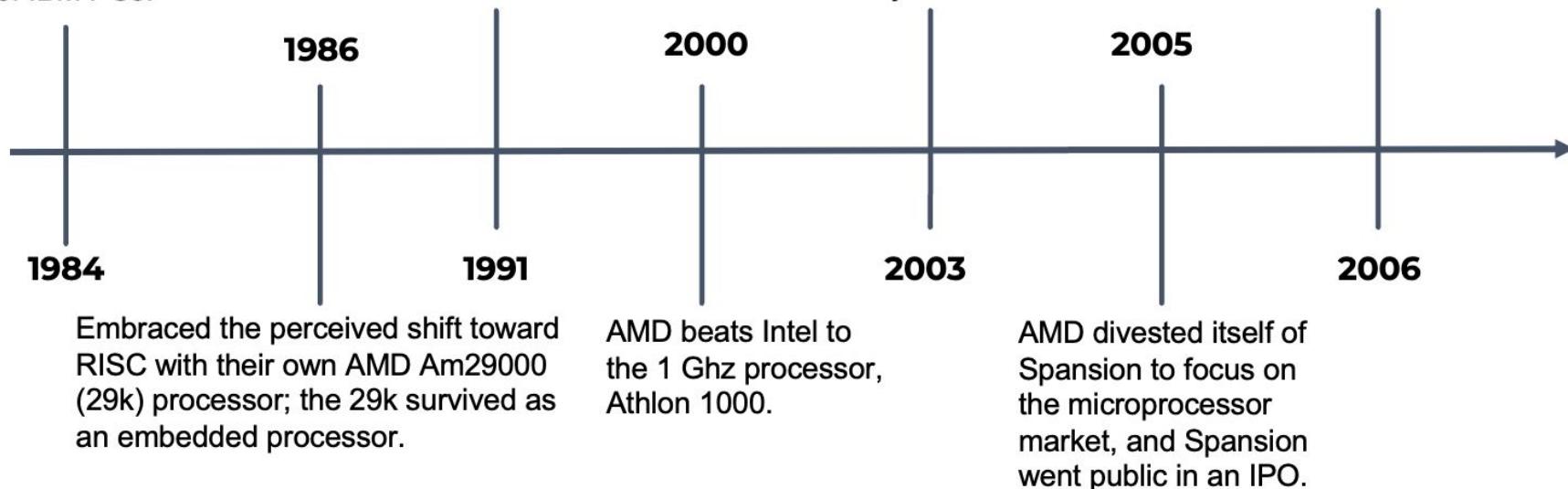
# Timeline

Began volume-producing its own Am286 clone of Intel's 80286 processor, for the rapidly growing market of IBM PCs.

Creating its own chips, AMD began to compete directly with Intel.

AMD spun off its flash memory business and manufacturing into Spansion, a joint venture with Fujitsu.

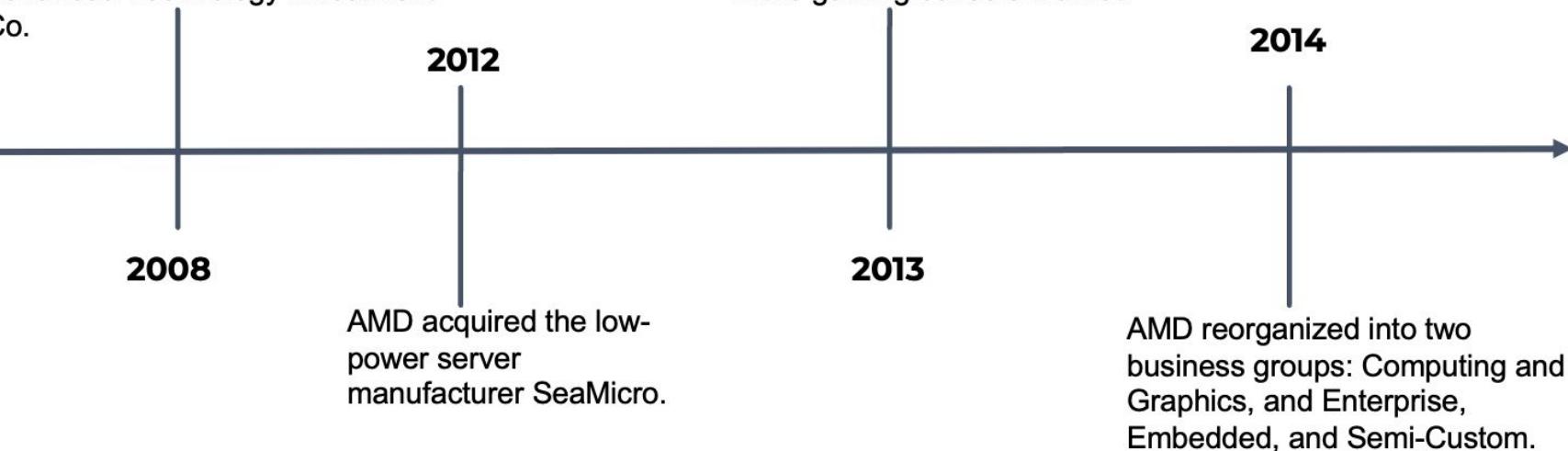
Acquisition of the Canadian 3D graphics card company ATI Technologies.



# Timeline

AMD announced plans to spin off manufacturing operations in the form of GlobalFoundries Inc., a multibillion-dollar joint venture with Advanced Technology Investment Co.

The AMD Jaguar microarchitecture releases, being used in both the PS4 and Xbox One, securing the position in the gaming console market.



# Timeline

Release of Ryzen 7 1700, was very popular among PC gamers.

Release of Ryzen 9 4900HS, established the company as having the clear technological edge over Intel.

2022

2017

2019

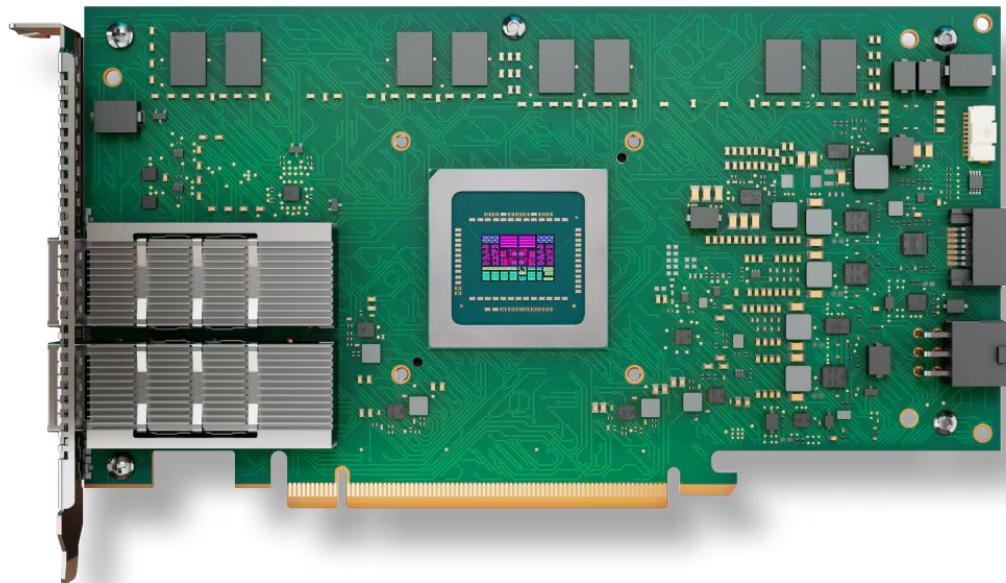
2020

Release of Ryzen 9 3950X, highest threaded CPU at the time.

Release of AMD's Ryzen 7 5800X3D, currently best-selling processor. Acquisition of Xilinx in an all-stock transaction of approx \$50B.

# 2022 - Present

- Acquisition of Pensando (2022)
  - DPU maker (Data Processing Unit)
  - Helper chips for main CPU
    - Eg. Manage network traffic
  - Increases competition in data centers
- MI300A (2023)
  - First “Accelerated processing unit”
  - Combines a GPU and CPU on one chip
- MI300X (2023)
  - AI specific GPU accelerator
  - 192 GB of memory (better than H100)



## Present

- MI350 Series
  - Latest GPU accelerator
- Acquisition of ZT Systems

# Company Info

# Company Overview

## Overview

We are a global semiconductor company primarily offering:

- server microprocessors (CPUs) and graphics processing units (GPUs), data processing units (DPUs), Field Programmable Gate Arrays (FPGAs), and Adaptive System-on-Chip (SoC) products for data centers;
- CPUs, accelerated processing units (APUs) that integrate CPUs and GPUs, and chipsets for desktop and notebook personal computers;
- discrete GPUs, and semi-custom SoC products and development services; and
- embedded CPUs, GPUs, APUs, FPGAs, and Adaptive SoC products.

From time to time, we may also sell or license portions of our intellectual property (IP) portfolio.

---

Our four reportable segments are:

- the Data Center segment, which primarily includes server CPUs and GPUs, DPUs, FPGAs, and Adaptive SoC products for data centers;
- the Client segment, which primarily includes CPUs, APUs, and chipsets for desktop and notebook personal computers;
- the Gaming segment, which primarily includes discrete GPUs, semi-custom SoC products and development services; and
- the Embedded segment, which primarily includes embedded CPUs, GPUs, APUs, FPGAs and Adaptive SoC products.

# The Product

- GPU (Graphics Processing Unit)
  - Electronic circuit
  - Graphics (gaming, images, videos)
- GPU Accelerator
  - Super computing
  - AI
  - AMD MI355X
- Heavy Competition with NVDA
- Buyers
  - Gamers
  - PC users
  - Data Centers
    - Dependent on AI Success



# MD&A

# Geographic Breakdown (10K)

	Year Ended		
	December 28, 2024	December 30, 2023	December 31, 2022
	(In millions)		
United States	8,693	7,837	8,049
China (including Hong Kong)	6,231	3,417	5,207
Singapore	3,614	2,231	1,380
Taiwan	3,301	1,841	2,369
Japan	1,767	4,629	4,177
Europe	1,625	2,030	1,773
Other regions	554	695	646
Total sales to external customers	\$ 25,785	\$ 22,680	\$ 23,601

The following table summarizes sales to a major customer that accounted for at least 10% of the Company's consolidated net revenue for the respective years:

	Segment	Year Ended		
		December 28, 2024	December 30, 2023	December 31, 2022
Customer A	Gaming	*	18 %	16 %

\* Less than 10%

## Calculations

2022	2023	2024 (10%)
\$3,776.16	\$4,082.40	>\$2,578.5

# Revenue Breakdown (10K)

	Year Ended	
	December 28, 2024	December 30, 2023
	(In millions)	
Net revenue:		
Data Center	\$ 12,579	\$ 6,496
Client	7,054	4,651
Gaming	2,595	6,212
Embedded	3,557	5,321
Total net revenue	<u><u>\$ 25,785</u></u>	<u><u>\$ 22,680</u></u>
Operating income (loss):		
Data Center	\$ 3,482	\$ 1,267
Client	897	(46)
Gaming	290	971
Embedded	1,421	2,628
All Other	(4,190)	(4,419)
Total operating income	<u><u>\$ 1,900</u></u>	<u><u>\$ 401</u></u>

- Significant growth in data center segment
  - Taking market share from NVIDIA could bolster revenues
- Large decline in gaming revenue
  - Cyclicality in gaming cycle

# Revenue Breakdown (10Q)

	Three Months Ended	
	March 29, 2025	March 30, 2024
	(In millions)	
<b>Net revenue:</b>		
Data Center	\$ 3,674	\$ 2,337
Client and Gaming		
Client	\$ 2,294	1,368
Gaming	647	922
Total Client and Gaming	2,941	2,290
Embedded	823	846
<b>Total net revenue</b>	<b>\$ 7,438</b>	<b>\$ 5,473</b>
<b>Cost of sales and operating expenses:</b>		
Data Center	\$ 2,742	\$ 1,796
Client and Gaming	2,445	2,053
Embedded	495	504
All other	950	1,084
<b>Total cost of sales and operating expenses</b>	<b>\$ 6,632</b>	<b>\$ 5,437</b>
<b>Operating Income (Loss):</b>		
Data Center	\$ 932	\$ 541
Client and Gaming	496	237
Embedded	328	342
All other	(950)	(1,084)
<b>Total operating income</b>	<b>\$ 806</b>	<b>\$ 36</b>

# What is a Data Center?



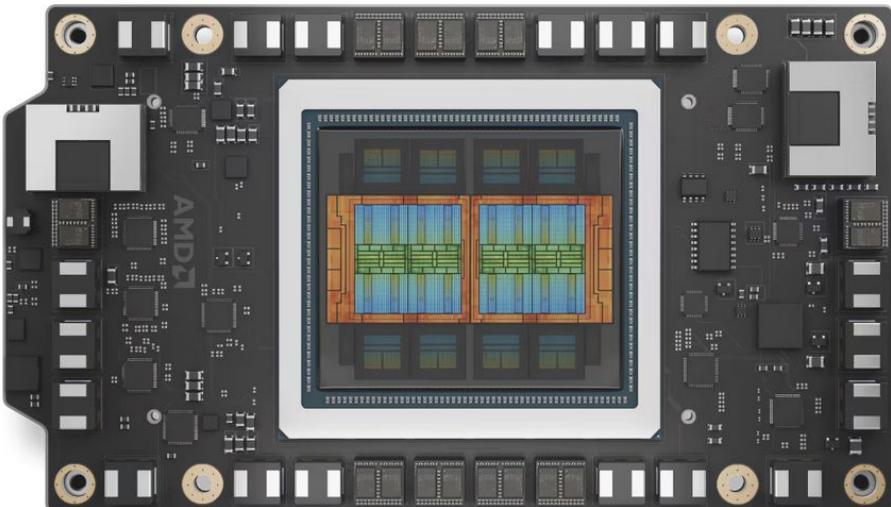
- Purpose
  - Store data
  - Compute information
- Components
  - **Servers**
  - Storage
  - Network
  - Cooling

# Acquisition of ZT Systems

- **Cost**
  - \$3.375B
  - Issued \$1.5B debt
  - Issued ~8M shares
- **Benefit**
  - Fully integrated systems
  - Data center competition



# MI355X Chip

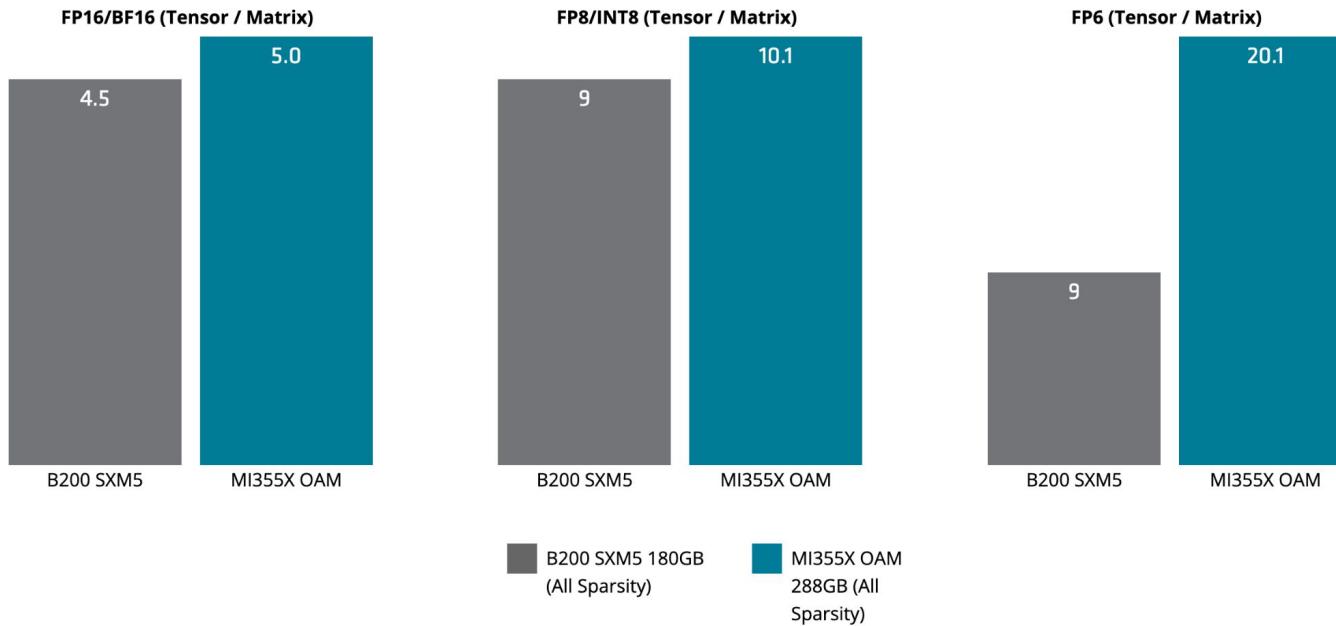


- Computing
  - Higher speed and efficiency than B200
- Memory
  - 288 GB
  - 8 TB/S bandwidth

# MI355X Vs B200 (PFLOPS)

## AI Performance (Peak PFLOPs)

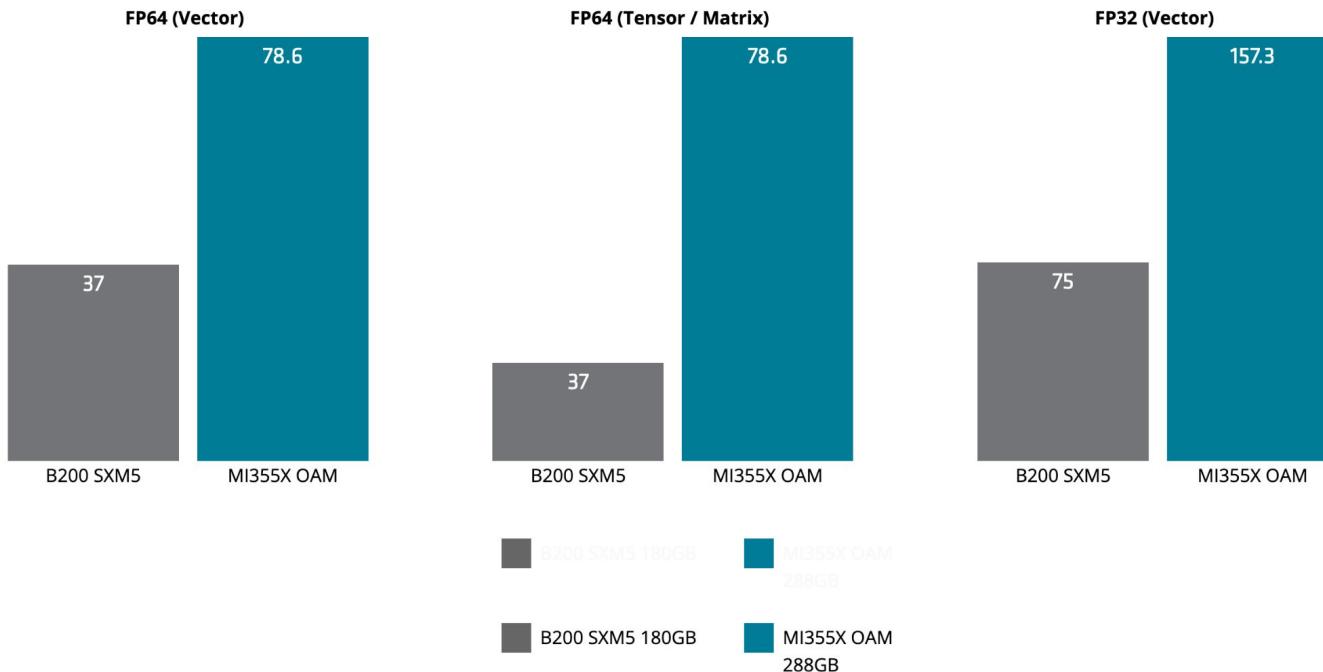
Up to 2.1X the AI performance vs. competitive accelerators<sup>1</sup>



# MI355X Vs B200 (TFLOPS)

## HPC Performance (Peak TFLOPs)

Up to 3.9X the HPC performance vs. competitive accelerators<sup>2</sup>

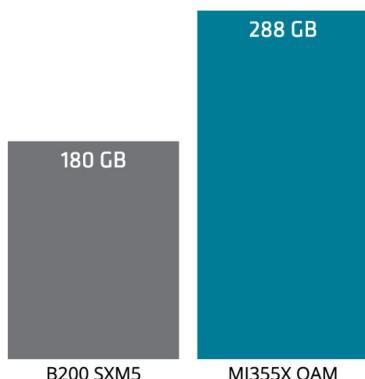


# MI355X Vs B200

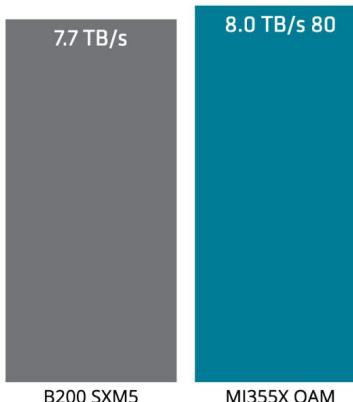
## Memory Capacity & Bandwidth

1.6X Memory Capacity vs. competitive accelerators<sup>3</sup>

Memory Capacity



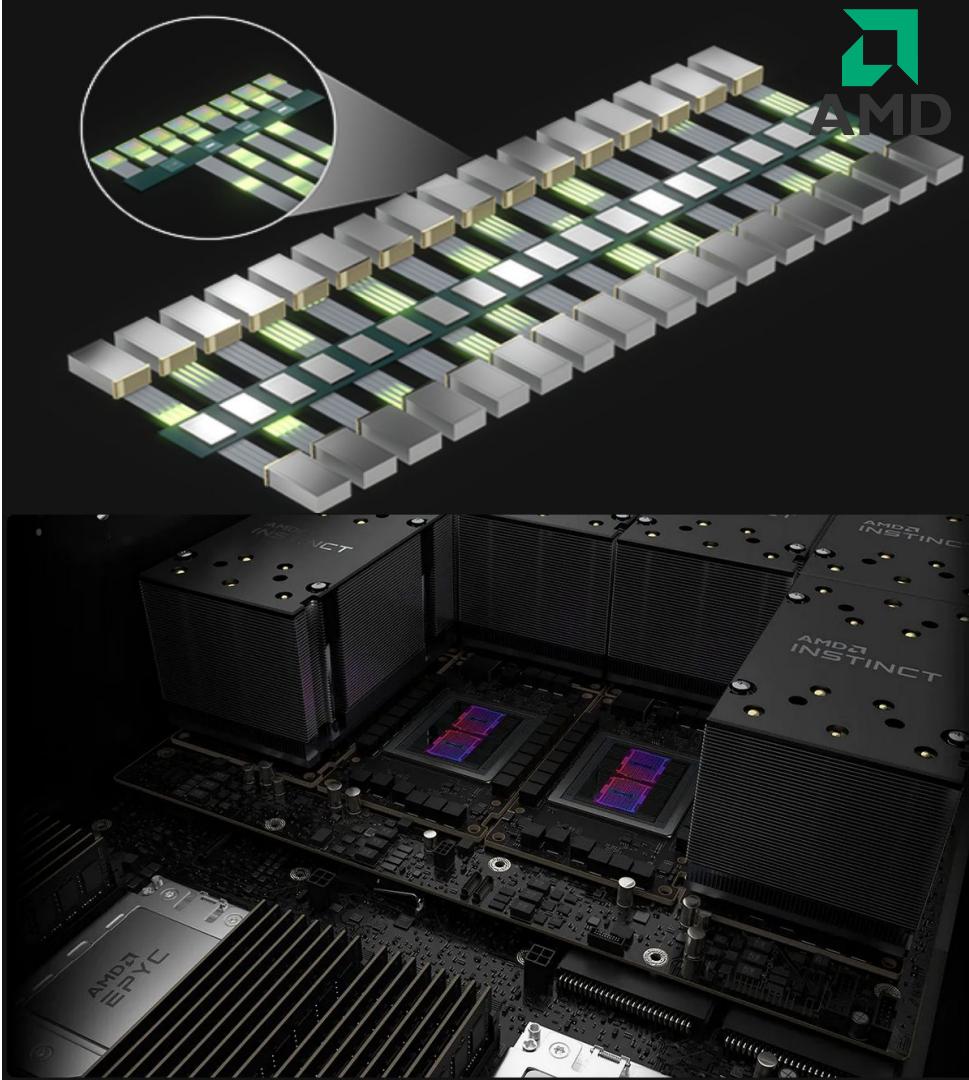
Memory Bandwidth



 B200 SXM5 180GB       MI355X OAM  
288GB

# Infinity Fabric Vs NVLink

- High bandwidth interconnects
  - Strenuous tasks require GPU communication
  - Highway for GPU communication
- NVLink (NVIDIA)
  - NVIDIA GPUs only
  - Each GPU shares a memory
  - Hundreds of GPUs can connect
  - Ideal for **building** AI models
- Infinity Fabric (AMD)
  - Can connect GPUs or CPUs
  - AMD products only
  - Good for **running** AI models (memory)
  - Lower interconnected Bandwidth
  - Bottleneck at >2 GPUs
  - More versatility, less speed



# Infinity Fabric Vs NVLink

## Performance Comparison

Feature	NVLink	Infinity Fabric
Peak Bandwidth (per GPU)	900 GB/s (NVLink 4.0)	576 GB/s (CDNA 2)
Latency	Lower (optimized for GPU-GPU)	Higher (designed for CPU-GPU)
Scalability	Excellent for large GPU clusters	Better for mixed CPU-GPU systems
Use Cases	AI training, HPC, multi-GPU rendering	General-purpose compute, heterogeneous workloads

## Which One Is Better?

The choice between NVLink and Infinity Fabric depends on the workload:

- **For AI and HPC:** NVLink is often superior due to its higher bandwidth and lower latency, especially in multi-GPU NVIDIA systems like those using A100 or H100 GPUs.
- **For Mixed Workloads:** Infinity Fabric provides better flexibility when integrating AMD CPUs and GPUs, making it ideal for heterogeneous computing environments.

