

April 11, 2025 12:00 AM GMT

NVIDIA Corp. | North America

What is the future of products like NVIDIA H20 for the China market?

We have generally been assuming H2O would see meaningful restrictions, which is still our base case after an article yesterday suggesting otherwise. We give some context.

What this is about: H2O is essentially a performance-limited version of the H1OO, designed to bring performance below the teraflop per square mm metric threshold laid out by the US Commerce Department in its restrictions with

China. NVIDIA has described H2O as serving "a very competitive space" which is undoubtedly true - H2O performance is something like 75% below the performance of H1OO, a product that stopped being sold a few months ago. When you force the best AI hardware company in the world to compete at what is now 85% or more below the state of the art performance level, pricing will be competitive. We assume that H2O gross margins are in the 50s, well below corporate average in the 70s, and that in fact strength in H2O was one of the main factors in weaker GMs the last two quarters.

Yesterday, an article in NPR.com suggested that the H2O was originally going to be blocked, but that the Commerce Department is now planning on allowing continued shipments. To our knowledge, the article has not been confirmed.

Some FAQs:

Why would anyone buy the H2O, when Blackwell offers as much as 25x better performance? Chinese companies are blocked from purchasing high end GPUs. There are three ways that companies are dealing with those limitations: 1) use GPUs outside of the region, including US public cloud, where allowed; 2) procure hoppers through back channels or secondary markets, which is not allowed; or 3) use silicon that meets the Commerce Dept thresholds, including H2O, or AMD's MI3O8.

For point 1, public cloud is not an option for everyone in China, and there are some restrictions there as well. For point 2, our view has been that this has been overestimated. All US processor companies are very careful to work within the rules, and while there are back channels - you can buy Hoppers on Ebay - it's fairly limited, and Chinese companies have to be cognizant of the risks there. It's also expensive.

Which leaves companies with option 3, and while buying performance that far behind the state of the art isn't optimal, it's the only option available, and companies have shown good results.

How would we size H20? We think it was north of \$5 bn in each of the last two quarters.

MORGAN STANLEY & CO. LLC

Joseph Moore

Equity Analyst

Joseph.Moore@morganstanley.com +1 212 761-7516

Mason Wayne

Research Associate

Mason.Wayne@morganstanley.com +1 212 761-6012

Ella Tulchinsky

Research Associate

Ella.Tulchinsky@morganstanley.com +1 212 761-2222

Shane Brett

Equity Analys

Shane.Brett@morganstanley.com +1 212 761-1022

NVIDIA Corp. (NVDA.O, NVDA US)

Top Pick

Semiconductors | United States of America

Stock Rating	Overweight
Industry View	Attractive
Price target	\$162.00
Shr price, close (Apr 10, 2025)	\$107.57
Mkt cap, curr (mm)	\$2,695,331
52-Week Range	\$153.13-75.61

Fiscal Year Ending	01/25	01/26e	01/27e	01/28e
EPS (\$)**	2.99	4.44	5.38	6.18
Prior EPS (\$)**	-	-	-	-
P/E	41.1	25.9	21.2	18.4
EPS (\$)§	-	4.51	5.72	6.41
Div yld (%)	0.0	0.0	0.0	0.0

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework

OLIADTEDIV EDG (¢)

QUARTEREI EFS (4)						
Quarter	2025	2026e Prior	2026e Current		2027e Current	
Q1	0.61	-	0.93	-	1.29	
Q2	0.68	-	1.01	-	1.31	
Q3	0.81	-	1.15	-	1.34	
Q4	0.89	-	1.29	-	1.37	

e = Morgan Stanley Research estimates

Morgan Stanley does and seeks to do business with companies covered in Morgan Stanley Research. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of Morgan Stanley Research. Investors should consider Morgan Stanley Research as only a single factor in making their investment decision.

For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.

^{** =} Based on consensus methodology

^{§ =} Consensus data is provided by Refinitiv Estimates

e = Morgan Stanley Research estimates

In the January quarter, we had heard through supply chain contacts that NVIDIA was concerned that there would be export controls impacting H2O, and had contingency plans to end of life the product. Then in December, when the US Commerce Department posted fundamental export control rules that blocked HBM, but allowed H2O, the view was that the H2O would be allowed, and we heard secondhand comments from Commerce Dept that the H2O was OK to ship. So the company had restarted H2O production. Then in early January, the Biden Commerce Department posted its "Al diffusion rules" that limited cluster sizes in China; our view is that this triggered a rush order.