Both technologies continue to evolve, with NVIDIA focusing on GPU-centric acceleration and AMD emphasizing cross-platform compatibility. For the highest performance in AI and deep learning, NVLink remains the leading choice, while Infinity Fabric excels in systems leveraging AMD's full hardware stack.

# Management

# Lisa Su - Chair and Chief Executive Officer



- Bachelor's, master's, and doctorate degrees in electrical engineering from the Massachusetts Institute of Technology (MIT).
- Previously worked at IBM for 13 years as vice president of the Semiconductor Research and Development Center.
- Joined AMD in January 2012 as senior vice president and general manager, global business units.
- Prior to serving as chair and CEO, she was the chief operating officer responsible for integrating AMD's business units, sales, global operations and infrastructure teams into a single organization responsible for product strategy and execution.

# Darren Grasby - President & Chief Sales Officer



- **EVP & Chief Sales Officer at AMD:** Leads global sales for data center, commercial, consumer and embedded markets.
- **President of AMD EMEA:** Drives regional growth and market expansion.
- **17+ Years at AMD:** Instrumental in scaling global sales and strategic partnerships.
- **Tech Entrepreneur:** Founded multiple successful computer manufacturing companies pre-AMD.

# Phil Guido - Chief Commercial Officer



- **EVP & Chief Commercial Officer at AMD:** Leads strategic enterprise sales for high-performance computing and AI solutions.
- **30+ Years at IBM:** Former GM of IBM North America, driving **\$40B+ revenue** and global strategic partnerships.
- **Education:** Economics degree (Magna Cum Laude), International Business certificate (Univ. of Copenhagen).
- **Advisory Roles:** Board member at UCLA CEO Advisory Board, NPower Gala, and senior advisor at Brighton Park Capital.

# Jean Hu - Chief Financial Officer



- **EVP, CFO & Treasurer at AMD:** Leads global finance, corporate strategy, and investor relations.
- **20+ Years in Semiconductors:** Ex-CFO of Marvell, QLogic, and Conexant.
- **Education:** BS in Chemical Engineering, PhD in Economics (Claremont).
- **Board Member:** Serves on Fortinet's board (cybersecurity).

# Forrest Norrod - General Manager, Data Center Solutions



- **EVP & GM of Data Center Solutions at AMD:** Leads strategy and engineering for AMD's server and data center products.
- **30+ Years in Tech:** Former VP/GM of Dell's Server Business and CTO of Client Products.
- **Semiconductor Veteran:** Led x86 CPU businesses at National Semiconductor and Cyrix.
- **Inventor & Engineer:** Holds 11 U.S. patents in computing architecture.

# Mark Papermaster - Chief Technology Officer



- **CTO & EVP at AMD:** Leads AMD's technology vision and product roadmap, architecting "Zen" CPUs and Infinity Architecture.
- **40+ Years Engineering Leadership:** Former tech exec at Apple (iPhone/iPod), Cisco, and IBM (microprocessors/servers).
- **National Academy of Engineers Member (2025):** Recognized for breakthrough semiconductor designs.
- **CHIPS Act Advisor:** Vice Chair of U.S. Commerce Dept's Industrial Advisory Committee for semiconductor policy.

# Financials

# Balance Sheet (10Q)

**Advanced Micro Devices, Inc.**  
**Condensed Consolidated Balance Sheets**  
**(Unaudited)**

	March 29, 2025	December 28, 2024
	(In millions, except par value amounts)	
<b>ASSETS</b>		
<b>Current assets:</b>		
Cash and cash equivalents	\$ 6,049	\$ 3,787
Short-term investments	1,261	1,345
Accounts receivable, net	5,443	6,192
Inventories	6,416	5,734
Prepaid expenses and other current assets	2,426	1,991
<b>Total current assets</b>	<b>21,595</b>	<b>19,049</b>
Property and equipment, net	1,921	1,802
Goodwill	24,839	24,839
Acquisition-related intangibles, net	18,363	18,930
Deferred tax assets	845	688
Other non-current assets	3,987	3,918
<b>Total assets</b>	<b>\$ 71,550</b>	<b>\$ 69,226</b>

- Large portion of assets are intangible
  - Goodwill
  - Other intangibles (patents)

# Balance Sheet (10Q)

LIABILITIES AND STOCKHOLDERS' EQUITY			
<b>Current liabilities:</b>			
Accounts payable	\$ 2,206	\$ 2,466	2,466
Accrued liabilities	3,876	4,260	4,260
Short-term borrowings	947	—	—
Other current liabilities	674	555	555
<b>Total current liabilities</b>	<b>7,703</b>	<b>7,281</b>	<b>7,281</b>
<b>Long-term debt</b>	<b>3,217</b>	<b>1,721</b>	<b>1,721</b>
Long-term operating lease liabilities	567	491	491
Deferred tax liabilities	343	349	349
Other long-term liabilities	1,839	1,816	1,816
Commitments and contingencies (See Note 12)			
<b>Stockholders' equity:</b>			
Capital stock:			
Common stock, par value \$0.01; shares authorized: 2,250; shares issued: 1,681 and 1,680; shares outstanding: 1,616 and 1,622	17	17	17
<b>Additional paid-in capital</b>	<b>61,730</b>	<b>61,362</b>	<b>61,362</b>
Treasury stock, at cost (shares held: 65 and 58)	(6,899)	(6,106)	(6,106)
Retained earnings	3,073	2,364	2,364
Accumulated other comprehensive loss	(40)	(69)	(69)
<b>Total stockholders' equity</b>	<b>57,881</b>	<b>57,568</b>	<b>57,568</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 71,550</b>	<b>\$ 69,226</b>	<b>\$ 69,226</b>

- Debt issuance for acquisition
- APIC for acquisition
- Aggressive debt and equity financing
  - Hyper growth to compete with competitors

# Balance Sheet (10K)

		December 28, 2024	December 30, 2023
		(In millions, except par value amounts)	
<b>ASSETS</b>			
<b>Current assets:</b>			
Cash and cash equivalents		\$ 3,787	\$ 3,933
Short-term investments		1,345	1,840
Accounts receivable, net		6,192	4,323
Inventories		5,734	4,351
Receivables from related parties		113	9
Prepaid expenses and other current assets		1,878	2,312
<b>Total current assets</b>		<u>19,049</u>	<u>16,768</u>
Property and equipment, net		1,802	1,589
Operating lease right-of-use assets		623	633
Goodwill		24,839	24,262
Acquisition-related intangibles		18,930	21,363
Investment: equity method		149	99
Deferred tax assets, net		688	366
Other non-current assets		3,146	2,805
<b>Total assets</b>		<u>\$ 69,226</u>	<u>\$ 67,885</u>

# Balance Sheet (10K)

LIABILITIES AND STOCKHOLDERS' EQUITY				
<b>Current liabilities:</b>				
Accounts payable	\$	1,990	\$	2,055
Payables to related parties		476		363
Accrued liabilities		4,260		3,082
Current portion of long-term debt, net		—		751
Other current liabilities		555		438
<b>Total current liabilities</b>		7,281		6,689
Long-term debt, net of current portion		1,721		1,717
Long-term operating lease liabilities		491		535
Deferred tax liabilities		349		1,202
Other long-term liabilities		1,816		1,850
Commitments and Contingencies (see Notes 17 and 18)				
<b>Stockholders' equity:</b>				
Capital stock:				
Common stock, par value \$0.01; shares authorized: 2,250; shares issued: 1,680 and 1,663; shares outstanding: 1,622 and 1,616		17		17
Additional paid-in capital		61,362		59,676
Treasury stock, at cost (shares held: 58 and 47)		(6,106)		(4,514)
Retained earnings		2,364		723
Accumulated other comprehensive loss		(69)		(10)
<b>Total stockholders' equity</b>		57,568		55,892
<b>Total liabilities and stockholders' equity</b>	\$	69,226	\$	67,885

# Income Statement (10K)

	Year Ended		
	December 28, 2024	December 30, 2023	December 31, 2022
(In millions, except per share amounts)			
Net revenue	\$ 25,785	\$ 22,680	\$ 23,601
Cost of sales	12,114	11,278	11,550
Amortization of acquisition-related intangibles	946	942	1,448
Total cost of sales	13,060	12,220	12,998
Gross profit	12,725	10,460	10,603
Research and development	6,456	5,872	5,005
Marketing, general and administrative	2,783	2,352	2,336
Amortization of acquisition-related intangibles	1,448	1,869	2,100
Restructuring charges	186	—	—
Licensing gain	(48)	(34)	(102)
Operating income	1,900	401	1,264
Interest expense	(92)	(106)	(88)
Other income (expense), net	181	197	8
Income before income taxes and equity income	1,989	492	1,184
Income tax provision (benefit)	381	(346)	(122)
Equity income in investee	33	16	14
Net income	\$ 1,641	\$ 854	\$ 1,320

- Slight revenue increase
  - Raised by data center, lowered by gaming
- Higher R&D cost
  - Supports growth

# Income Statement (10Q)

	Three Months Ended	
	March 29, 2025	March 30, 2024
	(In millions, except per share amounts)	
Net revenue	\$ 7,438	\$ 5,473
Cost of sales	3,451	2,683
Amortization of acquisition-related intangibles	251	230
Total cost of sales	3,702	2,913
Gross profit	3,736	2,560
Research and development	1,728	1,525
Marketing, general and administrative	886	607
Amortization of acquisition-related intangibles	316	392
Total operating expenses	2,930	2,524
Operating income	806	36
Interest expense	(20)	(25)
Other income (expense), net	39	53
Income before income taxes and equity income	825	64
Income tax provision (benefit)	123	(52)
Equity income in investee	7	7
Net income	\$ 709	\$ 123

- 35% revenue increase Q1
  - Growth
- Higher operating income
  - Efficiency
- Net income ~½ 2024 in Q1

# Cash Flow Statement (10K)

	Year Ended		
	December 28, 2024	December 30, 2023	December 31, 2022
(In millions)			
<b>Cash flows from operating activities:</b>			
Net income	\$ 1,641	\$ 854	\$ 1,320
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	671	642	626
Amortization of acquisition-related intangibles	2,393	2,811	3,548
Stock-based compensation	1,407	1,384	1,081
Amortization of operating lease right-of-use assets	113	98	88
Amortization of inventory fair value adjustment	—	3	189
Deferred income taxes	(1,163)	(1,019)	(1,505)
Inventory loss at contract manufacturer	65	—	—
Other	12	(57)	64
<b>Changes in operating assets and liabilities:</b>			
Accounts receivable, net	(1,865)	(1,339)	(278)
Inventories	(1,458)	(580)	(1,401)
Prepaid expenses and other assets	343	(383)	(2,010)
Receivables from and payable to related parties, net	108	(107)	366
Accounts payable	(109)	(419)	931
Accrued and other liabilities	883	(221)	546
<b>Net cash provided by operating activities</b>	<b>3,041</b>	<b>1,667</b>	<b>3,565</b>

# Cash Flow Statement (10K)

## Cash flows from investing activities:

Purchases of property and equipment	(636)	(546)	(450)
Purchases of short-term investments	(1,493)	(3,722)	(2,667)
Proceeds from maturity of short-term investments	1,416	2,687	4,310
Proceeds from sale of short-term investments	616	300	—
Cash received from acquisition of Xilinx	—	—	2,366
Acquisitions, net of cash acquired	(548)	(131)	(1,544)
Related party equity method investment	(17)	—	—
Issuance of loan to related party	(100)	—	—
Purchases of strategic investments	(341)	(11)	(5)
Other	2	—	(11)
<b>Net cash provided by (used in) investing activities</b>	<b>(1,101)</b>	<b>(1,423)</b>	<b>1,999</b>

## Cash flows from financing activities:

Proceeds from debt, net of issuance costs	—	—	991
Repayment of debt	(750)	—	(312)
Proceeds from sales of common stock through employee equity plans	279	268	167
<b>Repurchases of common stock</b>	<b>(862)</b>	<b>(985)</b>	<b>(3,702)</b>
Stock repurchases for tax withholding on employee equity plans	(728)	(427)	(406)
Other	(1)	(2)	(2)
<b>Net cash used in financing activities</b>	<b>(2,062)</b>	<b>(1,146)</b>	<b>(3,264)</b>
Net increase (decrease) in cash, cash equivalents and restricted cash	(122)	(902)	2,300
Cash, cash equivalents and restricted cash at beginning of year	3,933	4,835	2,535
Cash, cash equivalents and restricted cash at end of year	<b>\$ 3,811</b>	<b>\$ 3,933</b>	<b>\$ 4,835</b>

# Cash Flow Statement (10K)

## Consolidated Statements of Cash Flows

	Year Ended		
	December 28, 2024	December 30, 2023	December 31, 2022
	(In millions)		
<b>Supplemental cash flow information:</b>			
Cash paid during the year for:			
Interest	\$ 72	\$ 84	\$ 85
Income taxes, net of refund	\$ 1,386	\$ 523	\$ 685
Non-cash investing and financing activities:			
Purchases of property and equipment, accrued but not paid	\$ 144	\$ 106	\$ 157
Issuance of common stock and treasury stock for the acquisition of Xilinx	\$ —	\$ —	\$ 48,514
Fair value of replacement share-based awards related to acquisition of Xilinx	\$ —	\$ —	\$ 275
Non-cash activities for leases:			
Operating lease right-of-use assets acquired by assuming related liabilities	\$ 102	\$ 273	\$ 115
Reconciliation of cash, cash equivalents, and restricted cash			
Cash and cash equivalents	\$ 3,787	\$ 3,933	\$ 4,835
Restricted cash included in Prepaid expenses and other current assets	\$ 24	\$ —	\$ —
<b>Total cash, cash equivalents, and restricted cash</b>	<b>\$ 3,811</b>	<b>\$ 3,933</b>	<b>\$ 4,835</b>

# Cash Flow Statement (10Q)

Condensed Consolidated Statements of Cash Flows  
(Unaudited)

	Three Months Ended	
	March 29, 2025	March 30, 2024
	(In millions)	
Cash flows from operating activities:		
Net income	\$ 709	\$ 123
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	175	162
Amortization of acquisition-related intangibles	567	622
Stock-based compensation	364	371
Deferred income taxes	(167)	(66)
Inventory loss at contract manufacturer	—	65
Other	39	4
Changes in operating assets and liabilities:		
Accounts receivable, net	748	913
Inventories	(682)	(368)
Prepaid expenses and current assets	(237)	(919)
Accounts payable	(289)	(561)
Accrued and other liabilities	(288)	175
Net cash provided by operating activities	939	521

# Cash Flow Statement (10Q)

Cash flows from investing activities:		
Purchases of property and equipment	(212)	(142)
Purchases of short-term investments	(304)	(433)
Proceeds from maturity of short-term investments	365	441
Proceeds from sale of short-term investments	33	2
Purchases of strategic investments	(239)	(4)
Other	—	1
Net cash used in investing activities	(357)	(135)
Cash flows from financing activities:		
Proceeds from long-term debt issuance, net of issuance costs	1,494	—
Proceeds from commercial paper issuance, net of discount	947	—
Proceeds from sales of common stock through employee equity plans	4	5
Repurchases of common stock	(749)	(4)
Stock repurchases for tax withholding on employee equity plans	(30)	(129)
Other	—	(1)
Net cash provided by (used in) financing activities	1,666	(129)
Net increase in cash, cash equivalents and restricted cash	2,248	257
Cash, cash equivalents and restricted cash at beginning of period	3,811	3,933
Cash, cash equivalents and restricted cash at end of period	\$ 6,059	\$ 4,190

- Debt issuance is a large source of cash

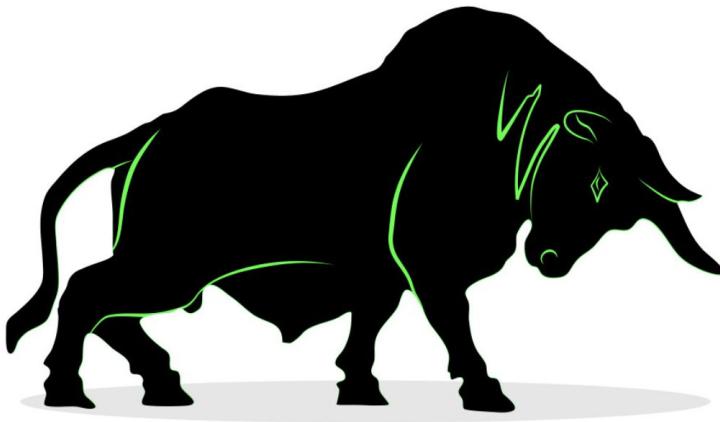
# Cash Flow Statement (10Q)

**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

	<b>Three Months Ended</b>	
	<b>March 29, 2025</b>	<b>March 30, 2024</b>
	<b>(In millions)</b>	
<b>Supplemental cash flow information:</b>		
Cash paid during the period for:		
Income taxes, net of refunds	\$ 128	\$ 87
Non-cash investing and financing activities:		
Purchases of property and equipment, accrued but not paid	\$ 147	\$ 102
Reconciliation of cash, cash equivalents and restricted cash		
Cash and cash equivalents	\$ 6,049	\$ 4,190
Restricted cash included in Prepaid expenses and other current assets	10	—
<b>Total cash, cash equivalents and restricted cash</b>	<b>\$ 6,059</b>	<b>\$ 4,190</b>

# Analyst Rating

# Bull Case

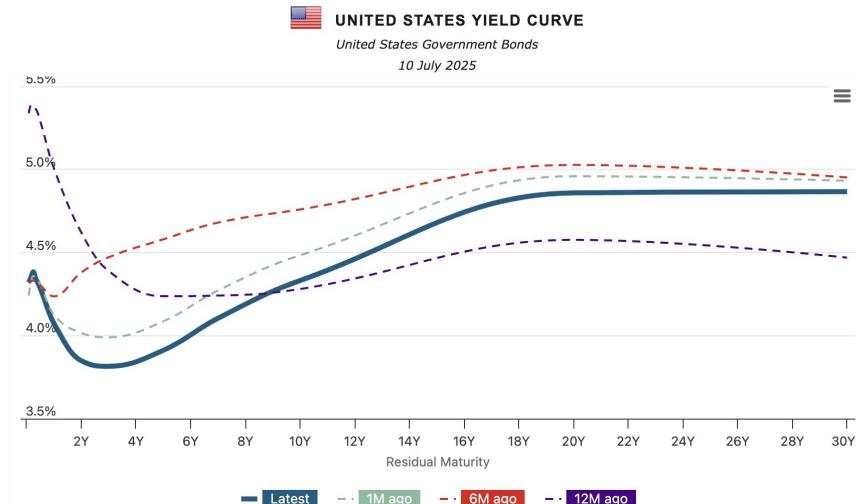


- Growing revenues
- Good financial position (balance sheet)
  - Good use of equity and debt funding for growth
- New opportunities/products
  - ZT Systems complete servers
  - MI350 chip (on par with B100)
- 2nd place in market share

# Bear Case

- Infinity Fabric cannot Compete with NVLink
  - Heavily affects data center revenues (largest segment)
- Priced higher than NVDA
  - Trailing PE
  - Forward PE
- Expensive for data centers to switch from NVIDIA to AMD
  - NVIDIA has already taken a large market share
- U.S. Yield curve is still inverted
  - Recession could be on the horizon
  - Tech in an unstable market

Trailing P/E	101.11
Forward P/E	37.17
Trailing P/E	50.73
Forward P/E	36.63



# Consensus





NASDAQ: NVDA

## *Pioneering the AI Revolution and Accelerated Computing*

- **AI Computing Leader:** Engineered the world's most advanced chips, systems, and software that power the AI factories of the future.
- **Accelerated Computing Pioneer:** Invented GPU-accelerated computing to solve challenges no one else can tackle, igniting the Big Bang of AI.
- **Industry Transformation:** Driving digital transformation across automotive, healthcare, graphics, and industrial sectors with cutting-edge AI solutions.
- **Revolutionary Graphics:** NVIDIA RTX™ delivers unprecedented realism through AI-powered ray tracing and breakthrough technologies like DLSS 3.
- **Digital Twin Platform:** Omniverse connects physical and digital worlds, enabling software-defined industrial processes and large-scale team collaboration.
- **Sustainable Innovation:** Leading the path to net-zero through energy-efficient accelerated computing that reduces global data center power consumption.



## KEY INFORMATION METRICS

# KEY INFORMATION METRICS - STOCK PERFORMANCE

Nvidia Corp (NVDA-Q)

NASDAQ

[ADD TO WATCHLIST](#)

[CREATE ALERTS](#)

▲ **162.88** USD +2.88 (+1.80%)

REAL-TIME LAST UPDATE 07/09/25  
LAST SALE CBOE BZX REAL-TIME

▲ **163.22** USD +0.34 (+0.21%)

PRE MARKET LAST UPDATE 04:00 ET  
PRE MARKET PRICE

VOLUME  
**183,656,406**

[SUMMARY](#) [CHARTS](#) [PROFILE](#) [FINANCIALS](#) [STATISTICS](#) [DIVIDENDS](#) [PRICE HISTORY](#) [ANALYST ESTIMATES](#) [INSIDERS](#)

Day Low  
161.16

Day High  
164.42

OPEN: 161.22

Previous Close 160.00

52-Week High/Low 164.42 - 86.62

Volume 13,248

Average Volume 182,512,969

Price/Earnings (TTM) 51.88

Forward Annual Dividend & Yield 0.04 (0.03%)

Market Capitalization, \$M 3,904,000

5-Day Change +9.58 (+6.25%)



Realtime quote and/or trade prices are not sourced from all markets.