H2O forecasts went up for the April quarter as a result, and in our view this was part of the gross margin shortfall. Since then we have seen strong orders for all regions for inference products including China, and just as we have seen in the US, there are reports of inference shortages there. Charlie Chan recently upgraded SMIC reflecting stronger builds of AI silicon. Domestic AI GPU demand and supply larger than expected; Upgrade to EW

What is the future of H2O and other China centric products if there are no export controls? In our view, NVIDIA China sales are likely to go down. The reason is that the performance threshold is not changing, while the state of the art is doubling every couple of years, it simply becomes harder and harder for products at this performance level to be viable against local competition, even with the process technology constraints on local technology. Products like the B2O, the Blackwell version, might help, but you still have the same teraflop per square mm threshold. Some design work to optimize performance given that limitation can help a little, as well as adding more advanced memory, but it's just too competitive.

What is the status of new export controls? The Biden administration "AI diffusion" rules are still in effect; those rules were posted in early January, and were to be put into effect with a 120 day lag. Most people in the industry anticipate that the Trump administration rules will alter those rules, but nobody knows quite what form that may take. If the rules go into effect, H2O is still permitted, but cluster sizes will be limited in China. Further, there is a large number of "tier two" countries that will require a US Commerce Department license to ship to even multinationals in those countries.

But all of that predated the DeepSeek reaction. When DeepSeek launched its R1 model, showing very good results while being trained on low end hardware, stocks sold off 10-20% immediately. We said at the time (Latest thoughts on Deepseek and other concerns; why we remain positive on AI semis) that while this was likely an over reaction, there were still negatives associated with it, as Chinese success in AI could provoke an American response, and could limit financial investment into the model developers building larger cluster sizes.

The financing elements of that ended up being premature, as we have seen spending scaling everywhere, including large money raises from the largest model developers.

The government side is TBD, as we haven't seen new controls yet, but editorials calling for limiting China AI were quite prevalent. Our view is that using a hardware advantage to slow software development is a tricky business, but the government is likely going to try.

If the NPR story that the government will not restrict H2O is true - how did NVIDIA win that argument?

NVIDIA can point out that its objectives here are completely aligned with what the US government wants, at least as far as hardware is concerned.

H2O is actually not a great economic investment for NVIDIA, especially now when there are higher margin uses for Hopper. They nerf the performance of their own product, and sell it at a well below average gross margin. While the revenue contribution has been significant, it has hurt the P/E multiple given sustainability concerns and margin impact - and growth would still have been quite strong without it.

So why ship H2O? Because if you don't, Chinese customers will be forced to kickstart domestic solutions. Even if those products are behind, there simply is no alternative. And given the importance of AI globally, this will light a fire under China to materially accelerate all semiconductor localization capabilities. The government will likely have the exact same objections.

Will that argument work? We would guess not, at least not in its entirety. The government is likely to respond to the threat of China AI, exacerbated by commentary from prominent media personalities and software venture capitalists, and something must be done, at least to limit cluster sizes of H2O. Even if nuanced arguments are ultimately correct, that nuance might be too much for the current news cycle.

Even if some in the government are voicing support for H2O, the decision making around these issues has been unpredictable and the current tensions make it difficult to resolve.

So is NVIDIA negatively impacted by H20 limits? What about an outright ban? Our sense is that H20 declines materially beyond April regardless, as we said above, and there is so much demand for all forms of GPUs as we don't see a ban as particularly limiting. Challenging for sentiment, to be sure, as everything is currently being spun negatively, buts it's just not that critical from here - and there will be a gross margin improvement as a result.

Does that mean there is nothing to fear from export controls? Our much bigger concern is that we retain some element of the "tier two countries" restrictions. Those would require companies to get a license to build larger clusters in over 70 countries. That means global multinationals building datacenter in those regions would need a license, and even in cases where there is a 100% chance of approval, it interjects a very large delay. We note that semiconductor equipment companies have complained to us that licenses that should take 30-60 days, where is the presumption of approval, and the licenses take 12-15 months. For AI those delays would not be good.