Quote lookup



## MARKETS NEWS

- 1 [TOP LINKS](#)  
BMO chief strategist updates his North American Dividend Growth portfolio  
SCOTT BARLOW
- 2 [Wednesday's analyst upgrades and downgrades](#)
- 3 [Stocks rise as Fed minutes put rate cuts in focus, Nvidia hits US\\$4 trillion milestone](#)

# KEY METRICS - VALUATION

## Valuation Measures

Annual



Quarterly

Monthly



	Current	2025-04-30	2025-01-31
Market Cap	3.97T	2.66T	2.94T
Enterprise Value	3.93T	2.62T	2.91T
Trailing P/E	52.54	37.05	47.40
Forward P/E	38.02	24.81	28.09
PEG Ratio (5yr expected)	2.02	1.53	0.86
Price/Sales	27.13	20.70	26.36
Price/Book	47.38	33.49	44.60
Enterprise Value/Revenue	26.46	20.10	25.70
Enterprise Value/EBITDA	43.20	30.46	38.88

## Trading Information

### Stock Price History

Beta (5Y Monthly)

**2.12**

52 Week Change <sup>3</sup>

**27.85%**

S&P 500 52-Week Change <sup>3</sup>

**12.15%**

52 Week High <sup>3</sup>

**164.42**

52 Week Low <sup>3</sup>

**86.62**

50-Day Moving Average <sup>3</sup>

**137.30**

200-Day Moving Average <sup>3</sup>

**130.70**

# KEY METRICS - VALUATION

## OVERVIEW

Market Capitalization, \$K	3,904,000,000
Shares Outstanding, K	24,400,000
Annual Sales, \$M	130.497 M
Latest Earnings Date	08/27/25
36-Month Beta	2.13
% Held by Institution	65.27%
% Held by Insider	4.17%

## FINANCIAL STATEMENTS

Gross Profit, \$K	N/A
Net Income, \$M	76,774
Profit Margin %	55.85%
Revenue, \$K	130,497,000.00 K
Cash, \$K	N/A
Auditor Report Status	N/A
Gross Margin	N/A
Pretax Margin	N/A

# KEY METRICS - VALUATION

## Dividends & Splits

Forward Annual Dividend Rate <sup>4</sup>	<b>0.04</b>
Forward Annual Dividend Yield <sup>4</sup>	<b>0.03%</b>
Trailing Annual Dividend Rate <sup>3</sup>	<b>0.04</b>
Trailing Annual Dividend Yield <sup>3</sup>	<b>0.03%</b>
5 Year Average Dividend Yield <sup>4</sup>	<b>0.07</b>
Payout Ratio <sup>4</sup>	<b>1.29%</b>
Dividend Date <sup>3</sup>	<b>2025-07-03</b>
Ex-Dividend Date <sup>4</sup>	<b>2025-06-11</b>
Last Split Factor <sup>2</sup>	<b>10:1</b>
Last Split Date <sup>3</sup>	<b>2024-06-10</b>

## Share Statistics

Avg Vol (3 month) <sup>3</sup>	<b>249.32M</b>
Avg Vol (10 day) <sup>3</sup>	<b>187.84M</b>
Shares Outstanding <sup>5</sup>	<b>24.39B</b>
Implied Shares Outstanding <sup>6</sup>	<b>24.48B</b>
Float <sup>8</sup>	<b>23.42B</b>
% Held by Insiders <sup>1</sup>	<b>4.33%</b>
% Held by Institutions <sup>1</sup>	<b>67.54%</b>
Shares Short (2025-06-13) <sup>4</sup>	<b>206.8M</b>
Short Ratio (2025-06-13) <sup>4</sup>	<b>0.93</b>
Short % of Float (2025-06-13) <sup>4</sup>	<b>0.89%</b>
Short % of Shares Outstanding (2025-06-13) <sup>4</sup>	<b>0.85%</b>
Shares Short (prior month 2025-05-15) <sup>4</sup>	<b>243.99M</b>

# KEY METRICS - VALUATION

## OPERATING PERFORMANCE

Operating Margin	59.70
Gross Margin	N/A
Return-on-Assets %	72.19%
Return-on-Equity %	105.09%
Return on Investments, %	94.01%
Net Margin %	51.69%

## EARNINGS PER SHARE

Earnings Per Share ttm	3.05
Quarterly EPS	0.77
5-Year Earnings Growth	2,563.64%
EPS Growth vs. Prev Quarter	-9.41%
EPS Growth vs. Prev Year	32.76%

## GROWTH

1-Year Return	27.23%
3-Year Return	986.21%
5-Year Return	1,541.14%
5-Year Revenue Growth	1,095.25%
5-Year Earnings Growth	2,563.64%

## FINANCIAL HEALTH

Current Ratio	4.44
Interest Coverage	341.19
Debt/Equity	0.10
Quick Ratio	3.88



## PRICE CHARTS



# NASDAQ MONTHLY AVERAGE



## NVDA Advanced Charting

Nasdaq Listed Nasdaq 100

NVDA NVIDIA Corporation Common Stock



# ONE YEAR STOCK PERFORMANCE



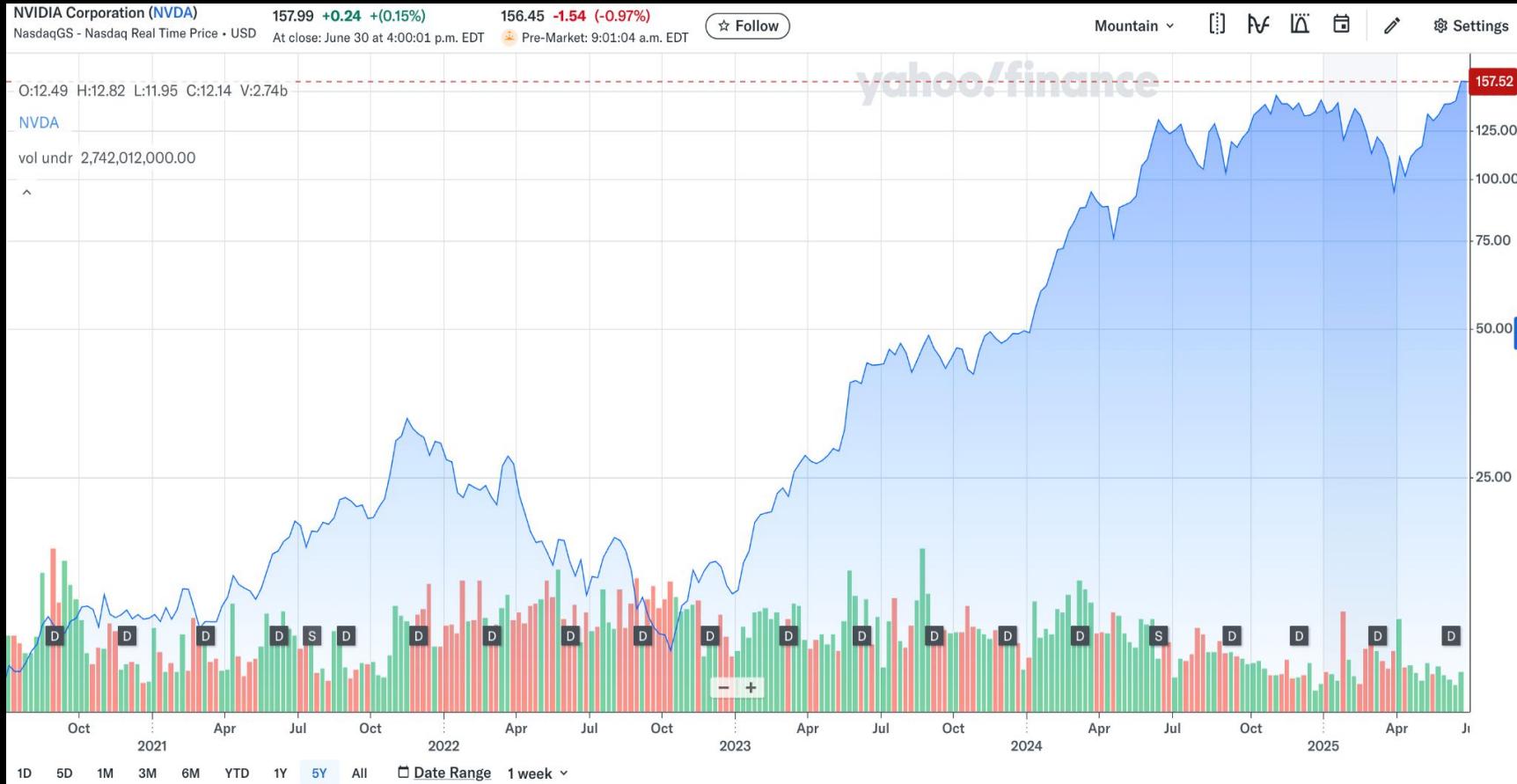
# ONE YEAR STOCK PERFORMANCE AGAINST MARKET INDICES



## ONE YEAR STOCK PERFORMANCE AGAINST AMD & TSM



## FIVE YEAR STOCK PERFORMANCE



## FIVE YEAR STOCK PERFORMANCE AGAINST MARKET INDICES



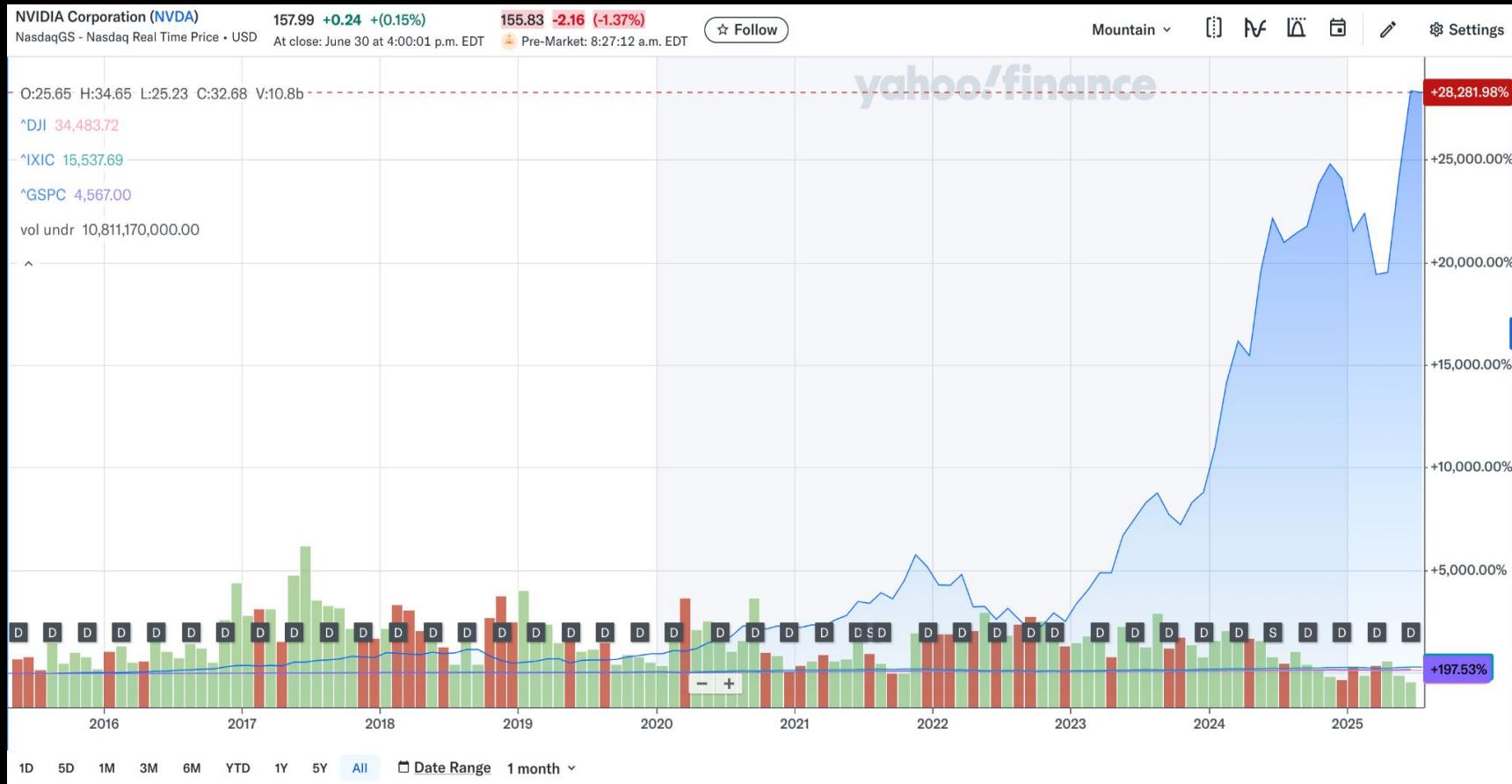
## FIVE YEAR STOCK PERFORMANCE AGAINST AMD & TSM



# TEN YEAR STOCK PERFORMANCE



# TEN YEAR STOCK PERFORMANCE AGAINST MARKET INDICES



## TEN YEAR STOCK PERFORMANCE AGAINST AMD & TSM





5,387 Institutional Holders  
16,075,594,324 Total Shares Held

## NVDA INSTITUTIONAL HOLDINGS



### Ownership Summary

Institutional Ownership	65.88%
Total Shares Outstanding (millions)	24,400
Total Value of Holdings (millions)	\$2,464,389

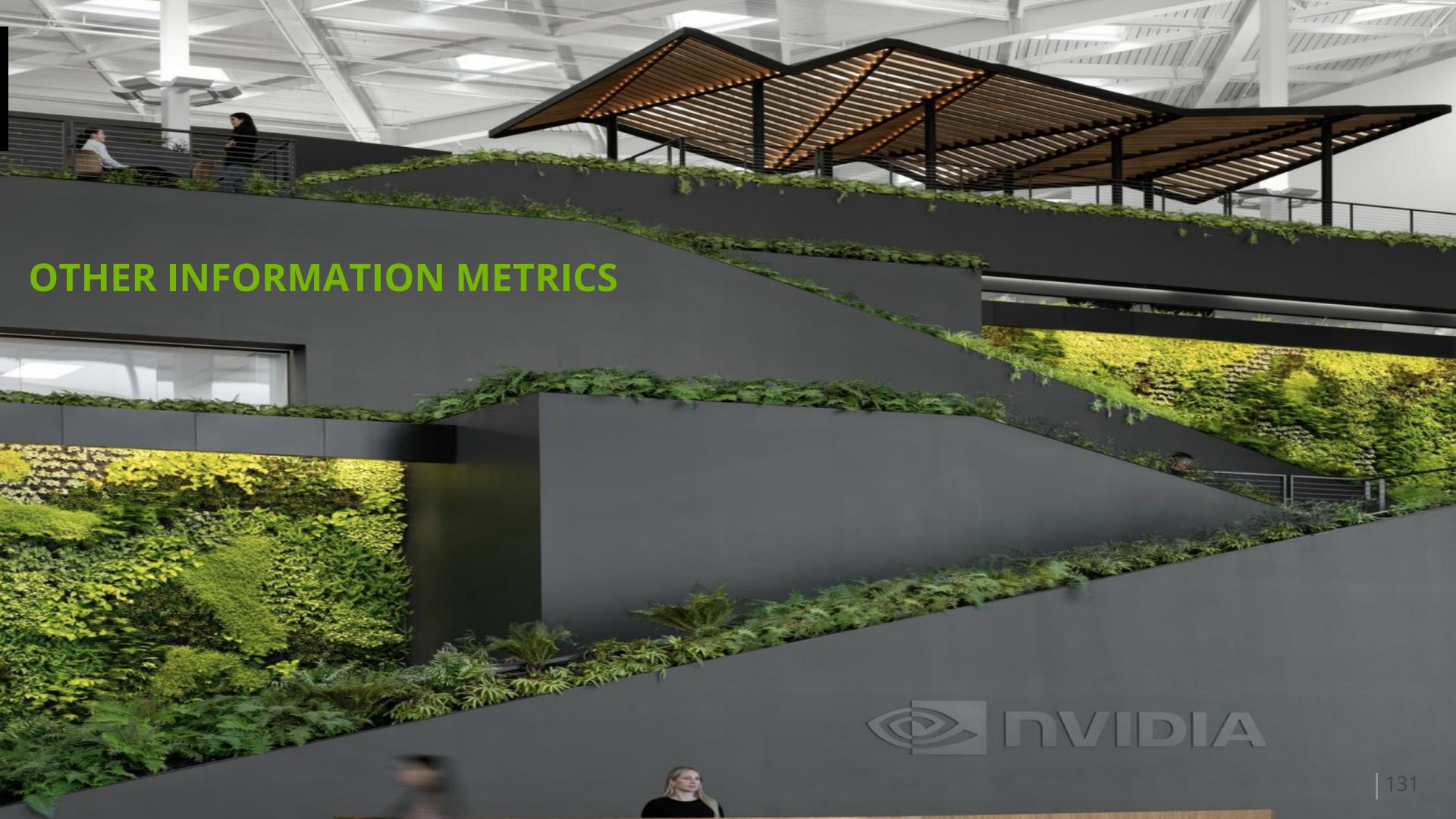
### Active Positions

Active Positions	Holders	Shares
Increased Positions	2,857	664,915,921
Decreased Positions	2,324	463,649,274
Held Positions	206	14,947,029,129
Total Institutional Shares	5,387	16,075,594,324

# TOP INSTITUTIONAL INVESTORS



Owner Name	Date	Shares Held	Change (Shares)	Change (%)	Value (In 1,000s)
Vanguard Group Inc	3/31/2025	2,192,979,269	13,568,584	0.623%	\$336,183,722
Blackrock, Inc.	3/31/2025	1,901,848,816	12,184,017	0.645%	\$291,553,423
Fmr Llc	3/31/2025	1,001,925,185	-2,451,423	-0.244%	\$153,595,131
State Street Corp	3/31/2025	968,654,005	803,533	0.083%	\$148,494,659
Geode Capital Management, Llc	3/31/2025	570,691,561	15,143,283	2.726%	\$87,487,016
Jpmorgan Chase & Co	3/31/2025	421,100,703	7,287,317	1.761%	\$64,554,738
Price T Rowe Associates Inc /Md/	3/31/2025	374,986,428	-36,342,523	-8.835%	\$57,485,419
Morgan Stanley	3/31/2025	344,184,079	-5,475,606	-1.566%	\$52,763,419
Norges Bank	12/31/2024	324,041,286	32,313,926	11.077%	\$49,675,529
Northern Trust Corp	3/31/2025	263,027,905	-3,426,289	-1.286%	\$40,322,178

A wide-angle photograph of a modern office interior. A large, dark grey, curved wall on the left is covered in a lush green vertical garden. In the foreground, a woman in a black top stands near a wooden reception desk. In the background, a two-story atrium features a series of wooden canopies supported by black metal frames. Two people are visible on a balcony level above. The ceiling is a white, multi-level structure with exposed beams and skylights.

## OTHER INFORMATION METRICS



# SHARES OUTSTANDING



**NVIDIA Corporation and Subsidiaries**  
**Condensed Consolidated Statements of Shareholders' Equity**  
**For the Three Months Ended April 28, 2024 and April 30, 2023**  
**(Unaudited)**

	Common Stock Outstanding		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Shareholders' Equity
	Shares	Amount				
<b>(In millions, except per share data)</b>						
Balances, Jan 28, 2024	2,464	\$ 2	\$ 13,132	\$ 27	\$ 29,817	\$ 42,978
Net income	—	—	—	—	14,881	14,881
Other comprehensive loss	—	—	—	(136)	—	(136)
Issuance of common stock from stock plans	7	—	285	—	—	285
Tax withholding related to vesting of restricted stock units	(2)	—	(1,752)	—	—	(1,752)
Shares repurchased	(10)	—	(33)	—	(8,002)	(8,035)
Cash dividends declared and paid (\$0.04 per common share)	—	—	—	—	(98)	(98)
Stock-based compensation	—	—	1,019	—	—	1,019
<b>Balances, Apr 28, 2024</b>	<b>2,459</b>	<b>\$ 2</b>	<b>\$ 12,651</b>	<b>\$ (109)</b>	<b>\$ 36,598</b>	<b>\$ 49,142</b>
Balances, Jan 29, 2023	2,466	\$ 2	\$ 11,971	\$ (43)	\$ 10,171	\$ 22,101
Net income	—	—	—	—	2,043	2,043
Other comprehensive loss	—	—	—	(7)	—	(7)
Issuance of common stock from stock plans	9	—	246	—	—	246
Tax withholding related to vesting of restricted stock units	(2)	—	(507)	—	—	(507)
Cash dividends declared and paid (\$0.04 per common share)	—	—	—	—	(99)	(99)
Stock-based compensation	—	—	743	—	—	743
<b>Balances, Apr 30, 2023</b>	<b>2,473</b>	<b>\$ 2</b>	<b>\$ 12,453</b>	<b>\$ (50)</b>	<b>\$ 12,115</b>	<b>\$ 24,520</b>

# LATEST PERFORMANCE RELATIVE TO THE MAGNIFICENT SEVEN



Study and track financial data on any traded entity: click to open the full quote page. Data updated as of 03/07/25 1:00pm EDT.

Symbol	Name	% change	Last
<a href="#">NVDA-Q</a>	Nvidia Corp	+1.33%	159.34
<a href="#">MSFT-Q</a>	Microsoft Corp	+1.58%	498.84
<a href="#">AAPL-Q</a>	Apple Inc	+0.52%	213.55
<a href="#">META-Q</a>	Meta Platforms Inc	+0.76%	719.01
<a href="#">AVGO-Q</a>	Broadcom Ltd	+1.96%	275.18
<a href="#">AMZN-Q</a>	Amazon.com Inc	+1.59%	223.41
<a href="#">TSLA-Q</a>	Tesla Inc	-0.1%	315.35

## Magnificent Seven Stocks 2025 Performance

Company Name	Symbol	2025 Performance
Alphabet	(GOOGL)	-8.3%
Amazon	(AMZN)	-2.7%
Apple	(AAPL)	-18.6%
Meta Platforms	(META)	19.2%
Microsoft	(MSFT)	11.6%
Nvidia	(NVDA)	5.5%
Tesla	(TSLA)	-26.9%

# REVENUE BY SEGMENT—10Q



Three Months Ended

Apr 27, 2025

Apr 28, 2024

(In millions)

## Revenue by End Market:

	Apr 27, 2025	Apr 28, 2024
Data Center	\$ 39,112	\$ 22,563
Compute	34,155	19,392
Networking	4,957	3,171
Gaming	3,763	2,647
Professional Visualization	509	427
Automotive	567	329
OEM and Other	111	78
Total revenue	\$ 44,062	\$ 26,044

# REVENUE BY SEGMENT—10K



	Year Ended		
	<u>Jan 26, 2025</u>	<u>Jan 28, 2024</u>	<u>Jan 29, 2023</u>
<b>Revenue by End Market:</b>			<i>(In millions)</i>
Data Center	\$ 115,186	\$ 47,525	\$ 15,005
Compute	102,196	38,950	11,317
Networking	12,990	8,575	3,688
Gaming	11,350	10,447	9,067
Professional Visualization	1,878	1,553	1,544
Automotive	1,694	1,091	903
OEM and Other	389	306	455
Total revenue	<hr/> \$ 130,497	<hr/> \$ 60,922	<hr/> \$ 26,974

## REVENUE BY GEOGRAPHIC LOCATION—10Q



Three Months Ended

Apr 27, 2025

Apr 28, 2024

(In millions)

### Geographic Revenue based upon Customer Billing Location:

	Apr 27, 2025	Apr 28, 2024
United States	\$ 20,739	\$ 13,496
Singapore (1)	9,017	4,037
Taiwan	7,158	4,373
China (including Hong Kong)	5,522	2,491
Other	1,626	1,647
Total revenue	\$ 44,062	\$ 26,044

## REVENUE BY GEOGRAPHIC LOCATION—10K



	Year Ended		
	Jan 26, 2025	Jan 28, 2024	Jan 29, 2023
<b>Geographic Revenue based upon Customer Billing Location:</b>			(In millions)
United States	\$ 61,257	\$ 26,966	\$ 8,292
Singapore (1)	23,684	6,831	2,288
Taiwan	20,573	13,405	6,986
China (including Hong Kong)	17,108	10,306	5,785
Other	7,875	3,414	3,623
Total revenue	\$ 130,497	\$ 60,922	\$ 26,974

# NVIDIA QUARTERLY REVENUE TREND

## REVENUE BY MARKETS



(\$ in millions)	Q1 FY26	Q4 FY25	Q3 FY25	Q2 FY25	Q1 FY25	Q4 FY24	Q3 FY24	Q2 FY24
Data Center	\$39,112	\$35,580	\$30,771	\$26,272	\$22,563	\$18,404	\$14,514	\$10,323
Gaming	3,763	2,544	3,279	2,880	2,647	2,865	2,856	2,486
Professional Visualization	509	511	486	454	427	463	416	379
Auto	567	570	449	346	329	281	261	253
OEM & Other	111	126	97	88	78	90	73	66
<b>TOTAL</b>	<b>\$44,062</b>	<b>\$39,331</b>	<b>\$35,082</b>	<b>\$30,040</b>	<b>\$26,044</b>	<b>\$22,103</b>	<b>\$18,120</b>	<b>\$13,507</b>



NVIDIA

## COMPANY OVERVIEW

- NVIDIA is the world leader in accelerated computing, fundamentally changing how computing works and what computers can do at the center of the simultaneous computing and industrial revolution.
- Companies around the world are building NVIDIA-powered AI factories to process, refine, and manufacture intelligence from data, with NVIDIA serving as the engine of the world's AI infrastructure.
- NVIDIA's CUDA platform has created a virtuous cycle attracting over 5 million developers, 40,000 companies, and thousands of generative AI companies all building on the NVIDIA platform.
- By accelerating workloads with NVIDIA GPUs operating in parallel, the company exponentially increases throughput while driving down the total energy used to complete tasks and the total cost of ownership.

# TIMELINE

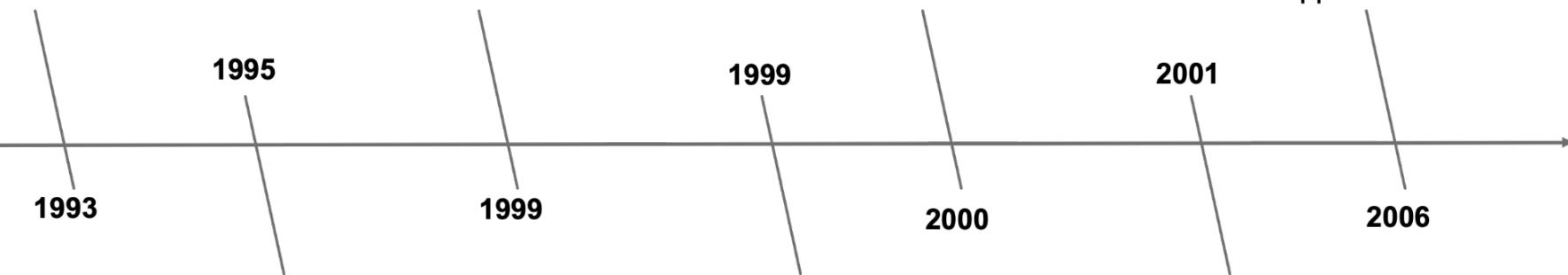


NVIDIA is founded by Jensen Huang, Chris Malachowsky, and Curtis Priem with a focus on graphics processing technologies.

Launch of the GeForce 256 GPU, marketed as the world's first GPU, revolutionizing computer graphics for gaming and visual applications.

First stock split (2-for-1) as NVIDIA's stock gains traction, driven by demand for its high-performance graphics technology.

Launch of CUDA, allowing GPUs to process general-purpose data, pivotal for NVIDIA's growth into high-performance computing and AI applications.



1993

1995

1999

1999

2000

2001

2006

NVIDIA produces its first chip, the NV1, by raising capital from Sutter Hill Ventures and Sequoia Capital (Cost \$10Mil)

NVIDIA goes public on NASDAQ under the ticker NVDA, marking its IPO and entry into the stock market..

Second stock split (2-for-1), reflecting significant growth as the GeForce GPU line gains popularity.

# TIMELINE

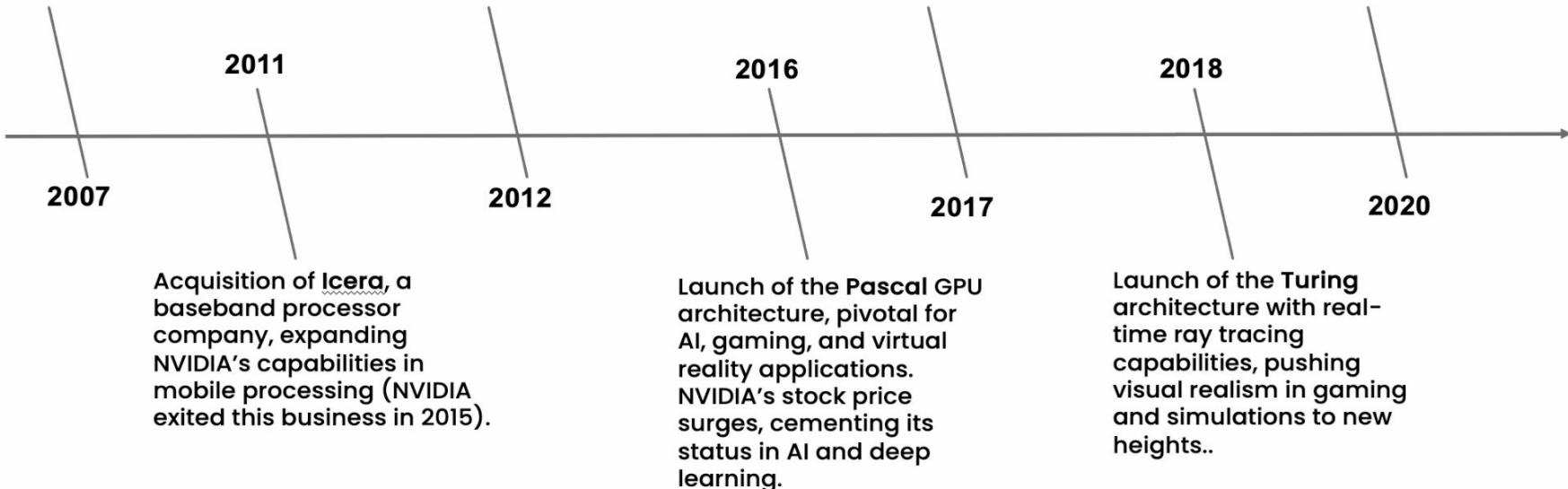


Third stock split (3-for-2), as NVIDIA's influence expands beyond gaming into scientific and enterprise computing.

NVIDIA enters automotive with **Tegra processors**, powering Tesla's infotainment systems and marking its foray into autonomous driving tech.

Fourth stock split (4-for-1) as NVIDIA's value continues to climb, driven by its dominance in AI and data center markets.

Announces a \$40 billion acquisition of Arm Ltd. from SoftBank, aiming to integrate Arm's IP for expanded AI, mobile, and IoT reach (the acquisition was later abandoned in 2022 due to regulatory challenges).



# TIMELINE

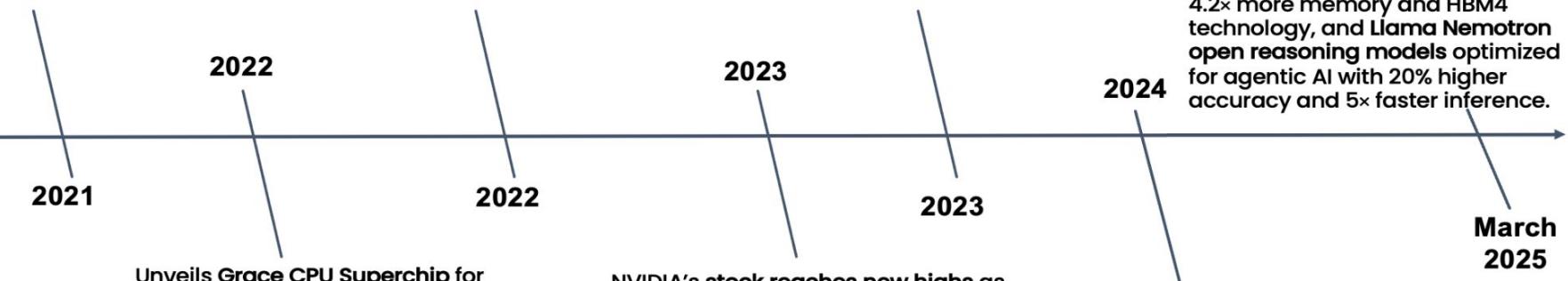


**Fifth stock split (4-for-1)** as NVIDIA's market cap grows with high demand for its products across gaming, AI, and data centers.

**Launch of the Hopper architecture** designed specifically for AI model training and inference, further strengthening NVIDIA's role in AI infrastructure.

**Release of the Grace CPU Superchip**, NVIDIA's first CPU built specifically for AI and high-performance computing workloads, marking its expansion beyond GPUs.

During the GTC 2025, NVIDIA unveiled the **Blackwell Ultra AI Factory Platform** built on GB300 NVL72 system delivering 1.5x AI performance boost, Isaac GR00T N1 as the world's first open-source humanoid robot foundation model, the **Vera Rubin AI superchip** successor to Grace Blackwell with 4.2x more memory and HBM4 technology, and **Llama Nemotron** open reasoning models optimized for agentic AI with 20% higher accuracy and 5x faster inference.



**Unveils Grace CPU Superchip** for AI and high-performance computing, marking its first CPU designed for intensive workloads and broadening its hardware portfolio.

**NVIDIA's stock reaches new highs** as AI demand skyrockets, spurred by NVIDIA's GPUs powering AI models like ChatGPT. NVIDIA's influence solidifies across AI, autonomous tech, and cloud infrastructure.

NVIDIA announced a 10-for-1 stock split. This move aimed to make NVIDIA's stock more accessible to investors amid a significant increase in its stock price, driven largely by growing demand for its AI-focused products.

# TIMELINE OF INNOVATION



1993

## 3D Graphics

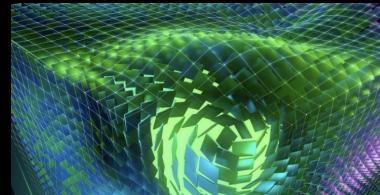
Founded on April 5, 1993, by Jensen Huang, Chris Malachowsky, and Curtis Priem, with a vision to bring 3D graphics to the gaming and multimedia markets.



1999

## GPU

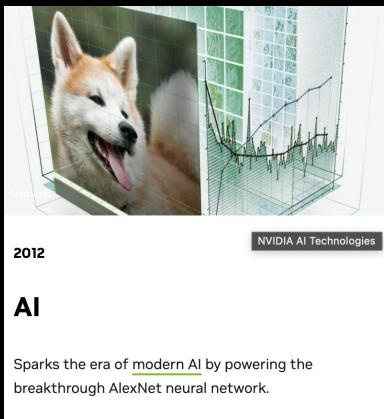
Invents the GPU, the graphics processing unit, which sets the stage to reshape the computing industry.



2006

## CUDA

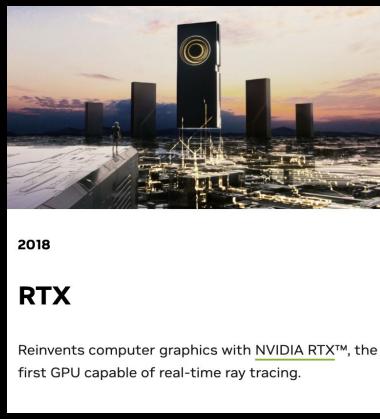
Opens parallel processing capabilities of GPUs to science and research with unveiling of CUDA® architecture.



2012

## AI

Sparks the era of modern AI by powering the breakthrough AlexNet neural network.



2018

## RTX

Reinvents computer graphics with NVIDIA RTX™, the first GPU capable of real-time ray tracing.



2022

## Omniverse

Plays a foundational role in the building of the metaverse, the next stage of the internet, with the NVIDIA Omniverse™ platform.

## NOTABLE ACQUISITIONS



NVIDIA has pursued aggressive growth through strategic acquisitions, acquiring over 20 companies since inception to expand technological capabilities and market reach.

In 2020, NVIDIA made a \\$40 billion bid to acquire ARM, the British chip designer whose architecture underpins 95% of the world's smartphones. However, the deal was ultimately blocked by UK regulators over concerns it could create monopolistic control in the semiconductor industry. The company has also faced scrutiny from the U.S. Federal Trade Commission (FTC), which has moved to block other acquisitions to maintain competition in the chip market.

- **3dfx Interactive (2002)** - \$70 million cash and stock for graphics chip technology, strengthening GeForce series development
- **MediaQ (2003)** - \$70 million acquisition enabling entry into mobile and embedded graphics markets
- **Hybrid Graphics (2006)** - Graphics software company acquisition for mobile and embedded device optimization
- **PortalPlayer (2006)** - \$357 million investment facilitating development of Tegra mobile processor line
- **Ageia Technologies (2008)** - Integration of PhysX technology into GPUs for enhanced gaming and simulation experiences
- **Mellanox Technologies (2019)** - \$6.9 billion acquisition for cloud computing and networking capabilities crucial to AI infrastructure
- **SwiftStack (2020)** - Object data storage company acquisition supporting cloud and enterprise solutions

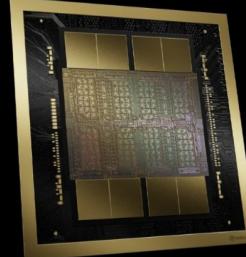
# PRODUCTS AND SERVICES

## NVIDIA Data Center GPUs

### The Accelerated Computing Platform for Data Centers

The [NVIDIA® accelerated computing platform](#) gives modern data centers the power to accelerate deep learning, machine learning, and high-performance computing (HPC) workloads.

[Learn About the Blackwell Architecture >](#)



## NVIDIA DGX Platform

### The Proven Standard for Enterprise AI

Built from the ground up for enterprise AI, the NVIDIA DGX™ platform incorporates the best of NVIDIA software, infrastructure, and expertise in a modern, unified AI development solution that spans from the cloud to on-premises data centers.

[Learn About the Proven Standard for Enterprise AI >](#)

# PRODUCTS AND SERVICES

## NVIDIA HGX Platform

### The World's Leading AI Computing Platform

NVIDIA HGX™ is the world's most powerful accelerated server platform, fusing multi-precision calculations to speed up training, inference, HPC, and networking workloads.

[Learn about this AI Supercomputing Platform >](#)



## NVIDIA Networking for AI

### Accelerated Networks for the Best of NVIDIA AI

AI workloads have introduced new challenges and requirements for data center network architectures. Since the network defines the data center and serves as the backbone of the AI infrastructure, it's essential to consider its capabilities, as well as end-to-end implementation, when deploying data centers for both generative AI and foundational models.

Both NVIDIA Quantum InfiniBand and NVIDIA Spectrum™-X Ethernet deliver the highest performance and most innovative feature set for AI training, inference, and fine-tuning.

[Discover End-to-End Networking Solutions for AI >](#)

# PRODUCTS AND SERVICES

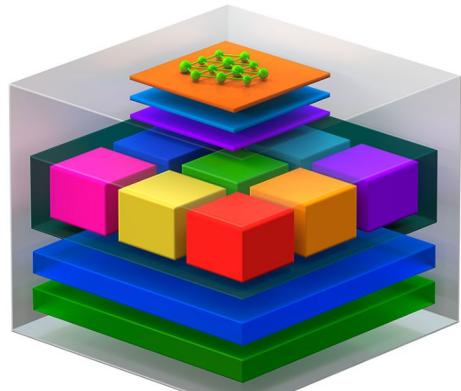
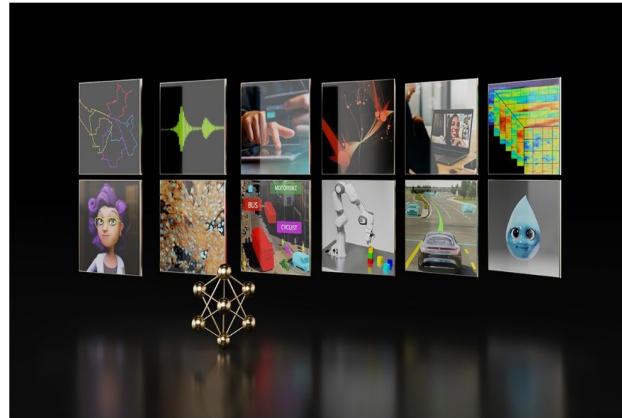
## NVIDIA AI Enterprise

### An Enterprise-Ready Platform for Production AI

NVIDIA AI Enterprise is an end-to-end, secure, and cloud-native AI software platform that accelerates the data science pipeline and streamlines the development and deployment of production AI.

Available in the cloud, data center, and at the edge, NVIDIA AI Enterprise provides businesses with a smooth transition to AI—from pilot to production—that offers security, support, manageability, and stability.

[Discover the AI Software Platform for Enterprises >](#)



## NVIDIA NGC

### GPU-Accelerated Innovation

NVIDIA NGC™ provides access to GPU-accelerated software that speeds up end-to-end workflows with performance-optimized containers, pretrained AI models, and industry-specific SDKs that can be deployed on-premises, in the cloud, or at the edge.

[Learn About GPU-accelerated Software >](#)

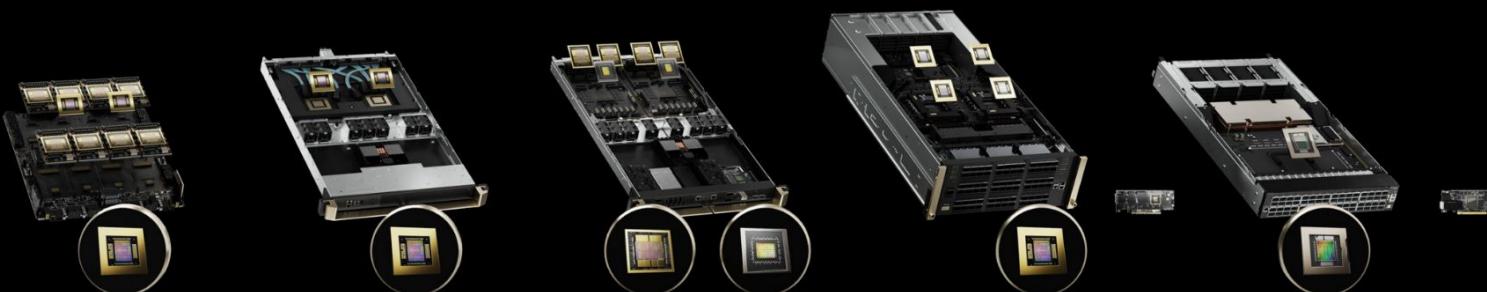
# CURRENT PRODUCTS



## The Platform for a New Era of Computing

In the future, almost all of our experiences will be generative. Blackwell enables organizations everywhere to build and run real-time generative AI on trillion-parameter large language models at up to 25X less cost and energy consumption than its predecessor.

AWS, Google Cloud, Microsoft Azure, and Oracle Cloud Infrastructure will be among the first cloud service providers to offer Blackwell-powered instances, as will NVIDIA Cloud Partner program companies Applied Digital, CoreWeave, Crusoe, IBM Cloud, and Lambda.



HGX™ B100

NVLink Switch

GB200 Superchip  
Compute Node

Quantum X800 Switch  
ConnectX-8 SuperNIC

Spectrum X800 Switch  
BlueField®-3 SuperNIC

# FLAGSHIP PRODUCT LINE: BLACKWELL



## NVIDIA Blackwell Products



### NVIDIA GB300 NVL72

The NVIDIA GB300 NVL72 delivers unparalleled AI reasoning inference performance, featuring 65X more AI compute than Hopper systems.



### NVIDIA DGX SuperPOD

NVIDIA DGX SuperPOD™ is a turnkey AI data center solution that delivers leadership-class accelerated infrastructure with scalable performance for the most demanding AI training and inference workloads.

[Learn More >](#)



### NVIDIA RTX PRO in the Data Center

Deliver powerful AI and graphics acceleration, essential enterprise features, and the flexibility to handle a wide range of workloads, from agentic and physical AI to visual computing and virtual workstations accelerated by NVIDIA RTX PRO™ data center GPUs.

[Learn More >](#)



### NVIDIA RTX PRO Workstations

Bring the latest breakthroughs in AI, ray tracing, and neural graphics technology to power the most innovative workflows in design, engineering, and beyond with NVIDIA RTX PRO GPUs.

[Learn More >](#)

### Data Center GPUs

GB300 NVL72

GB200 NVL72

HGX

H200

H100

L4

RTX PRO 6000 Server

All GPUs

Line Card

Test Drive

## OTHERS

[Learn More >](#)

# FLAGSHIP PRODUCT LINE: BLACKWELL



## NVIDIA DGX Station

Unlike any AI desktop computer before, this system features NVIDIA Blackwell GPUs, the Grace CPU Superchip, and large coherent memory, delivering unparalleled compute performance.

[Learn More >](#)

## NVIDIA DGX Spark

A compact, personal AI supercomputer with the NVIDIA GB10 Grace Blackwell Superchip, delivering high-performance AI capabilities and support for models up to 200 billion parameters.

[Learn More >](#)

## NVIDIA HGX B300

NVIDIA HGX™ B300 is built for the age of AI reasoning with enhanced compute and increased memory.

[Learn More >](#)

## NVIDIA GB200 NVL72

The NVIDIA GB200 NVL72 connects 36 NVIDIA Grace CPUs and 72 NVIDIA Blackwell GPUs in a rack-scale, liquid-cooled design.

[Learn More >](#)

# BLACKWELL GB200 GPU



Lenovo

CoreWeave

DELL Technologies

Microsoft Azure

aws

Meta

Google Cloud

ORACLE CLOUD Infrastructure

Hewlett Packard Enterprise



AVURES

ASUS

GIGABYTE

Ingrasys

Inventec

PEGATRON

SUPERMICR

QCT



## The AI Superchip Powering the Next Industrial Revolution

Blackwell is NVIDIA's fastest-ramping platform ever—powering the era of AI reasoning. It delivers 30x faster inference with 25x lower cost of ownership, redefining AI economics. NVIDIA Blackwell Ultra boosts AI factory output by 50x over NVIDIA Hopper, accelerating digital biology, robotics, and autonomous systems. With dramatically reduced energy per token, Blackwell makes AI production scalable, efficient, and foundational to the new industrial revolution.

# UPCOMING GPU (BLACKWELL GB300 NVL72)



## NVIDIA GB300 NVL72

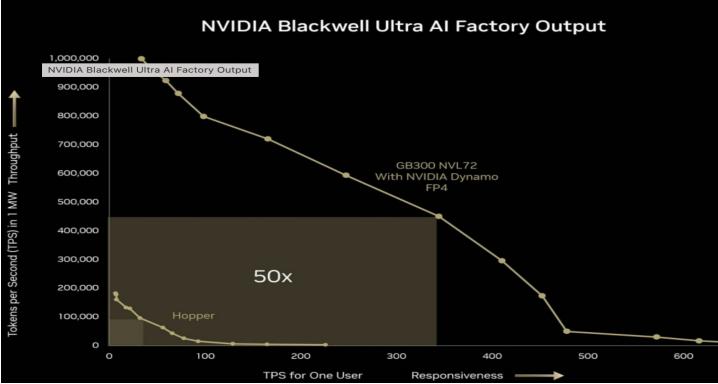
Built for the age of AI reasoning.

Available Soon

EXPECTED  
RELEASE IN  
SECOND  
HALF OF  
2025

### GB200 vs GB300 Key Differences

Feature	GB200 NVL72	GB300 NVL72
Architecture	36 x GB200 GPUs	36 x GB300 GPUs
Memory per GPU	192GB HBM3e	288GB HBM3e
Total Memory	13.8TB	20.7TB
Dense FP4 Compute	720P	1080P
INT8 Compute	360P	23P (optimized)
Power Consumption	97.2kW	120kW
Cooling	Liquid-cooled	Advanced liquid cooling with individual cold plates
Quick-Connect Couplings	108 pairs	252 pairs
Coupling Cost	\$70-80 each	\$40-50 each (NVUQD03)
Cable Length	Standard	50% longer for enhanced performance
Network Interface	ConnectX-7 NIC	ConnectX-8 NIC



### Next-Generation AI Inference Platform

- 72 Blackwell Ultra GPUs + 36 Grace CPUs in unified rack-scale design

### Liquid-Cooled Architecture

- Optimized for high-density, high-performance deployments

### 50x Performance Boost

- Dramatically faster reasoning model inference vs. Hopper platform (Previous Generation)

### Enterprise-Ready Networking

- Quantum-X800 InfiniBand or Spectrum-X Ethernet connectivity

### Purpose-Built for AI Factories

- Designed specifically for test-time scaling inference workloads



## NVIDIA RTX Resets Gaming

RTX is everywhere. More than 500 games and apps now use RTX to deliver stunning ray-traced graphics—including AAA blockbusters like *Cyberpunk 2077*, *Fortnite*, *Minecraft*, and more.