We think the company agrees; note the CFO's comments from our conference fireside in early March: "I would love to see a different output on AI Diffusion...Do we believe that the licensing would work out? It's just quite complex...our first plan is to help them understand that there are better ways. We truly understand what they think about from a Tier 3 perspective, and really protecting the US from any

military actions or not. And I do understand that. But let's hope that they can rationalize a better process for AI diffusion".

In other words, they will work with the government to deal with tier 3 countries (ie China), without the restrictions in tier 2 countries. That probably entails some incremental restrictions to assure limited back channel shipments to China - which we saw recently implemented in Malaysia - and likely involves NVIDIA contributions to other key US global initiatives (as we have seen with sudden rekindling of enthusiasm for Intel foundry or the NVIDIA US investment plan).

So what is a "clear win" scenario for export controls? In our view, a cluster size restrictions on H2O, and an elimination of "tier two" country licensing requirements is a winning scenario for NVIDIA. While there is still some headline risk around the H2O restrictions, that seems pretty obvious at this point.

If the H2O is allowed to ship unfettered by any restrictions, that's a bigger win, and would point to material near term upside. H2O sales should still come down over time, as the product is just increasingly less viable as the thresholds stay the same and the state-of-the art moves higher. But it would still drive meaningful upside to numbers over the next couple of quarters, where we think that NVIDIA can beat and raise with zero H2O contribution.

What is a marginal win? Frankly, an outright ban on H2O, accompanied by NVIDIA's efforts to close off back channel, but also an elimination of the tier two restrictions, is a win here. Granted, the stock would go down - we will receive dozens of emails asking us to size H2O, in April. But the fact is, we think it will decline anyway, and the growth that the company described from the top 4 hyperscalers, as well as more than 100% growth from at least two large customers outside that group, allows very substantial upside to street revenues. And gross margins would be materially higher.

What is a loss? Basically, anything that maintains the tier two country restrictions. It's not insurmountable, but there comes a point when government efforts to stifle business in nearly every country outside the US through export controls, and within the US though tariffs, becomes a drag overall. It's an odd government celebration of having the world's leader in AI hardware being an American company, but it's distinctly possible.

Important note regarding economic sanctions. This research references U.S. Executive Order 14032 and/or entities or securities that are designated thereunder. Executive Order 14032 may prohibit U.S. persons from buying certain securities of entities named in this note/presentation. The data set forth in this research is for informational purposes and does not represent Morgan Stanley's view as to whether or not any of the instruments discussed in this note are subject to sanctions. Any references in this report to entities, debt or equity instruments that may be covered by such sanctions should not be read as recommending or advising as to any investment activities in relation to such entities or instruments. Users of this report are solely responsible for ensuring that their investment activities in relation to any sanctioned entities and/or securities are carried out in compliance with applicable sanctions

Important note regarding export controls. This note references export controls maintained by the U.S. Department of Commerce Bureau of Industry and Security (BIS) and/or entities that may be subject to export control restrictions. These controls may restrict export, re-export or transfer (in-country) of certain items covered by the Export Administration Regulations (EAR). This disclaimer does not represent Morgan Stanley's view as to whether or not the export, re-export or transfer (in-country) of any items is subject to export controls laws. Investors are solely responsible for ensuring that their investment activities in relation to any entities are carried out in compliance with applicable export controls laws.

Risk Reward – NVIDIA Corp. (NVDA.O) Top Pick

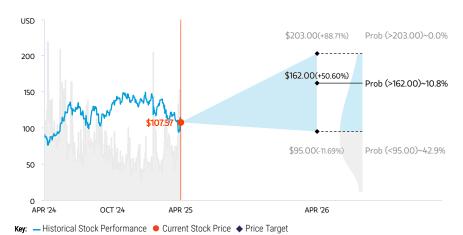
OW as large language model enthusiasm is transforming cloud capex

PRICE TARGET \$162.00

~32x our MW CY25 EPS estimate of \$5.07, a premium to peers, reflecting the expansion in all Al names as well as our higher conviction in estimates given NVIDIA's higher Al exposure. We believe that NVIDIA should trade at a premium given its higher probability of upward revisions in the near term.



RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)

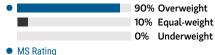


Source: Refinitiv, Morgan Stanley Research, Morgan Stanley Institutional Equities Division. The probabilities of our Bull, Base, and Bear case scenarios playing out were estimated with implied volatility data from the options market as of 10 Apr 2025. All figures are approximate risk-neutral probabilities of the stock reaching beyond the scenario price in either three-months' or one-years' time. View explanation of Options Probabilities methodology here

OVERWEIGHT THESIS

- Blackwell still in its early stages, with all signs pointing to a strong ramp still ahead ■ We expect NVDA's Data Center business to drive much of the growth over the next 5 years, as enthusiasm for generative AI has created a strong environment for AI/ML hardware solutions - NVDA's being one of the most important. Incremental opportunities in Al/ML software & services, networking, and ADAS can drive growth even higher.
- Broader Blackwell availability later in 2025 this year should further cement NVDA's competitive position, with higher dollar content through a greater mix of system sales

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

New Data Era: Positive **Pricing Power:** Positive Secular Growth: Positive

View descriptions of Risk Rewards Themes here

BULL CASE \$203.00 **BASE CASE** \$162.00 **BEAR CASE** \$95.00

33x bull case MW CY26 EPS of ~\$6.00

Bull case has DC revenues continuing to grow through 2025. Upside from networking, GB200 based systems, and software create potential for a full stack AI computing company worthy of an even greater valuation premium

- Higher margin data center and Al-focused software and services growth accelerates
- GPU based AI PC gains traction, widely increasing the client TAM
- Automotive opportunity takes off, allowing the company to earn recurring, per-car licensing revenue

~32x our MW CY26 EPS of \$5.07

32x valuation is a premium to the semis group, but closer to in line with over large cap Al peer AVGO. reflecting the expansion in all Al names as well as our higher conviction in estimates given NVIDIA's higher AI exposure. We believe that NVIDIA should trade at a premium given its higher probability of upward revisions in the near

- Revenue grows by 50.8% in 2025 and 17.64% in 2026
- Datacenter continues to grow significantly in 2025 and into 2026 as supply remains constrained

~23x bear case MW CY26 EPS of ~\$4.15

Two key debates both go the wrong direction, causing investors to question future prospects for growth

- Growth in DC slows substantially as supply catches up to demand faster than anticipated
- AI development costs come down materially, a strong competitor enters the market to take market share, or customers begin insourcing custom hardware solutions
- Greater than expected impact from export controls

Risk Reward - NVIDIA Corp. (NVDA.O)

KEY EARNINGS INPUTS

Drivers	2025	2026e	2027e	2028e
GAAP Revenue (\$, mm)	130,497	196,746	230,917	266,879
MW Gross Margin (%)	75.4	72.4	73.8	75.4
MW EPS (\$)	2.92	4.16	5.07	5.86
Inventory (\$, mm)	10,080	14,092	14,993	17,066
DOI	111.2	92.5	88.3	92.9

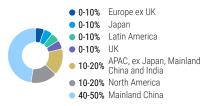
CATALYST CALENDAR

Date	Event	Source: Refinitiv, Morgan Stanley
26 Jun 2025 - 30 Jun 2025	NVIDIA Corp Annual Sharehold	ers Meeting

INVESTMENT DRIVERS

- · Growth in AI capex from customers
- Next gen GPUs continue to outpace the competition
- Systems approach allows for higher monetization over time
- New drivers emerge for Nvidia such as AI PCs, autonomous vehicles, robotics, and software

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

MS ALPHA MODELS

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- Growth in training and inference propel data center revenue
- Gaming sales accelerate as GPU based AI PCs gain traction
- DGX platforms gain traction, especially among enterprise customers

RISKS TO DOWNSIDE

- Al end markets don't materialize as expected, customers sharply reduce GPU purchases
- AMD reemerges as a viable GPU competitor
- Cloud customers are able to develop competitive custom hardware

OWNERSHIP POSITIONING

Inst. Owners, % Active	51.9%		
HF Sector Long/Short Ratio	1.8x		
HF Sector Net Exposure	20.8%		

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



Source: Refinitiv, Morgan Stanley Research

Valuation Methodology and Risks

SMIC (0981.HK)

Base case, residual income model. Key assumptions: cost of equity 8.6% (beta 1.2, risk-free rate 2% and risk premium 5.5%), intermediate growth rate 14%, terminal growth rate 5%, and cash dividend payout ratio 62%.