# GeForce RTX 50 Series: AI-Powered Gaming and Creativity

The NVIDIA GeForce RTX 50 Series, built on Blackwell, introduces a new era of AI-powered gaming and creation. With 92 billion transistors and NVIDIA DLSS 4 neural rendering, it delivers up to 8x frame boosts. GeForce RTX 50 Series laptops pack GeForce RTX 4090-class power into ultra-thin designs with 40% better battery life. RTX AI PCs now enable generative AI for gamers, creators, and developers everywhere.

## NVIDIA Cloud Gaming— Bringing RTX to Billions

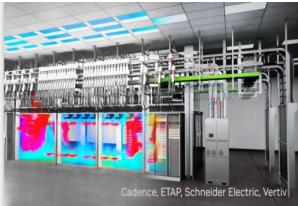
With the power of NVIDIA® GeForce® GPUs in the cloud, GeForce NOW™ instantly transforms nearly any device into a powerful PC gaming machine. Any gamer can stream titles from the top digital game stores. Over 30 million members in more than 110 countries now have access to more than 1,900 games.



# THE OMNIVERSE



NVIDIA Omniverse is a developer platform that integrates OpenUSD, RTX rendering, and generative AI into existing industrial and robotic workflows.



Build Digital Twins for AI Factory Design and Operations



Synthetic Manipulation Motion Generation for Robot Learning



Build a Digital Twin for Interactive Fluid Simulation



June 26, 2025  
Into the Omniverse: World Foundation Models Advance Autonomous Vehicle Simulation and Safety

Simulated driving environments enable engineers to safely and efficiently train, test and validate autonomous vehicles (AVs) across countless real-world and edge-case scenarios without the risks and costs of physical testing.

## Synthetic Data Generation (SDG)

Omniverse creates realistic 3D scenes that can be used as input for Cosmos Transfer, which amplifies them across diverse, photorealistic environments and lighting. This process generates scalable, augmented data, removing the data bottleneck for more effective foundation model training.

Cosmos Reason can evaluate synthetic data by removing outputs that don't meet post-training or evaluation requirements. It also generates captions to add context and help organize data, speeding up foundation model development for vision AI and embodied AI.



Test Multi-Robot Fleets for Industrial Automation



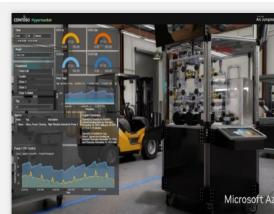
Generate Precise Marketing Visuals With Digital Twins and AI



Spatial Streaming for Omniverse Digital Twins



Bootstrap Synthetic Data Generation with Generative AI



Build Digital Twins for Remote Monitoring



Build a Web-based Product Configurator

## Recent Industrial AI Developments with FOXCONN, BMW Group and Amazon

### Foxconn's Robotic Factory Ecosystem Runs on NVIDIA

Foxconn, one of the world's largest makers of electronics, uses Omniverse to build their robotic factories. This lets them orchestrate robots running on NVIDIA Isaac™ to build NVIDIA AI supercomputers, which in turn train Foxconn's robots.



### NVIDIA Omniverse Turbocharges Self-Driving Car Development

NVIDIA Omniverse Cloud APIs deliver large-scale, high-fidelity sensor simulation, paving the path to autonomous driving. By bringing together a rich ecosystem of simulation tools, applications, and sensors, these APIs let developers safely explore the wide variety of real-world scenarios autonomous systems will encounter. This enables vehicles to drive millions of miles in a wide range of simulated scenarios, so they hit the road running safely.



### Amazon Robotics Builds Digital Twins of Warehouses in NVIDIA Omniverse

Amazon has over 200 robotics facilities that handle millions of packages each day. Using NVIDIA Omniverse and Isaac Sim, Amazon Robotics is building AI-enabled digital twins of its warehouses to better optimize warehouse design and flow, and train more intelligent robotic solutions.

Amazon Robotics

## NEWS, THREATS & EXPECTATIONS



# LATEST DEVELOPMENTS AND MARKET NEWS



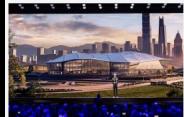
## In the News



June 12, 2025 | Bloomberg

### NVIDIA CEO Sees Tenfold Boost to Europe's AI Computing Power

[Read More >](#)



May 28, 2025 | Quartz

### NVIDIA Isn't Just Building AI Chips. It's Building an AI-powered World

[Read More >](#)



March 25, 2025 | Yahoo Finance

### NVIDIA Unveils Blackwell Ultra AI Chip for 'Age of AI Reasoning'

[Read More >](#)



March 25, 2025 | New York Times

### Inside A.I.'s Super Bowl: NVIDIA Dreams of a Robot Future

[Read More >](#)



March 21, 2025 | Fast Company

### NVIDIA, Already the Backbone of the AI Boom, Has Big Plans for the Future

[Read More >](#)

## Nvidia Stock Extends Gains

Nvidia rallied 1.9% Tuesday, on pace to add to Monday's gains. Shares are moving further closer to a 153.13 buy point in a base that stretches back to January.

On May 28, [Nvidia beat Wall Street's lowered targets](#) for its fiscal first quarter but its sales guidance for the current period was below views.

The Santa Clara, Calif.-based company earned an adjusted 81 cents a share on sales of \$44.06 billion in the quarter ended April 27. Analysts polled by FactSet had expected Nvidia to earn an adjusted 73 cents a share on sales of \$43.34 billion in fiscal Q1. In the year-earlier period, Nvidia earned an adjusted 61 cents a share on sales of \$26.04 billion.

Chief Executive Jensen Huang said he is confident that President Trump will make the right decisions when it comes to supporting the U.S. AI industry.

"The president has a plan. He has a vision and I trust him," Huang said. President Trump wants to win the AI race, he said.

Huang listed four positive surprises this year for the AI market. They include demand growth from inference reasoning, agentic AI, industrial AI and the cancellation of the Biden-era AI Diffusion Rule.

### NVIDIA Q1 Earnings Beat Expectations Despite China Export Restrictions

NVIDIA posted Q1 revenue of **\$44.1 billion** (up 69% year-over-year), beating expectations of \$43.2 billion. Adjusted earnings per share hit 96 cents, topping estimates of 88 cents. Data center revenue surged **73% to \$39.1 billion**, while gaming revenue rose **42% to \$3.8 billion**.

**China Impact:** The company expects to lose \$8 billion in Q2 revenue from H20 chip sales due to U.S. export controls and took a **\$4.5 billion** Q1 charge from excess H20 inventory. NVIDIA's China market share dropped from **95% to 50%** over four years.

**CEO Comments:** Jensen Huang called U.S. export controls "a failure," arguing they've boosted Chinese innovation while effectively closing the **\$50 billion** China market to NVIDIA. He warned that shielding Chinese chipmakers from U.S. competition strengthens them globally.

**Market Response:** NVIDIA shares rose **4%** in after-hours trading following the earnings call. Wall Street remains highly bullish on Nvidia's long-term stock trajectory.

# THREATS & EXPECTATIONS

## THREATS

- **Emerging Technology Competition:** Huawei testing superior AI chips vs H100, Chinese startups securing \$1.7B in funding, and former NVIDIA executives leading rival companies
- **Market Share Erosion:** Major cloud providers developing custom chips while Chinese tech giants (Baidu, Alibaba, Tencent) doubling capex investments in alternative solutions
- **Supply Chain Concentration Risk:** Heavy reliance on Asia-Pacific manufacturing with 12-15 month U.S. production ramp timeline and critical TSMC foundry dependencies
- **Technology Transition Uncertainty:** Unproven Rubin architecture and costly shift from liquid to air-cooling systems requiring significant R&D investment

## EXPECTATIONS: FUTURE OUTLOOK

- **Customer Base Expansion:** Partnerships with Toyota, Mercedes-Benz, Hyundai, BYD, and Volvo will reduce dependency on Microsoft, Amazon, Alphabet, and Meta
- **Revenue Growth Timeline:** Automotive segment projected to triple from \$1.5B to \$5B (FY2026) as data center spending potentially slows
- **Platform Integration:** Drive platform, Thor chip, and Cosmos AI model create comprehensive ecosystem lock-in with automotive manufacturers
- **Market Transition:** Autonomous vehicle multi trillion-dollar opportunity provides natural succession as AI data center buildout matures
- **Predictable Revenue:** Multi-year automotive contracts offer stability vs. volatile big tech capex decisions

# MD&A 10Q



## Overview

### Our Company and Our Businesses

NVIDIA pioneered accelerated computing to help solve the most challenging computational problems. Since our original focus on PC graphics, we have expanded to several other large and important computationally intensive fields. Fueled by the sustained demand for exceptional 3D graphics and the scale of the gaming market, NVIDIA has leveraged its GPU architecture to create platforms for scientific computing, AI, data science, autonomous vehicles, robotics, metaverse and 3D internet applications. Our two operating segments are "Compute & Networking" and "Graphics," as described in Note 14 of the Notes to Condensed Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Headquartered in Santa Clara, California, NVIDIA was incorporated in California in April 1993 and reincorporated in Delaware in April 1998.

### First Quarter of Fiscal Year 2025 Summary

	Three Months Ended			Quarter-over-Quarter Change	Year-over-Year Change
	Apr 28, 2024	Jan 28, 2024	Apr 30, 2023		
(\$ in millions, except per share data)					
Revenue	\$ 26,044	\$ 22,103	\$ 7,192	18 %	262 %
Gross margin	78.4 %	76.0 %	64.6 %	2.4 pts	13.8 pts
Operating expenses	\$ 3,497	\$ 3,176	\$ 2,508	10 %	39 %
Operating income	\$ 16,909	\$ 13,615	\$ 2,140	24 %	690 %
Net income	\$ 14,881	\$ 12,285	\$ 2,043	21 %	628 %
Net income per diluted share	\$ 5.98	\$ 4.93	\$ 0.82	21 %	629 %

## Macroeconomic Factors

Macroeconomic factors, including inflation, interest rate changes, capital market volatility, global supply chain constraints, tariffs, and global economic and geopolitical developments, may have direct and indirect impacts on our results of operations, particularly demand for our products. While difficult to isolate and quantify, these macroeconomic factors impact our supply chain and manufacturing costs, employee wages, costs for capital equipment and value of our investments. Our product and solution pricing generally does not fluctuate with short-term changes in our costs. Within our supply chain, we continuously manage product availability and costs with our vendors.

## Israel and Hamas Conflict

We are monitoring the impact of the geopolitical conflict in and around Israel on our operations, including the health and safety of our approximately 4,000 employees in the region who primarily support the research and development, operations, and sales and marketing of our networking products. Our global supply chain for our networking products has not experienced any significant impact. A substantial number of our employees in the region have been called-up for active military duty in Israel. Some of our employees in Israel have been on active military duty for an extended period and they or others may continue to be absent, which may cause disruption to our product development or operations. We have not experienced significant impact or expense to our business; however, if the conflict is further extended, it could impact future product development, operations, and revenue or create other uncertainty for our business.

## Overview

### Our Company and Our Businesses

NVIDIA pioneered accelerated computing to help solve the most challenging computational problems. Since our original focus on PC graphics, we have expanded to several other large and important computationally intensive fields. Fueled by the sustained demand for exceptional 3D graphics and the scale of the gaming market, NVIDIA has leveraged its GPU architecture to create platforms for scientific computing, AI, data science, AV, robotics, and digital twin applications.

Our two operating segments are "Compute & Networking" and "Graphics." Refer to Note 16 of the Notes to the Consolidated Financial Statements in Part IV, Item 15 of this Annual Report on Form 10-K for additional information.

Headquartered in Santa Clara, California, NVIDIA was incorporated in California in April 1993 and reincorporated in Delaware in April 1998.

## Recent Developments, Future Objectives and Challenges

### Demand and Supply

Revenue growth in fiscal year 2025 was driven by data center compute and networking platforms for accelerated computing and AI solutions. Demand for our Hopper architecture drove our significant growth for the full year. We began shipping production systems of the Blackwell architecture in the fourth quarter of fiscal year 2025.

Demand estimates for our products, applications, and services can be incorrect and create volatility in our revenue or supply levels. We may not be able to generate significant revenue from them. Advancements in accelerated computing and generative AI models, along with the growth in model complexity and scale, have driven increased demand for our Data Center systems.

We continue to increase our supply and capacity purchases with existing and new suppliers to support our demand projections and increasing complexity of our data center products. With these additions, we have also entered and may continue to enter into prepaid manufacturing and capacity agreements to supply both current and future products. The increased purchase volumes and integration of new suppliers and contract manufacturers into our supply chain creates more complexity in managing multiple suppliers with variations in production planning, execution and logistics. Our expanding product portfolio and varying component compatibility and quality may lead to increased inventory levels. We have incurred and may in the future incur inventory provisions or impairments if our inventory or supply or capacity commitments exceed demand for our products or demand declines.

# MD&A 10K



## Fiscal Year 2025 Summary

	Year Ended		
	Jan 26, 2025	Jan 28, 2024	Change
(\$ in millions, except per share data)			
Revenue	\$ 130,497	\$ 60,922	Up 114%
Gross margin	75.0 %	72.7 %	Up 2.3 pts
Operating expenses	\$ 16,405	\$ 11,329	Up 45%
Operating income	\$ 81,453	\$ 32,972	Up 147%
Net income	\$ 72,880	\$ 29,760	Up 145%
Net income per diluted share	\$ 2.94	\$ 1.19	Up 147%

We specialize in markets where our computing platforms can provide tremendous acceleration for applications. These platforms incorporate processors, interconnects, software, algorithms, systems, and services to deliver unique value. Our platforms address four large markets where our expertise is critical: Data Center, Gaming, Professional Visualization, and Automotive.

Revenue for fiscal year 2025 was \$130.5 billion, up 114% from a year ago.

Data Center revenue for fiscal year 2025 was up 142% from a year ago. The strong year-on-year growth was driven by demand for our Hopper architecture accelerated computing platform used for large language models, recommendation engines, and generative AI applications. We began shipping production systems of the Blackwell architecture in the fourth quarter of fiscal year 2025.

Gaming revenue for fiscal year 2025 was up 9% from a year ago, driven by sales of our GeForce RTX 40 Series GPUs.

Professional Visualization revenue for fiscal year 2025 was up 21% from a year ago, driven by the continued ramp of Ada RTX GPU workstations for use cases such as generative AI-powered design, simulation, and engineering.

Automotive revenue for fiscal year 2025 was up 55% from a year ago, driven by sales of our self-driving platforms.

Gross margin increased in fiscal year 2025 driven by a higher mix of Data Center revenue.

Operating expenses for fiscal year 2025 were up 45% from a year ago, driven by higher compensation and benefits expenses due to employee growth and compensation increases, and engineering development, compute and infrastructure costs for new product introductions.

## Macroeconomic Factors

Macroeconomic factors, including inflation, interest rate changes, capital market volatility, global supply chain constraints, tariffs, and global economic and geopolitical developments, may have direct and indirect impacts on our results of operations, particularly demand for our products. While difficult to isolate and quantify, these macroeconomic factors impact our supply chain and manufacturing costs, employee wages, costs for capital equipment and value of our investments. Our product and solution pricing generally does not fluctuate with short-term changes in our costs. Within our supply chain, we continuously manage product availability and costs with our vendors.

## Israel and Regional Conflicts

We are monitoring the impact of the geopolitical conflict in and around Israel on our operations, including the health and safety of our approximately 4,700 employees in the region who primarily support the research and development, operations, and sales and marketing of our networking products. Our global supply chain for our networking products has not experienced any significant impact. Some of our employees in the region have been on active military duty for an extended period and may continue to be absent, which may cause disruption to our product development or operations. We have not experienced significant impact or expense to our business; however, if the conflict is further extended or expanded, it could impact future product development, operations, and revenue or create other uncertainty for our business.



# Jensen Huang

Founder, President and CEO



Jensen Huang founded NVIDIA in 1993 and has served since its inception as president, chief executive officer, and a member of the board of directors.

Since its founding, NVIDIA has pioneered accelerated computing. The company's invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined computer graphics, and ignited the era of modern AI. NVIDIA is now driving the platform shift of accelerated computing and generative AI, transforming the world's largest industries and profoundly impacting society.

Huang has been elected to the National Academy of Engineering and is a recipient of the Semiconductor Industry Association's highest honor, the Robert N. Noyce Award; the IEEE Founder's Medal; the Dr. Morris Chang Exemplary Leadership Award; and honorary doctorate degrees from Taiwan's National Chiao Tung University, National Taiwan University, and Oregon State University. He has been named the world's best CEO by Fortune, the Economist, and Brand Finance, as well as one of TIME magazine's 100 most influential people.

Prior to founding NVIDIA, Huang worked at LSI Logic and Advanced Micro Devices. He holds a BSEE degree from Oregon State University and an MSEE degree from Stanford University.

# Chris A. Malachowsky

Founder and NVIDIA Fellow



Chris Malachowsky co-founded NVIDIA in 1993 and serves as senior technology executive with over 40 years of industry experience. He has been instrumental in managing and defining the company's core technologies, leading functions including IT, operations, product engineering, and NVIDIA's research organization. Malachowsky holds engineering degrees from University of Florida and Santa Clara University, has authored nearly 40 patents, and received recognition including induction into the Florida Inventors Hall of Fame in 2019 and an Emmy for producing the documentary *Inheritance* in 2009.

# Colette Kress

## EVP and Chief Financial Officer



Colette Kress joined NVIDIA as executive vice president and CFO in September 2013, bringing nearly 25 years of finance experience from major technology companies. She previously served as senior vice president and CFO at Cisco's Business Technology and Operations Finance organization, spent 13 years at Microsoft including four years as CFO of the Server and Tools division, and held senior finance positions at Texas Instruments. Kress holds a B.Sc. in finance from University of Arizona and an MBA from Southern Methodist University.

# Jay Puri

EVP, Worldwide Field Operations



Jay Puri is NVIDIA's Executive Vice President of Worldwide Field Operations, overseeing global sales, business development, partnerships, and support services. He joined NVIDIA in 2005 after 22 years at Sun Microsystems in various sales and management roles across Asia-Pacific, software, and product marketing. He previously worked at Hewlett-Packard, Booz Allen & Hamilton, and Texas Instruments. Puri holds a BS in electrical engineering from the University of Minnesota, an MS from Caltech, and an MBA from Harvard Business School.

# Debora Shoquist



EVP, Operations



Debora Shoquist is NVIDIA's Executive Vice President of Operations, responsible for supply chain, manufacturing, foundry operations, supplier management, logistics, and quality systems. She joined NVIDIA in 2007 and was promoted to her current role in 2009. She also oversaw construction of NVIDIA's 1.25 million-square-foot Santa Clara headquarters. Previously, she held executive operations roles at JDS Uniphase and Coherent, served as president of Quantum's PC Hard Disk Drive division, and spent 10 years in engineering and manufacturing management at HP. Shoquist holds a BS in electrical engineering from Kansas State University and a BS in biology from Santa Clara University.

# Tim Teter

EVP, General Counsel and Secretary



Tim Teter is executive vice president, general counsel and secretary of NVIDIA. He joined the company in January 2017, after more than two decades at the law firm of Cooley LLP.

He was most recently partner at Cooley, where he focused on litigating patent and technology related matters. Previous to attending law school, he worked as an engineer at Lockheed Missiles and Space Company.

Teter holds a J.D. from Stanford Law School and a B.S. in mechanical engineering from the University of California at Davis.

# BOARD OF DIRECTORS



**Rob Burgess**

Independent Consultant

**Tench Coxe**

Former Managing Director, Sutter Hill Ventures

**John O. Dabiri**

Centennial Professor of Aeronautics and  
Mechanical Engineering, California Institute of  
Technology

**Persis S. Drell**

Professor of Materials Science and Engineering  
and Physics, and Former Provost, Stanford  
University

**Jensen Huang**

Co-founder, President and Chief Executive Officer

**Dawn Hudson**

Former Chief Marketing Officer, National Football  
League & Former CEO Pepsi-Cola North America

**Harvey C. Jones**

Managing Partner, Square Wave Ventures

**Melissa B. Lora**

Former President, Taco Bell International

**Stephen C. Neal**

Chairman Emeritus and Senior Counsel, Cooley LLP

**Ellen Ochoa**

Former Director of NASA Johnson Space Center

**A. Brooke Seawell**

Venture Partner, New Enterprise Associates

**Aarti Shah**

Former Senior Vice President & Chief Information  
and Digital Officer, Eli Lilly and Company

**Mark A. Stevens**

Managing Partner, S-Cubed Capital



# CONDENSED CONSOLIDATED BALANCE SHEET—10Q



NVIDIA Corporation and Subsidiaries  
 Condensed Consolidated Balance Sheets  
 (In millions)  
 (Unaudited)

	Apr 27, 2025	Jan 26, 2025
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 15,234	\$ 8,589
Marketable securities	38,457	34,621
Accounts receivable, net	22,132	23,065
Inventories	11,333	10,080
Prepaid expenses and other current assets	2,779	3,771
Total current assets	89,935	80,126
Property and equipment, net	7,136	6,283
Operating lease assets	1,810	1,793
Goodwill	5,498	5,188
Intangible assets, net	769	807
Deferred income tax assets	13,318	10,979
Other assets	6,788	6,425
<b>Total assets</b>	<b>\$ 125,254</b>	<b>\$ 111,601</b>

# CONDENSED CONSOLIDATED BALANCE SHEET—10Q



## Liabilities and Shareholders' Equity

### Current liabilities:

Accounts payable	\$ 7,331	\$ 6,310
Accrued and other current liabilities	19,211	11,737
<b>Total current liabilities</b>	<b>26,542</b>	<b>18,047</b>
Long-term debt	8,464	8,463
Long-term operating lease liabilities	1,521	1,519
Other long-term liabilities	4,884	4,245
<b>Total liabilities</b>	<b>41,411</b>	<b>32,274</b>

Commitments and contingencies - see Note 11

### Shareholders' equity:

Preferred stock	—	—
Common stock	24	24
<b>Additional paid-in capital</b>	<b>11,475</b>	<b>11,237</b>
Accumulated other comprehensive income	186	28
<b>Retained earnings</b>	<b>72,158</b>	<b>68,038</b>
<b>Total shareholders' equity</b>	<b>83,843</b>	<b>79,327</b>
<b>Total liabilities and shareholders' equity</b>	<b>\$ 125,254</b>	<b>\$ 111,601</b>

# CONDENSED CONSOLIDATED BALANCE SHEET—10K



NVIDIA Corporation and Subsidiaries  
 Consolidated Balance Sheets  
 (In millions, except par value)

	Jan 26, 2025	Jan 28, 2024
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 8,589	\$ 7,280
Marketable securities	34,621	18,704
Accounts receivable, net	23,065	9,999
Inventories	10,080	5,282
Prepaid expenses and other current assets	3,771	3,080
<b>Total current assets</b>	<b>80,126</b>	<b>44,345</b>
Property and equipment, net	6,283	3,914
Operating lease assets	1,793	1,346
Goodwill	5,188	4,430
Intangible assets, net	807	1,112
Deferred income tax assets	10,979	6,081
Other assets	6,425	4,500
<b>Total assets</b>	<b>\$ 111,601</b>	<b>\$ 65,728</b>

# CONDENSED CONSOLIDATED BALANCE SHEET—10K



## Liabilities and Shareholders' Equity

### Current liabilities:

Accounts payable	\$ 6,310	\$ 2,699
Accrued and other current liabilities	11,737	6,682
Short-term debt	—	1,250
<b>Total current liabilities</b>	<b>18,047</b>	<b>10,631</b>
<b>Long-term debt</b>	<b>8,463</b>	<b>8,459</b>
Long-term operating lease liabilities	1,519	1,119
Other long-term liabilities	4,245	2,541
<b>Total liabilities</b>	<b>32,274</b>	<b>22,750</b>

### Commitments and contingencies - see Note 12

### Shareholders' equity:

Preferred stock, \$0.001 par value; 20 shares authorized; none issued	—	—
Common stock, \$0.001 par value; 80,000 shares authorized; 24,477 shares issued and outstanding as of January 26, 2025; 24,643 shares issued and outstanding as of January 28, 2024	24	25
Additional paid-in capital	11,237	13,109
Accumulated other comprehensive income	28	27
<b>Retained earnings</b>	<b>68,038</b>	<b>29,817</b>
<b>Total shareholders' equity</b>	<b>79,327</b>	<b>42,978</b>
<b>Total liabilities and shareholders' equity</b>	<b>\$ 111,601</b>	<b>\$ 65,728</b>

# CONSOLIDATED STATEMENT OF INCOME—10K



**NVIDIA Corporation and Subsidiaries**  
**Consolidated Statements of Income**  
 (In millions, except per share data)

	<b>Year Ended</b>		
	<b>Jan 26, 2025</b>	<b>Jan 28, 2024</b>	<b>Jan 29, 2023</b>
	\$	\$	\$
Revenue	\$ 130,497	\$ 60,922	\$ 26,974
Cost of revenue	32,639	16,621	11,618
<b>Gross profit</b>	<b>97,858</b>	<b>44,301</b>	<b>15,356</b>
Operating expenses			
Research and development	12,914	8,675	7,339
Sales, general and administrative	3,491	2,654	2,440
Acquisition termination cost	—	—	1,353
Total operating expenses	16,405	11,329	11,132
Operating income	81,453	32,972	4,224
Interest income	1,786	866	267
Interest expense	(247)	(257)	(262)
Other, net	1,034	237	(48)
Other income (expense), net	2,573	846	(43)
Income before income tax	84,026	33,818	4,181
Income tax expense (benefit)	11,146	4,058	(187)
<b>Net income</b>	<b>\$ 72,880</b>	<b>\$ 29,760</b>	<b>\$ 4,368</b>
Net income per share:			
Basic	\$ 2.97	\$ 1.21	\$ 0.18
Diluted	\$ 2.94	\$ 1.19	\$ 0.17
Weighted average shares used in per share computation:			
Basic	24,555	24,690	24,870
Diluted	24,804	24,940	25,070

# CONSOLIDATED STATEMENT OF INCOME—10Q



NVIDIA Corporation and Subsidiaries  
 Condensed Consolidated Statements of Income  
 (In millions, except per share data)  
 (Unaudited)

	Three Months Ended	
	Apr 27, 2025	Apr 28, 2024
Revenue	\$ 44,062	\$ 26,044
Cost of revenue	17,394	5,638
<b>Gross profit</b>	<b>26,668</b>	<b>20,406</b>
Operating expenses		
Research and development	3,989	2,720
Sales, general and administrative	1,041	777
Total operating expenses	5,030	3,497
Operating income	21,638	16,909
Interest income	515	359
Interest expense	(63)	(64)
Other income (expense), net	(180)	75
Total other income (expense), net	272	370
Income before income tax	21,910	17,279
Income tax expense	3,135	2,398
<b>Net income</b>	<b>\$ 18,775</b>	<b>\$ 14,881</b>
Net income per share:		
Basic	\$ 0.77	\$ 0.60
Diluted	\$ 0.76	\$ 0.60
Weighted average shares used in per share computation:		
Basic	24,441	24,620
Diluted	24,611	24,890

# CONSOLIDATED STATEMENT OF CASH FLOWS—10K



NVIDIA Corporation and Subsidiaries  
 Consolidated Statements of Cash Flows  
 (In millions)

	Year Ended		
	Jan 26, 2025	Jan 28, 2024	Jan 29, 2023
Cash flows from operating activities:			
Net income	\$ 72,880	\$ 29,760	\$ 4,368
Adjustments to reconcile net income to net cash provided by operating activities:			
Stock-based compensation expense	4,737	3,549	2,709
Depreciation and amortization	1,864	1,508	1,544
Deferred income taxes	(4,477)	(2,489)	(2,164)
(Gains) losses on non-marketable equity securities and publicly-held equity securities, net	(1,030)	(238)	45
Acquisition termination cost	—	—	1,353
Other	(502)	(278)	(7)
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable	(13,063)	(6,172)	822
Inventories	(4,781)	(98)	(2,554)
Prepaid expenses and other assets	(395)	(1,522)	(1,517)
Accounts payable	3,357	1,531	(551)
Accrued and other current liabilities	4,278	2,025	1,341
Other long-term liabilities	1,221	514	252
Net cash provided by operating activities	64,089	28,090	5,641

# CONSOLIDATED STATEMENT OF CASH FLOWS—10K



## Cash flows from investing activities:

Proceeds from maturities of marketable securities	11,195	9,732	19,425
Proceeds from sales of marketable securities	495	50	1,806
Proceeds from sales of non-marketable equity securities	171	1	8
Purchases of marketable securities	(26,575)	(18,211)	(11,897)
Purchases related to property and equipment and intangible assets	(3,236)	(1,069)	(1,833)
Purchases of non-marketable equity securities	(1,486)	(862)	(85)
Acquisitions, net of cash acquired	(1,007)	(83)	(49)
Other	22	(124)	—
<b>Net cash provided by (used in) investing activities</b>	<b>(20,421)</b>	<b>(10,566)</b>	<b>7,375</b>

## Cash flows from financing activities:

Proceeds related to employee stock plans	490	403	355
Payments related to repurchases of common stock	(33,706)	(9,533)	(10,039)
Payments related to tax on restricted stock units	(6,930)	(2,783)	(1,475)
Repayment of debt	(1,250)	(1,250)	—
Dividends paid	(834)	(395)	(398)
Principal payments on property and equipment and intangible assets	(129)	(74)	(58)
Other	—	(1)	(2)
<b>Net cash used in financing activities</b>	<b>(42,359)</b>	<b>(13,633)</b>	<b>(11,617)</b>

Change in cash and cash equivalents	1,309	3,891	1,399
Cash and cash equivalents at beginning of period	7,280	3,389	1,990
<b>Cash and cash equivalents at end of period</b>	<b>\$ 8,589</b>	<b>\$ 7,280</b>	<b>\$ 3,389</b>

## Supplemental disclosures of cash flow information:

Cash paid for income taxes, net	\$ 15,118	\$ 6,549	\$ 1,404
Cash paid for interest	\$ 246	\$ 252	\$ 254

# CONSOLIDATED STATEMENT OF CASH FLOWS—10Q



**NVIDIA Corporation and Subsidiaries**  
**Condensed Consolidated Statements of Cash Flows**  
 (In millions)  
 (Unaudited)

	Three Months Ended	
	Apr 27, 2025	Apr 28, 2024
Cash flows from operating activities:		
Net income	\$ 18,775	\$ 14,881
Adjustments to reconcile net income to net cash provided by operating activities:		
Stock-based compensation expense	1,474	1,011
Depreciation and amortization	611	410
(Gains) losses on non-marketable equity securities and publicly-held equity securities, net	175	(69)
Deferred income taxes	(2,177)	(1,577)
Other	(98)	(145)
Changes in operating assets and liabilities, net of acquisitions:		
Accounts receivable	933	(2,366)
Inventories	(1,258)	(577)
Prepaid expenses and other assets	560	(726)
Accounts payable	941	(22)
Accrued and other current liabilities	7,128	4,202
Other long-term liabilities	350	323
Net cash provided by operating activities	27,414	15,345

# CONSOLIDATED STATEMENT OF CASH FLOWS—10Q



Cash flows from investing activities:			
Proceeds from maturities of marketable securities	3,122	4,004	
Proceeds from sales of marketable securities	467	149	
Proceeds from sales of non-marketable equity securities	—	55	
Purchases of marketable securities	(6,546)	(9,303)	
Purchases related to property and equipment and intangible assets	(1,227)	(369)	
Purchases of non-marketable equity securities	(649)	(190)	
Acquisitions, net of cash acquired	(383)	(39)	
<b>Net cash used in investing activities</b>	<b>(5,216)</b>	<b>(5,693)</b>	
Cash flows from financing activities:			
Proceeds related to employee stock plans	370	285	
Payments related to repurchases of common stock	(14,095)	(7,740)	
Payments related to employee stock plan taxes	(1,532)	(1,752)	
Dividends paid	(244)	(98)	
Principal payments on property and equipment and intangible assets	(52)	(40)	
<b>Net cash used in financing activities</b>	<b>(15,553)</b>	<b>(9,345)</b>	
Change in cash and cash equivalents	6,645	307	
Cash and cash equivalents at beginning of period	8,589	7,280	
<b>Cash and cash equivalents at end of period</b>	<b>\$ 15,234</b>	<b>\$ 7,587</b>	

## ANALYST RECOMMENDATION



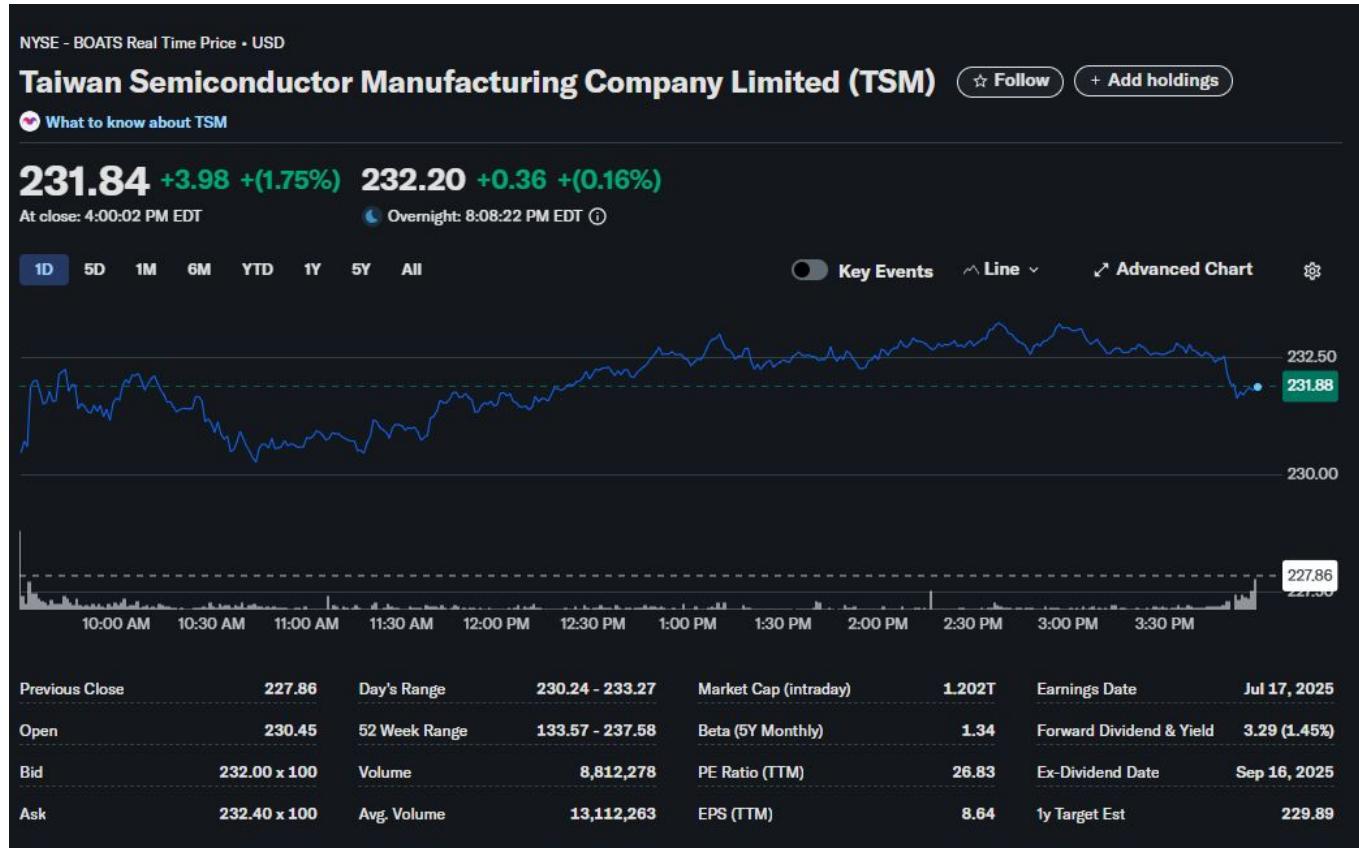
# RECOMMENDATION: MODERATE BUY

- **Improved Valuation Entry Point:** Stock now trades at 36x forward earnings, down from over 50x recently, providing more attractive risk-adjusted returns while maintaining significant upside potential in the expanding AI market.
- **Strong Product Cycle Momentum:** Blackwell platform launch driving near-term revenue growth with major customers like Meta and Alphabet increasing AI spending, plus upcoming Blackwell Ultra rollout in second half of 2025 supporting sustained demand.
- **Market Leadership in Growing Sector:** Dominant position in AI chip infrastructure with multi-trillion dollar market opportunity ahead, supported by continued enterprise AI adoption and next-generation applications like AI agents.
- **Reduced Trade Policy Headwinds:** Emerging clarity on tariff levels appearing more moderate than initially feared, creating favorable operating environment for growth stocks and international business operations.
- **Balanced Risk Profile:** While maintaining industry-leading growth prospects and strong customer partnerships with cloud providers, high valuation multiples and market volatility warrant measured position sizing despite positive fundamentals.

BUY

**NYSE: TSM**

# Key Information Metrics



# Key Information Metrics

NYSE - BOATS Real Time Price • USD

**Taiwan Semiconductor Manufacturing Company Limited (TSM)**

 [Is TSM a buy now?](#)

**231.84** +3.98 +(1.75%) **232.20** +0.36 +(0.16%)

At close: 4:00:02 PM EDT  Overnight: 8:08:22 PM EDT 

### Valuation Measures

Annual  **Quarterly**  Monthly 

	Current	3/31/2025	12/31/2024	9/30/2024	6/30/2024	3/31/2024
Market Cap	962.50B	710.47B	847.76B	785.24B	769.95B	627.98B
Enterprise Value	902.48B	665.38B	791.24B	751.75B	740.78B	604.04B
Trailing P/E	26.42	24.37	32.05	30.40	33.69	26.93
Forward P/E	24.04	18.80	22.52	20.88	28.01	22.03
PEG Ratio (5yr expected)	1.62	1.13	1.29	1.17	1.58	1.54
Price/Sales	10.88	9.88	12.70	11.67	13.06	10.45
Price/Book	7.49	6.74	8.44	7.51	8.07	6.53
Enterprise Value/Revenue	8.36	7.64	9.81	9.74	10.73	8.87
Enterprise Value/EBITDA	11.62	10.63	13.77	13.76	15.12	12.59

# Institutional Shareholders

## Top Institutional Holders

Holder	Shares	Date Reported	% Out	Value
FMR, LLC	51.98M	Mar 31, 2025	1.00%	11,882,087,260
Sanders Capital, LLC	41.52M	Mar 31, 2025	0.80%	9,491,091,155
Capital World Investors	30.76M	Mar 31, 2025	0.59%	7,030,800,396
JPMORGAN CHASE & CO	27.54M	Mar 31, 2025	0.53%	6,295,010,686
Capital International Investors	24.46M	Mar 31, 2025	0.47%	5,590,127,983
Morgan Stanley	19.03M	Mar 31, 2025	0.37%	4,350,544,834
Fisher Asset Management, LLC	18.01M	Mar 31, 2025	0.35%	4,115,481,381
Bank Of New York Mellon Corporation	17.61M	Mar 31, 2025	0.34%	4,025,061,143
Van Eck Associates Corporation	17.42M	Mar 31, 2025	0.34%	3,982,349,409
Massachusetts Financial Services Co.	15.8M	Mar 31, 2025	0.30%	3,612,480,166

# Previous Performance

# One Year Stock Performance



# One Year Stock Performance Vs NVDA & AMD



## Five Year Stock Performance



# Five Year Stock Performance Vs NVDA & AMD



# Ten Year Stock Performance

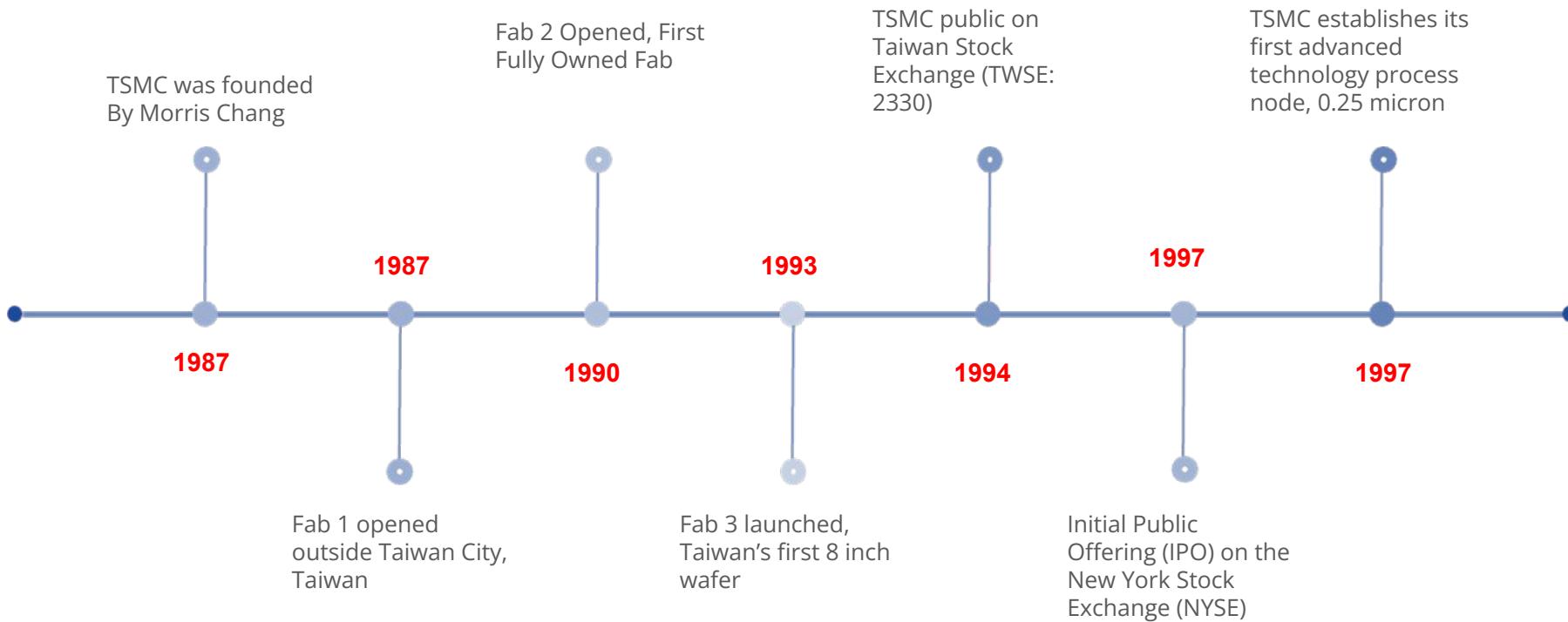


# Ten Year Stock Performance Vs NVDA & AMD

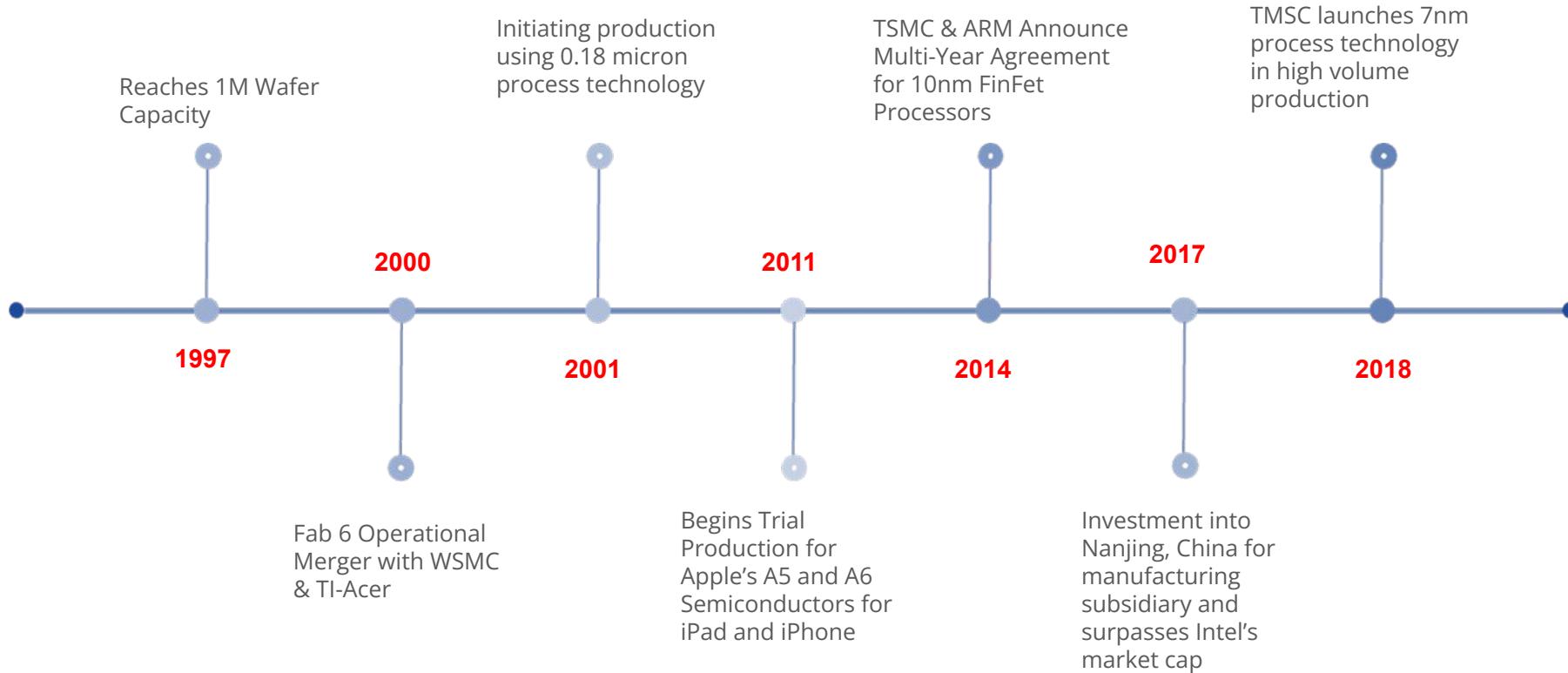


# Company Overview

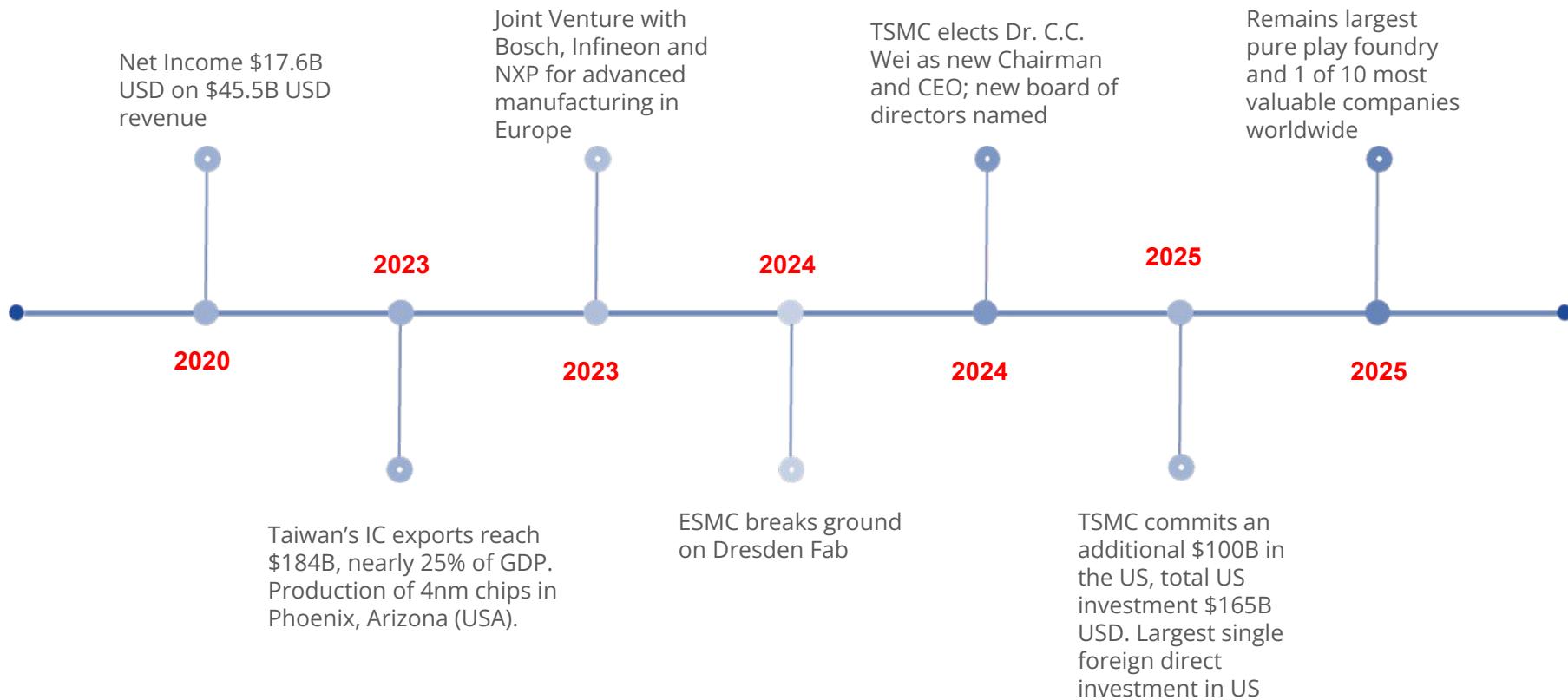
# Timeline of TSMC



# Timeline of TSMC



# Timeline of TSMC



# Company Overview

## Company Information

Taiwan Semiconductors Manufacturing Company (TSMC) is the largest dedicated pure play foundry in the industry.

Morris Chang founded TSMC in 1987 as a joint venture with the R.O.C. It began publicly trading on the NYSE in 1997.

TSMC's main products include advanced wafer fabrication (including 3nm & 5nm chips), packaging, testing and R&D.

Their semiconductors can be seen worldwide in many forms being used in high performance computing, smartphones, AI, IoT, automotives and digital consumer electronics.

## Mission

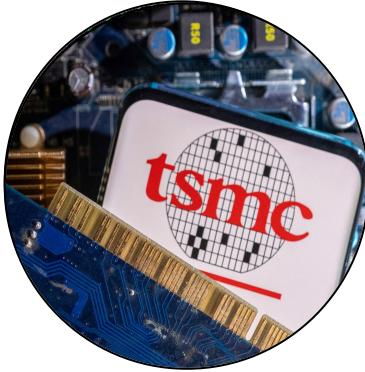
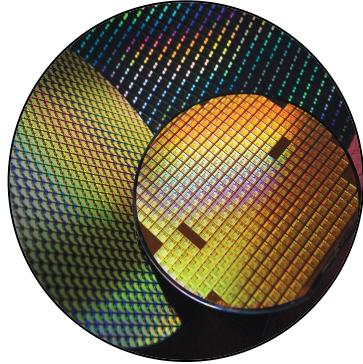
To be the trusted technology and capacity provider of the global logic IC industry for years to come. This encompasses technological leadership, reliability, trust, customer centricity and long term value creation.

*“Without Strategy, Execution is Aimless. Without Execution, Strategy is Useless.” - Morris Chang (Founder of TSMC)*

## Geographical Capabilities

TSMC has operations in Taiwan, China, U.S.A., Japan, and Europe. Their expansion overseas has new fabs and R&D centers in Arizona (U.S.A.), Kumamoto (Japan) and Dresden (Germany).

# TSMC Products



Product/  
Service

## Wafers

How They  
Are Used

Integrated Circuits on silicon wafers using a range of process nodes. Used for the base of complex electronic circuits and enable chip fabrication.

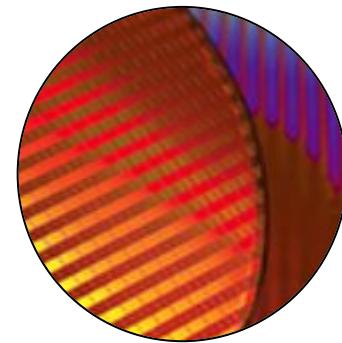
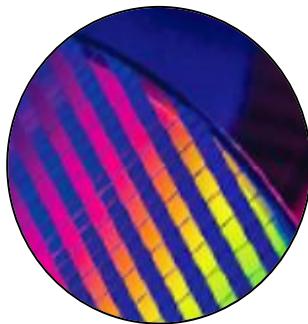
## Advanced Processing & Packaging

Offers specialized manufacturing options for high performance, low power and ultra low power chips. CoWoS critical for high performance AI chips.

## Specialty Technologies

Specialty processes for RF, embedded memory, image sensors, and power management ICs. Industry leader in RF CMOS technology

# Specialty Technologies



Product/  
Service

## MEMS (Micro Electronic Mechanical Systems)

How They  
Are Used

**Reduces size, power consumption and cost.**  
Offers support for high volume and reliability applications. Integrates CMOS and wafer stacking technologies.

## CMOS (Complementary Metal Oxide Semiconductor)

Most comprehensive CMOS image sensor, features **more applications, superior resolution, faster speed and lower power consumption**

## E-Flash & Non-Volatile Memory

Embedded Non-Volatile Memory portfolio provides **fastest computing capacity, smallest flash dimensions and lowest power consumption**.

# Technology Platforms

1

## High Performance Computing

Enables AI & 5G applications, accelerating digital transformation and semiconductor growth. Unprecedented demand for computing power in data centers and communication infrastructure.

2

## Automotives

Hybrid and electrical vehicles are rising in popularity, as people look for a "connected car". Companies attempt their version of a fully autonomous vehicle requiring semiconductors and TSMC's technology.

3

## IoT Platform

Fast growing segment with devices driving exponential growth of data for AI and enrich user experiences. Needs TSMC's low power and low leakage applications.

4

## Smartphones

TSMC offers an industry leading smartphone platform. With mobile devices becoming essential, alongside hardware and software advancing significantly, TSMC benefits greatly.

# Risks

# Risks

## Problem

## Economic Impact

### Geopolitical Risk



Tensions between Taiwan and China and the broader U.S.-China tech rivalry. Military conflict could reduce or destroy its manufacturing capacity.

### Regulatory Risk



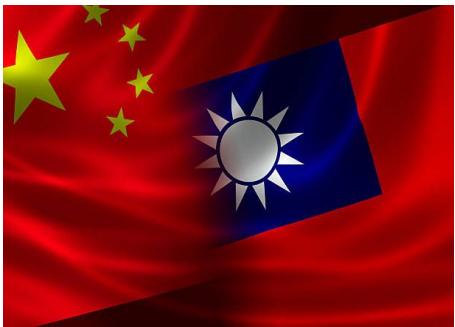
Due to increased U.S. export controls and TSMC's reliance on U.S. technology for manufacturing equipment, chips ending up in Chinese entities could result in fines.

### Climate & Environmental Risk



Transition to net-zero emissions could impact operations and value chain. This could also lead to increased media pressure to change practices

# Tensions Between China & Taiwan



## Historical Context

Initially starting after the Chinese Civil War in 1949, the defeated Republic of China (ROC) occupied Taiwan, while the People's Republic of China (PRC) was established on the mainland. The PRC has since stated Taiwan is a breakaway province and should be unified with the mainland. This leads to the risk of China invading Taiwan which could have repercussions for TSMC.

## TSMC

China has showed an inability to replicate TSMC's 3nm and other advanced manufacturing processes. This keeps it dependent on Taiwan and TSMC has a fab in China.

## Recent Political Tension

After the 2024 election where Lai Ching-Te became the President of Taiwan, he openly criticized Beijing's claims of the "One China" principle. He supports a fully independent Taiwan. China has dramatically increased its military exercises and showings around Taiwan and has sparked speculation about rehearsals vs real military action. This raises fears of accidental escalation or deliberate conflict. We believe these threats are unlikely to happen, with the U.S. even calling them dress rehearsals and not deliberate conflict.

# Tension Between U.S.A & China

## Company Information

The current situation of U.S.A. and China is higher risk than previous decades, but still considered as unlikely. Taiwan is currently strengthening its defenses and creating a heavier relationship with the U.S., as preparation for potential conflict.

The U.S. and China have imposed tariffs on Chinese goods, with semiconductor related products having some of the highest rates (as high as 55%). The U.S. aims to slow the progress China has on semiconductors, specifically in AI and military applications. They cut off the latest manufacturing tools and chips to China.

## Taiwan

The United States has unofficial relations with Taiwan, and provides military support. This is to deter Chinese aggression but not inciting confrontation.

## Global Support in Taiwan

U.S. allies such as Japan and the U.K. have increased naval transits through the Taiwan Strait. This demonstrates freedom of navigation, however China calls it provocative.

# Revenue Geography & Segments

Geography	Year ended December 31,					
	2022		2023		2024	
	Net Revenue	Percentage	Net Revenue	Percentage	Net Revenue	Percentage
(NT\$ in millions, except percentages)						
North America	1,534,642	68%	1,470,215	68%	2,031,326	70%
China	245,169	11%	267,154	12%	331,673	11%
Asia Pacific <sup>(1)</sup>	241,214	11%	174,947	8%	284,308	10%
EMEA <sup>(2)</sup>	123,767	5%	117,348	6%	102,761	4%
Japan	119,099	5%	132,072	6%	144,240	5%
Total	2,263,891	100%	2,161,736	100%	2,894,308	100%

Platform	Year ended December 31,					
	2022		2023		2024	
	Net Revenue	Percentage	Net Revenue	Percentage	Net Revenue	Percentage
(NT\$ in millions, except percentages)						
High Performance Computing	932,384	41%	934,769	43%	1,476,891	51%
Smartphone	888,879	39%	814,914	38%	1,005,130	35%
Internet of Things	196,115	9%	161,917	8%	165,516	6%
Automotive	116,381	5%	133,654	6%	139,323	5%
Digital Consumer Electronics	56,159	3%	47,000	2%	47,961	1%
Others	73,973	3%	69,482	3%	59,487	2%
Total	2,263,891	100%	2,161,736	100%	2,894,308	100%

# Semiconductor Size as Percentage

Resolution	Year ended December 31,		
	2022 Percentage of total wafer revenue <sup>(1)</sup>	2023 Percentage of total wafer revenue <sup>(1)</sup>	2024 Percentage of total wafer revenue <sup>(1)</sup>
3-nanometer	—	6%	18%
5-nanometer	26%	33%	34%
7-nanometer	27%	19%	17%
16-nanometer	13%	10%	8%
20-nanometer	—	1%	0%
28-nanometer	10%	10%	7%
40/45-nanometer	7%	6%	4%
65-nanometer	5%	6%	4%
90-nanometer	2%	1%	1%
0.11/0.13 micron	3%	2%	2%
0.15/0.18 micron	6%	5%	4%
≥0.25 micron	1%	1%	1%
Total	100%	100%	100%

# Management

# Morris Chang

Founder (Retired)



## Role at TSMC

Morris Chang founded TSMC and grew it into one of the world's largest manufacturers. He believed in focusing on manufacturing, in contrast to Intel who attempted to design and manufacture their chips. Chang desired excellent relationships with his customers, which included Apple, Nvidia and Qualcomm.

He believed other manufacturers of semiconductors were not sustainable, and made his own pure play foundry.

## Previous Roles

**President & COO at General Instrument  
Corporate Group and Senior VP at Texas Instruments**

Created First Pure Play Foundry

Established Strategic Partnerships

Visionary; Innovation & Scalability

## Education

Ph.D. Electrical Engineering (Stanford University)  
B.S. & M.S in Mechanical Engineering (MIT)

# Dr. C.C. Wei

Chairman & CEO



## Role at TSMC

### Previous Experience

### Education

Joined in 1998. C.C. Wei has played a significant role to TSMC's success as Co-CEO and President from Nov. 2013 - June 2018, Co-COO from Mar. 2012 - Nov. 2013 and Senior VP of Business Development from 2009-2012. Starting June 2024, he came Chairman and CEO.

C.C. Wei was pivotal in directing TSMC towards AI focused growth, global expansion and disciplined leadership.

**Senior VP of Technology at Chartered Semiconductors**  
**Senior Manager at Logic SRAM Technology**  
**Development at ST Microelectronics**  
**Technical Staff at Texas Instruments R&D**

B.S. Electrical Engineering (National Chiao Tung University)  
Ph.D Electrical Engineering (Yale University)

Chairman & CEO Starting June 2024

International Manufacturing Guidance

Cash Retention for Investments

# Wendell Huang

Senior Vice President, Finance and Chief Financial Officer/Spokesperson



## Role at TSMC

Wendell Huang joined TSMC in 1999 and led many corporate finance projects. He was responsible for the acquisitions of TASMC and WSMC alongside the sale of Philips' shares in TSMC to institutional investors. Under the Finance Division, he managed Investment Management, Financial Planning, SEC Compliance, Customer Credit, Foreign Exchange management, Financial Risk Management and Funding & Cashier.

## Previous Experience

**Various Finance Roles at ING Barings, Chase Manhattan Bank, Bankers Trust Company, Chemical Bank, and Bank of Boston.**

## Education

B.B.A in Statistics (National Chengchi University)  
MBA (Cornell University)

Deputy CFO in January 2019

Over 30 Years Finance Experience

Cash Retention for Investments

# Dr. Wei-Jen Lo

Senior Vice President, Corporate Strategy Development



## Role at TSMC

Dr. Wei-Jen Lo started in 2004 as a VP of Operations II and moved to VP of Research and Development from 2006-2009. Following this, he was VP of Advanced Technology Business, and Operations for Manufacturing Technology. His most valuable contribution was earning more than 1500 patents globally, and creating innovative solutions for customers problems.

## Previous Experience

**Director of Technology Development and Plant Manager at Intel Corporation's Technology and Manufacturing Group**

**Assistant Professor at a U.S. University**

**Various Roles at Motorola and Xerox**

## Education

M.S. and Ph.D. in Solid State Physics and Surface Chemistry (University of California, Berkeley)  
B.S. in Physics (National Taiwan University)

Senior VP Corporate Strategy Development Since March 2024

Secured 1500 Patents Globally

Global Expansion in Research & Dev.

# Dr. Y.P. Chyn

Executive Vice President and Co-Chief Operating Officer



## Role at TSMC

Dr. Y.P. Chyn joined TSMC when it was founded in 1987 and has contributed largely to its engineering capabilities. He was a Fab 1 Director from 1997-1998 and assumed later positions that supported yield improvement for advanced technology. He contributed to developments in the 28nm, 16nm, 7 nm, N22 and N12 nodes/subnodes. He also pioneered TSMC's golden Spice Modelling methodology.

## Previous Experience

**Engineer at Industrial Technology Research Institute's Research and Service Organization (ERSO-ITRI)**

**Executive VP and Co-COO Since March 1, 2024**

**Manages Fabs (Taiwan & Overseas)**

**Stable Operations and Growth**

## Education

**B.S. and M.S. in Electrical Engineering (National Cheng Kung University)**

# Dr. Y.J. Mii

Executive Vice President and Co-Chief Operating Officer



## Role at TSMC

Dr. Y.J. Mii joined TSMC in 1994 as a manager of Fab 3. He later joined the R&D organization in 2001. In 2011, he was appointed VP of R&D then Senior VP in 2016. He contributed greatly to CMOS technology and successfully developed 90 nm, 40 nm and 28 nm technologies.

## Previous Experience & Awards

**Research Staff Member at IBM Research Center**  
**IEEE Frederik Phillips Award (2022) for R&D at TSMC**

Executive VP & Co-COO Since March 1, 2024

90,40 and 28 nm technologies

34 Patents Globally

## Education

M.S. and Ph.D. in Solid State Physics and Surface Chemistry (University of California, Berkeley)  
B.S. in Physics (National Taiwan University)

# Lora Ho

Senior Vice President, Corporate Strategy Development



## Role at TSMC

Lora Ho held many positions at TSMC, such as Corporate Controller in 1999, then CFO and Spokesperson from 2003 to 2019. She later served as Senior VP of Europe and Asian Sales, until sinking into her role as ESG Committee Chairperson and Senior VP of Human Resources.

## Awards & Recognition

**“Outstanding Financial Executive” Award**

**“Best Companies’ Best CFO” Award**

**Named One of “Nine Most Influential Women in Asian Tech”**

Senior VP of HR September 2022-2025

Tripled Annual Profit as CFO

Sales Expansion in Europe and Asia

## Education

MBA (National Taiwan University)  
B.A. (National Cheng-Chi University)

# Culture of TSMC Leadership



- 1 | History of Internal Promotion For Leadership Transitions
- 2 | Succession Planning and Excellent Recruitment
- 3 | Talent Development - Government Training Programs
- 4 | Global Adoption of Management Cultures
- 5 | Job Rotation and Self-Directed Learning

# 2030 Talent Development Goals

1.

**No Less Than 50%** of Job Vacancies Shall Be Filled Through Internal Transfers

2.

**No Less Than 75%** of Manager Positions Shall Be Filled Through Internal Promotions

3.

Non-Required Courses on the E-Learning Platform Offered By Self-Directed Learning Program Shall Register A Usage Rate Of **At Least 60%**

# Financials

# Quarterly Consolidated Condensed Balance Sheet

(In Millions of New Taiwan Dollars or U.S. Dollars)

ASSETS	March 31, 2025 (Unaudited)			December 31, 2024 (Audited)			March 31, 2024 (Unaudited)		
	USD	NTD	%	NTD	%	NTD	%	NTD	%
<b>Current Assets</b>									
Cash and Cash Equivalents	\$ 72,122	\$ 2,394,804	33.6	\$ 2,127,627	31.8	\$ 1,698,196	29.3		
Investments in Marketable Financial Instruments	9,284	308,281	4.3	294,392	4.4	224,460	3.9		
Accounts Receivable	7,347	243,949	3.4	272,088	4.1	201,980	3.5		
Inventories	8,836	293,388	4.1	287,869	4.3	267,123	4.6		
Other Current Assets	3,169	105,242	1.5	106,376	1.6	61,008	1.1		
Total Current Assets	100,758	3,345,664	46.9	3,088,352	46.2	2,452,767	42.4		
<b>Non-current Assets</b>									
Long-term Investments	4,842	160,793	2.2	149,040	2.2	138,469	2.4		
Property, Plant and Equipment	102,419	3,400,806	47.7	3,234,980	48.3	3,051,848	52.7		
Right-of-use, Intangible and Other Non-current Assets	6,807	226,024	3.2	219,566	3.3	144,807	2.5		
Total Non-current Assets	114,068	3,787,623	53.1	3,603,586	53.8	3,335,124	57.6		
Total Assets	\$ 214,826	\$ 7,133,287	100.0	\$ 6,691,938	100.0	\$ 5,787,891	100.0		
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>									
<b>Current Liabilities</b>									
Accounts Payable	\$ 2,315	\$ 76,854	1.1	\$ 74,227	1.1	\$ 57,610	1.0		
Payables to Contractors and Equipment Suppliers	5,996	199,087	2.8	192,635	2.9	127,179	2.2		
Cash Dividends Payable	7,029	233,394	3.3	220,419	3.3	181,525	3.1		
Accrued Expenses and Other Current Liabilities	24,957	828,696	11.6	717,386	10.7	647,366	11.2		
Current Portion of Bonds Payable and Bank Loans	1,860	61,772	0.8	59,858	0.9	12,500	0.2		
Total Current Liabilities	42,157	1,399,803	19.6	1,264,525	18.9	1,026,180	17.7		
<b>Non-current Liabilities</b>									
Bonds Payable	28,558	948,257	13.3	926,604	13.8	955,540	16.5		
Other Non-current Liabilities	5,529	183,603	2.6	177,233	2.7	140,455	2.5		
Total Non-current Liabilities	34,087	1,131,860	15.9	1,103,837	16.5	1,095,995	19.0		
Total Liabilities	76,244	2,531,663	35.5	2,368,362	35.4	2,122,175	36.7		
<b>Equity Attributable to Shareholders of the Parent</b>									
Capital Stock at Par Value	7,810	259,326	3.6	259,327	3.9	259,336	4.5		
Capital Surplus	2,208	73,307	1.0	73,261	1.1	70,941	1.2		
Legal Capital Reserve	9,370	311,147	4.4	311,147	4.6	311,147	5.4		
Special Capital Reserve	-	-	-	-	-	28,021	0.5		
Unappropriated Earnings	115,980	3,851,130	54.0	3,606,105	53.9	2,955,396	51.0		
Others	2,086	69,252	1.0	38,705	0.6	10,891	0.2		
Equity Attributable to Shareholders of the Parent	137,454	4,564,162	64.0	4,288,545	64.1	3,635,732	62.8		
Noncontrolling Interests	1,128	37,462	0.5	35,031	0.5	29,984	0.5		
Total Shareholders' Equity	138,582	4,601,624	64.5	4,323,576	64.6	3,665,716	63.3		
Total Liabilities & Shareholders' Equity	\$ 214,826	\$ 7,133,287	100.0	\$ 6,691,938	100.0	\$ 5,787,891	100.0		

# 20-F Balance Sheet (Assets)

(In Millions of New Taiwan Dollars or U.S. Dollars)

	Notes	December 31, 2023	December 31, 2024
		NT\$	NT\$ USS (Note 3)
<b>ASSETS</b>			
<b>CURRENT ASSETS</b>			
Cash and cash equivalents	7	\$ 1,465,427.8	\$ 2,127,627.0 \$ 64,886.5
Financial assets at fair value through profit or loss	8	924.6	207.7 6.3
Financial assets at fair value through other comprehensive income	9	154,530.8	192,202.7 5,861.6
Financial assets at amortized cost	10	66,761.2	101,971.3 3,109.8
Hedging financial assets	11	-	11.0 0.3
Notes and accounts receivable, net	12	201,313.9	270,683.2 8,255.1
Receivables from related parties	34	624.4	1,404.5 42.8
Other receivables from related parties	34	71.9	0.2 -
Inventories	6, 13	250,997.1	287,868.8 8,779.2
Other financial assets	30, 31, 35	27,158.8	63,138.3 1,925.6
Other current assets		26,222.4	43,237.4 1,318.6
Total current assets		<u>2,194,032.9</u>	<u>3,088,352.1</u> <u>94,185.8</u>
<b>NONCURRENT ASSETS</b>			
Financial assets at fair value through profit or loss	8	13,417.5	15,199.8 463.6
Financial assets at fair value through other comprehensive income	9	7,208.7	7,822.9 238.6
Financial assets at amortized cost	10	79,199.4	88,596.5 2,701.9
Investments accounted for using equity method	14	29,442.0	37,247.8 1,135.9
Property, plant and equipment	6, 15, 30	3,064,475.0	3,234,980.1 98,657.5
Right-of-use assets	6, 16	40,424.7	40,128.4 1,223.8
Intangible assets	6, 17	22,766.7	26,282.5 801.5
Deferred income tax assets	6, 26	64,175.8	65,943.3 2,011.1
Refundable deposits		7,044.5	5,495.9 167.6
Other noncurrent assets	30, 31	<u>10,009.4</u>	<u>81,715.4</u> <u>2,492.1</u>
Total noncurrent assets		<u>3,338,163.7</u>	<u>3,603,412.6</u> <u>109,893.6</u>
<b>TOTAL</b>		<b>\$ 5,532,196.6</b>	<b>\$ 6,691,764.7</b> <b>\$ 204,079.4</b>

# 20-F Balance Sheet (Liabilities + Equity)

(In Millions of New Taiwan Dollars or U.S. Dollars)

Notes	December 31, 2023		December 31, 2024	
	NTS	USS (Note 3)	NTS	USS
<b>LIABILITIES AND EQUITY</b>				
<b>CURRENT LIABILITIES</b>				
Financial liabilities at fair value through profit or loss	8	\$ 121.4	\$ 466.5	\$ 14.2
Hedging financial liabilities	11, 31	27,334.2	-	-
Accounts payable		55,726.8	72,800.6	2,220.2
Payables to related parties	34	1,566.3	1,426.0	43.5
Salary and bonus payable		33,200.6	47,451.5	1,447.1
Accrued profit sharing bonus to employees and compensation to directors	29	50,716.9	70,871.2	2,161.4
Payables to contractors and equipment suppliers		171,484.6	192,635.2	5,874.8
Cash dividends payable	21	168,558.5	220,418.8	6,722.2
Income tax payable	6, 26	128,134.6	191,569.4	5,842.3
Long-term liabilities - current portion	18, 19, 31	9,293.3	59,857.9	1,825.5
Accrued expenses and other current liabilities	6, 16, 22, 31	296,667.9	451,158.8	13,759.0
Total current liabilities		942,805.1	1,308,655.9	39,910.2
<b>NONCURRENT LIABILITIES</b>				
Bonds payable	18, 31	913,899.8	926,604.5	28,258.7
Long-term bank loans	19, 31	4,383.0	31,824.4	970.5
Deferred income tax liabilities	6, 26	53.8	3,988.5	121.6
Lease liabilities	6, 16, 31	28,681.8	28,755.3	877.0
Net defined benefit liability	20	9,257.2	7,580.7	231.2
Guarantee deposits		923.2	845.6	25.8
Others	22	178,326.2	104,238.2	3,179.0
Total noncurrent liabilities		1,135,525.0	1,103,837.2	33,663.8
Total liabilities		2,078,330.1	2,412,493.1	73,574.0
<b>EQUITY ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT</b>				
Capital stock	21	259,320.7	259,327.3	7,908.7
Capital surplus	21, 28	69,876.4	73,260.8	2,234.2
Retained earnings	21			
Appropriated as legal capital reserve		311,147.0	311,147.0	9,489.1
Unappropriated earnings		2,817,492.6	3,561,826.4	108,625.4
		3,128,639.6	3,872,973.4	118,114.5
Others	21, 28	(28,314.3)	38,705.0	1,180.4
Equity attributable to shareholders of the parent		3,429,522.4	4,244,266.5	129,437.8
<b>NON - CONTROLLING INTERESTS</b>				
Total equity		3,453,866.5	4,279,271.6	130,505.4
<b>TOTAL</b>		<b>\$ 5,532,196.6</b>	<b>\$ 6,691,764.7</b>	<b>\$ 204,079.4</b>

# 20-F Statement of Income

(In Millions of New Taiwan Dollars or U.S. Dollars)

	Notes	2022 NT\$	2023 NT\$	2024 NT\$	USS (Note 3)
<b>NET REVENUE</b>	6, 22, 34, 38	\$ 2,263,891.3	\$ 2,161,735.8	\$ 2,894,307.7	\$ 88,268.0
<b>COST OF REVENUE</b>	6, 13, 29, 34, 37	915,536.5	986,625.2	1,269,954.1	38,729.9
<b>GROSS PROFIT</b>		<b>1,348,354.8</b>	<b>1,175,110.6</b>	<b>1,624,353.6</b>	<b>49,538.1</b>
OPERATING EXPENSES	6, 29, 34				
Research and development		163,262.2	182,370.2	204,181.8	6,227.0
General and administrative		53,524.8	60,872.8	83,745.0	2,554.0
Marketing		9,920.5	10,590.7	13,143.6	400.8
Total operating expenses		<b>226,707.5</b>	<b>253,833.7</b>	<b>301,070.4</b>	<b>9,181.8</b>
<b>OTHER OPERATING INCOME AND EXPENSES, NET</b>	15, 29, 37	<b>(368.4)</b>	<b>188.7</b>	<b>(1,230.2)</b>	<b>(37.5)</b>
<b>INCOME FROM OPERATIONS</b>	38	<b>1,121,278.9</b>	<b>921,465.6</b>	<b>1,322,053.0</b>	<b>40,318.8</b>
NON-OPERATING INCOME AND EXPENSES					
Share of profits of associates		7,679.8	4,800.2	4,880.7	148.8
Interest income	23	22,422.2	60,293.9	87,213.4	2,659.8
Other income		947.7	480.0	566.9	17.3
Foreign exchange gain (loss), net		4,505.8	(2,685.4)	10,000.8	305.0
Finance costs	24	(11,750.0)	(11,999.4)	(10,495.4)	(320.1)
Other gains and losses, net	25	(1,012.2)	6,961.6	(8,379.4)	(255.6)
Total non-operating income and expenses		<b>22,793.3</b>	<b>57,850.9</b>	<b>83,787.0</b>	<b>2,555.2</b>
<b>INCOME BEFORE INCOME TAX</b>		<b>1,144,072.2</b>	<b>979,316.5</b>	<b>1,405,840.0</b>	<b>42,874.0</b>
<b>INCOME TAX EXPENSE</b>	6, 26	<b>150,777.5</b>	<b>128,288.8</b>	<b>248,316.1</b>	<b>7,572.9</b>
<b>NET INCOME</b>		<b>993,294.7</b>	<b>851,027.7</b>	<b>1,157,523.9</b>	<b>35,301.1</b>
OTHER COMPREHENSIVE INCOME (LOSS)	6, 20, 21, 26				
Items that will not be reclassified subsequently to profit or loss:					
Remeasurement of defined benefit obligation		(823.1)	(623.4)	144.4	4.4
Unrealized gain (loss) on investments in equity instruments at fair value through other comprehensive income		(263.7)	1,954.6	5,091.9	155.3
Gain on hedging instruments		-	39.9	5.0	0.1
Share of other comprehensive income (loss) of associates		154.5	42.6	(69.4)	(2.1)
Income tax benefit (expense) related to items that will not be reclassified subsequently		734.0	124.6	(38.9)	(1.2)
		<b>(198.3)</b>	<b>1,538.3</b>	<b>5,133.0</b>	<b>156.5</b>
Items that may be reclassified subsequently to profit or loss:					
Exchange differences arising on translation of foreign operations		50,845.6	(14,464.4)	64,299.7	1,961.0
Unrealized gain (loss) on investments in debt instruments at fair value through other comprehensive income		(10,102.7)	4,123.2	1,949.9	59.5

(Continued)

# 20-F Statement of Income (Cont'd)

(In Millions of New Taiwan Dollars or U.S. Dollars)

Notes	2022		2023		2024	
	NT\$	NT\$	NT\$	NT\$	USS (Note 3)	
Gain (loss) on hedging instruments	\$ 1,329.2	\$ (74.7)	\$ (80.2)	\$ (2.4)		
Share of other comprehensive income of associates	\$ 550.3	\$ 63.9	\$ 283.3	\$ 8.6		
Income tax benefit related to items that may be reclassified subsequently	\$ 6.0	\$ -	\$ -	\$ -		
	<u>42,628.4</u>	<u>(10,352.0)</u>	<u>66,452.7</u>	<u>2,026.7</u>		
Other comprehensive income (loss), net of income tax	<u>42,430.1</u>	<u>(8,813.7)</u>	<u>71,585.7</u>	<u>2,183.2</u>		
<b>TOTAL COMPREHENSIVE INCOME</b>	<b>\$ 1,035,724.8</b>	<b>\$ 842,214.0</b>	<b>\$ 1,229,109.6</b>	<b>\$ 37,484.3</b>		
<b>NET INCOME (LOSS) ATTRIBUTABLE TO:</b>						
Shareholders of the parent	\$ 992,923.4	\$ 851,740.0	\$ 1,158,380.2	\$ 35,327.2		
Non-controlling interests	\$ 371.3	\$ (712.3)	\$ (856.3)	\$ (26.1)		
	<u>\$ 993,294.7</u>	<u>\$ 851,027.7</u>	<u>\$ 1,157,523.9</u>	<u>\$ 35,301.1</u>		
<b>TOTAL COMPREHENSIVE INCOME (LOSS) ATTRIBUTABLE TO:</b>	<b>\$ 1,035,518.1</b>	<b>\$ 843,751.9</b>	<b>\$ 1,230,949.1</b>	<b>\$ 37,540.4</b>		
Shareholders of the parent	\$ 206.7	\$ (1,537.9)	\$ (1,839.5)	\$ (56.1)		
	<u>\$ 1,035,724.8</u>	<u>\$ 842,214.0</u>	<u>\$ 1,229,109.6</u>	<u>\$ 37,484.3</u>		
<b>EARNINGS PER SHARE</b>	<b>27</b>					
Basic earnings per share	\$ 38.29	\$ 32.85	\$ 44.68	\$ 1.36		
Diluted earnings per share	\$ 38.29	\$ 32.85	\$ 44.67	\$ 1.36		
<b>EARNINGS PER EQUIVALENT ADS</b>						
Basic earnings per share	\$ 191.46	\$ 164.24	\$ 223.39	\$ 6.81		
Diluted earnings per share	\$ 191.46	\$ 164.24	\$ 223.37	\$ 6.81		

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

# Quarterly Consolidated Condensed Statement of Income

(In Millions of New Taiwan Dollars or U.S. Dollars)

	1Q 2025			4Q 2024			1Q 2024		
	USD	NTD	%	NTD	%	NTD	%	NTD	%
Net Revenue	\$ 25,526	\$ 839,254	100.0	\$ 868,461	100.0	\$ 592,644	100.0		
Cost of Revenue	(10,519)	(345,859)	(41.2)	(356,082)	(41.0)	(278,139)	(46.9)		
Gross Profit	15,007	493,395	58.8	512,379	59.0	314,505	53.1		
Operating Expenses									
Research and Development Expenses	(1,720)	(56,547)	(6.8)	(57,232)	(6.6)	(46,109)	(7.8)		
Sales, General and Administrative Expenses	(871)	(28,639)	(3.4)	(29,108)	(3.4)	(19,248)	(3.3)		
Total Operating Expenses	(2,591)	(85,186)	(10.2)	(86,340)	(10.0)	(65,357)	(11.1)		
Other Operating Income and Expenses	(34)	(1,128)	(0.1)	(326)	-	(130)	-		
Income from Operations	12,382	407,081	48.5	425,713	49.0	249,018	42.0		
Non-operating Income and Expenses									
Share of Profits of Associates	41	1,368	0.2	1,289	0.2	878	0.2		
Net Interest Income (Expenses)	675	22,182	2.6	21,750	2.5	16,661	2.8		
Other Gains and Losses	8	264	-	46	-	(14)	-		
Total Non-operating Income and Expenses	724	23,814	2.8	23,085	2.7	17,525	3.0		
Income Before Income Tax	13,106	430,895	51.3	448,798	51.7	266,543	45.0		
Income Tax Expenses	(2,134)	(70,162)	(8.3)	(74,329)	(8.6)	(41,322)	(7.0)		
Net Income	10,972	360,733	43.0	374,469	43.1	225,221	38.0		
Other Comprehensive Income	970	31,897	3.8	37,903	4.4	41,274	7.0		
Comprehensive Income	\$ 11,942	\$ 392,630	46.8	\$ 412,372	47.5	\$ 266,495	45.0		
Net Income (Losses) Attributable to:									
Shareholders of the Parent	\$ 10,997	\$ 361,564	43.1	\$ 374,680	43.1	\$ 225,485	38.0		
Noncontrolling Interests	(25)	(831)	(0.1)	(211)	-	(264)	-		
	\$ 10,972	\$ 360,733	43.0	\$ 374,469	43.1	\$ 225,221	38.0		
Earnings per Share - Diluted	\$ 0.42	\$ 13.94		\$ 14.45		\$ 8.70			
Earnings per ADR - Diluted <sup>(1)</sup>	\$ 2.12	\$ 69.72		\$ 72.25		\$ 43.48			
Weighted Average Outstanding Shares - Diluted ('M)		25,929		25,929		25,930			

# 20-F Cash Flows Statement

(In Millions of New Taiwan Dollars or U.S. Dollars)

	2022 NTS	2023 NTS	2024 NTS	USS (Note 3)
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
Income before income tax	\$1,144,072.2	\$ 979,316.5	\$1,405,840.0	\$42,874.0
Adjustments for:				
Depreciation expense	428,498.2	522,932.7	653,610.5	19,933.2
Amortization expense	8,756.1	9,258.2	9,186.1	280.2
Expected credit losses recognized on investments in debt instruments	52.4	35.7	49.9	1.5
Finance costs	11,750.0	11,999.4	10,495.4	320.1
Share of profits of associates	(7,679.8)	(4,800.2)	(4,880.7)	(148.8)
Interest income	(22,422.2)	(60,293.9)	(87,213.4)	(2,659.8)
Share-based compensation	302.4	483.0	1,242.7	37.9
Loss (gain) on disposal or retirement of property, plant and equipment, net	(98.9)	369.1	2,597.9	79.2
Loss (gain) on disposal or retirement of intangible assets, net	6.0	(3.0)	-	-
Impairment loss on property, plant and equipment	790.7	-	1,150.5	35.1
Loss (gain) on financial instruments at fair value through profit or loss, net	-	(12.4)	137.7	4.2
Loss on disposal of investments in debt instruments at fair value through other comprehensive income, net	410.1	473.9	683.1	20.8
Gain on disposal of investments accounted for using equity method, net	-	(15.8)	(7.1)	(0.2)
Loss (gain) on foreign exchange, net	10,342.7	(246.7)	4,576.3	139.6
Dividend income	(266.8)	(464.1)	(566.9)	(17.3)
Others	138.8	(338.0)	(435.7)	(13.3)
Changes in operating assets and liabilities:				
Financial instruments at fair value through profit or loss	(1,354.4)	289.6	842.6	25.7
Notes and accounts receivable, net	(32,169.9)	28,442.0	(69,369.4)	(2,115.6)
Receivables from related parties	(868.7)	959.5	(780.1)	(23.8)
Other receivables from related parties	(7.5)	(2.9)	71.7	2.2
Inventories	(28,046.8)	(29,847.9)	(36,871.7)	(1,124.5)
Other financial assets	(1,680.6)	1,878.7	(2,377.5)	(72.5)
Other current assets	(4,450.9)	(12,530.9)	(15,537.3)	(473.8)
Other noncurrent assets	-	(720.3)	(3,862.0)	(117.8)
Accounts payable	7,594.1	847.0	17,073.8	520.7
Payables to related parties	205.4	(76.3)	(140.3)	(4.3)
Salary and bonus payable	12,633.4	(3,234.9)	14,250.9	434.6
Accrued profit sharing bonus to employees and compensation to directors	25,223.9	(11,031.6)	20,154.3	614.7
Accrued expenses and other current liabilities	46,578.8	(44,466.7)	74,659.4	2,276.9
Other noncurrent liabilities	101,390.5	13,329.9	16,768.7	511.4
Net defined benefit liability	(2,538.8)	(687.2)	(1,532.2)	(46.7)
Cash generated from operations	1,697,160.4	1,401,842.4	2,009,817.2	61,293.6
Income taxes paid	(86,561.2)	(159,875.1)	(183,640.1)	(5,600.5)
Net cash generated by operating activities	1,610,599.2	1,241,967.3	1,826,177.1	55,693.1

# 20-K Cash Flows Statement

(In Millions of New Taiwan Dollars or U.S. Dollars)

	2022 NT\$	2023 NT\$	2024 NT\$	2024 US\$ (Note 3)
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>				
Acquisitions of:				
Financial instruments at fair value through profit or loss	\$ (125.5)	\$ (14,142.1)	\$ (1,178.8)	\$ (35.9)
Financial assets at fair value through other comprehensive income	(54,566.7)	(62,752.0)	(87,787.5)	(2,677.3)
Financial assets at amortized cost	(183,125.9)	(149,387.9)	(151,656.4)	(4,625.1)
Investments accounted for using equity method	-	-	(3,738.8)	(114.0)
Property, plant and equipment	(1,082,672.1)	(949,816.8)	(956,006.5)	(29,155.4)
Intangible assets	(6,954.3)	(5,518.4)	(8,875.7)	(270.7)
Proceeds from disposal or redemption of:				
Financial assets at fair value through other comprehensive income	44,963.4	35,698.6	67,684.5	2,064.2
Financial assets at amortized cost	62,329.7	134,605.8	118,350.9	3,609.4
Property, plant and equipment	983.3	703.9	894.6	27.3
Intangible assets	12.6	3.1	57.2	1.7
Proceeds from return of capital of investments in equity instruments at fair value through other comprehensive income	2.9	128.0	325.9	9.9
Derecognition of hedging financial instruments	1,684.4	68.2	118.3	3.6
Interest received	18,083.7	55,887.2	76,434.1	2,331.0
Proceeds from government grants - property, plant and equipment	7,046.1	47,544.7	75,164.0	2,292.3
Proceeds from government grants - others	5.3	1.2	0.3	-
Other dividends received	266.8	445.1	541.8	16.5
Dividends received from investments accounted for using equity method	2,749.7	3,076.5	2,965.2	90.4
Increase in prepayments for leases	-	(63.2)	(99.4)	(3.0)
Refundable deposits paid	(2,117.1)	(4,056.5)	(1,304.8)	(39.8)
Refundable deposits refunded	505.4	1,454.0	3,268.3	99.7
<b>Net cash used in investing activities</b>	<b>(1,190,928.3)</b>	<b>(906,120.6)</b>	<b>(864,842.8)</b>	<b>(26,375.2)</b>

# 20-K Cash Flows Statement

(In Millions of New Taiwan Dollars or U.S. Dollars)

	2022 NTS	2023 NTS	2024 NTS	2024 USS
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>				
Decrease in short-term loans	(111,960.0)	-	-	-
Increase (decrease) in hedging financial liabilities - bank loans	-	27,908.6	(26,496.6)	(808.1)
Proceeds from issuance of bonds	198,293.6	85,700.0	34,300.0	1,046.0
Repayment of bonds	(4,400.0)	(18,100.0)	(7,000.0)	(213.5)
Proceeds from long-term bank loans	2,670.0	2,450.0	30,897.0	942.3
Repayment of long-term bank loans	(166.7)	(1,756.9)	(2,295.6)	(70.0)
Payments for transaction costs attributable to the issuance of bonds	(414.3)	(88.7)	(35.7)	(1.1)
Treasury stock acquired	(871.6)	-	(3,089.2)	(94.2)
Repayment of the principal portion of lease liabilities	(2,428.3)	(2,854.3)	(2,873.7)	(87.6)
Interest paid	(12,218.6)	(17,359.0)	(18,751.2)	(571.9)
Guarantee deposits received	271.4	230.1	5.0	0.2
Guarantee deposits refunded	(62.1)	(367.4)	(93.3)	(2.8)
Cash dividends	(285,234.2)	(291,721.9)	(363,055.2)	(11,072.1)
Disposal of ownership interests in subsidiaries (without losing control)	-	-	1.0	-
(Continued)				
Donation from shareholders	\$ 13.2	\$ 16.5	\$ 8.9	\$ 0.3
Increase in non-controlling interests	<u>16,263.6</u>	<u>11,048.8</u>	<u>12,177.6</u>	<u>371.4</u>
<b>Net cash used in financing activities</b>	<b>(200,244.0)</b>	<b>(204,894.2)</b>	<b>(346,301.0)</b>	<b>(10,561.1)</b>
<b>EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS</b>	<b>58,397.0</b>	<b>(8,338.8)</b>	<b>47,165.9</b>	<b>1,438.4</b>
<b>NET INCREASE IN CASH AND CASH EQUIVALENTS</b>	<b>277,823.9</b>	<b>122,613.7</b>	<b>662,199.2</b>	<b>20,195.2</b>
<b>CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR</b>	<b>1,064,990.2</b>	<b>1,342,814.1</b>	<b>1,465,427.8</b>	<b>44,691.3</b>
<b>CASH AND CASH EQUIVALENTS, END OF YEAR</b>	<b>\$1,342,814.1</b>	<b>\$1,465,427.8</b>	<b>\$2,127,627.0</b>	<b>\$ 64,886.5</b>

# Quarterly Consolidated Condensed Cash Flow Statement

(In Millions of New Taiwan Dollars or U.S. Dollars)

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**  
**Consolidated Condensed Cash Flow Statements (Unaudited)**

For the Three Months Ended March 31, 2025, December 31, 2024 and March 31, 2024  
 (Expressed in Millions of New Taiwan Dollars ("NTD") and U.S. Dollars ("USD")) <sup>(1)</sup>

	1Q 2025		4Q 2024		1Q 2024	
	USD	NTD	NTD	NTD	NTD	NTD
<b>Cash Flows from Operating Activities:</b>						
Income Before Income Tax	\$ 13,106	\$ 430,895	\$ 448,798	\$ 266,543		
Depreciation & Amortization	5,327	175,139	170,378	159,023		
Share of Profits of Associates	(41)	(1,368)	(1,289)	(878)		
Income Taxes Paid	(47)	(1,537)	(1,190)	(1,051)		
Changes in Working Capital & Others	682	22,445	3,508	12,674		
<b>Net Cash Generated by Operating Activities</b>	<b>19,027</b>	<b>625,574</b>	<b>620,205</b>	<b>436,311</b>		
<b>Cash Flows from Investing Activities:</b>						
Interest Received	742	24,419	18,473	17,410		
Cash Dividend Received	3	95	207	90		
Acquisitions of:						
Property, Plant and Equipment	(10,062)	(330,827)	(361,949)	(181,305)		
Marketable Financial Instruments	(2,152)	(70,741)	(77,351)	(45,800)		
Proceeds from Disposal or Redemption of:						
Property, Plant and Equipment	4	128	256	337		
Marketable Financial Instruments	1,640	53,926	56,885	50,224		
Others	998	32,808	51,560	(763)		
<b>Net Cash Used In Investing Activities</b>	<b>(8,827)</b>	<b>(290,192)</b>	<b>(311,919)</b>	<b>(159,807)</b>		
<b>Cash Flows from Financing Activities:</b>						
Decrease in Hedging Financial Liabilities - Bank Loans	-	-	-	(26,496)		
Proceeds from Issuance of Bonds	584	19,200	-	22,800		
Repayment of Bonds	(91)	(3,000)	(1,750)	-		
Proceeds from Long-term Bank Loans	164	5,395	7,455	6,378		
Repayment of Long-term Bank Loans	(22)	(719)	(636)	(513)		
Interest Paid	(76)	(2,516)	(5,946)	(1,779)		
Cash Dividends Paid for Common Stock	(3,155)	(103,722)	(103,734)	(77,796)		
Others	21	696	3,879	5,721		
<b>Net Cash Used in Financing Activities</b>	<b>(2,575)</b>	<b>(84,666)</b>	<b>(100,732)</b>	<b>(71,685)</b>		
<b>Effect of Exchange Rate Changes on Cash and Cash Equivalents</b>	<b>501</b>	<b>16,461</b>	<b>33,292</b>	<b>27,949</b>		
<b>Net Increase in Cash and Cash Equivalents</b>	<b>8,126</b>	<b>267,177</b>	<b>240,846</b>	<b>232,768</b>		
<b>Cash and Cash Equivalents at Beginning of Period</b>	<b>64,713</b>	<b>2,127,627</b>	<b>1,886,781</b>	<b>1,465,428</b>		
<b>Cash and Cash Equivalents at End of Period</b>	<b>\$ 72,839</b>	<b>\$ 2,394,804</b>	<b>\$ 2,127,627</b>	<b>\$ 1,698,196</b>		

# Analyst Rating

# TSMC Recommendation

## Big Beautiful Bill

Raised Tax Credit From 25% to 35% for Eligible Projects Before 2026 Deadline. Incentivizes US Expansion.

## Surging AI Demand

Explosive Revenue Growth From Clients Like Nvidia and Apple. AI Orders Expected to Double By Year End 2025.

## Economic MOAT

Years Ahead In 5nm and under nodes. Extensive R&D Spending Makes Them Hard To Catch. Long Term Partnerships With Clients.

BUY

# Executive Summary

<b>Sector</b>	Semiconductors			
<b>Analysis</b>	Sector	NASDAQ: AMD	NASDAQ: NVDA	NYSE: TSM
<b>Recommendation</b>		SELL	BUY	BUY

# Thank You