Risks to Upside

- Global and Chinese semi demand strengthens.
- Pricing competition eases, helping margins.
- Technological breakthroughs come faster than expected, shortening transition period.
- Utilization rate, product mix, and ASP are better than expected.

Risks to Downside

- Global and Chinese semi demand weakens.
- Pricing competition intensifies, eroding margins.
- Utilization rate, product mix, and ASP trend are worse than expected.

Risk Reward Reference links

- 1. View explanation of Options Probabilities methodology Options_Probabilities_Exhibit_Link.pdf
- 2. View descriptions of Risk Rewards Themes RR_Themes_Exhibit_Link.pdf
- 3. View explanation of regional hierarchies GEG_Exhibit_Link.pdf
- 4. View explanation of Theme/Exposure methodology ESG_Sustainable_Solutions_External_Link.pdf
- 5. View explanation of HERS methodology ESG_HERS_External_Link.pdf



Disclosure Section

The information and opinions in Morgan Stanley Research were prepared by Morgan Stanley & Co. LLC, and/or Morgan Stanley C.T.V.M. S.A., and/or Morgan Stanley Mexico, Casa de Bolsa, S.A. de C.V., and/or Morgan Stanley Canada Limited. As used in this disclosure section, "Morgan Stanley" includes Morgan Stanley & Co. LLC, Morgan Stanley C.T.V.M. S.A., Morgan Stanley Mexico, Casa de Bolsa, S.A. de C.V., Morgan Stanley Canada Limited and their affiliates as necessary.

For important disclosures, stock price charts and equity rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at www.morganstanley.com/researchdisclosures, or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY, 10036 USA.

For valuation methodology and risks associated with any recommendation, rating or price target referenced in this research report, please contact the Client Support Team as follows: US/Canada +1 800 303-2495; Hong Kong +852 2848-5999; Latin America +1 718 754-5444 (U.S.); London +44 (0)20-7425-8169; Singapore +65 6834-6860; Sydney +61 (0)2-9770-1505; Tokyo +81 (0)3-6836-9000. Alternatively you may contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY 10036 USA.

Analyst Certification

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Shane Brett; Joseph Moore; Ella Tulchinsky; Mason Wayne.

Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at www.morganstanley.com/institutional/research/conflictpolicies. A Portuguese version of the policy can be found at www.morganstanley.com.br

Important Regulatory Disclosures on Subject Companies

As of March 31, 2025, Morgan Stanley beneficially owned 1% or more of a class of common equity securities of the following companies covered in Morgan Stanley Research: Advanced Micro Devices, Allegro Microsystems Inc, Ambarella Inc, Analog Devices Inc., Broadcom Inc., Cadence Design Systems Inc, Intel Corporation, IonQ Inc, Marvell Technology Group Ltd, Microchip Technology Inc., Micron Technology Inc., NVIDIA Corp., ON Semiconductor Corp., Qorvo Inc, Qualcomm Inc., SanDisk Corporation., Semtech Corp., Silicon Laboratories Inc., Skyworks Solutions Inc, Synopsys Inc., Texas Instruments, Western Digital, Wolfspeed, INC.

Within the last 12 months, Morgan Stanley managed or co-managed a public offering (or 144A offering) of securities of Advanced Micro Devices, Allegro Microsystems Inc, Cadence Design Systems Inc, GlobalFoundries Inc, Micron Technology Inc., Semtech Corp..

Within the last 12 months, Morgan Stanley has received compensation for investment banking services from Advanced Micro Devices, Allegro Microsystems Inc, Cadence Design Systems Inc, Intel Corporation, IonQ Inc, Micron Technology Inc., Qorvo Inc, Qualcomm Inc., Semtech Corp., Texas Instruments.

In the next 3 months, Morgan Stanley expects to receive or intends to seek compensation for investment banking services from Advanced Micro Devices, Aeva Technologies Inc, Allegro Microsystems Inc, Ambarella Inc, Amkor Technology Inc, Analog Devices Inc., Arm Holdings plc, Astera Labs Inc, Broadcom Inc., Cadence Design Systems Inc, GlobalFoundries Inc, Intel Corporation, IonQ Inc, Microchip Technology Inc., Micron Technology Inc., Navitas Semiconductor Corp, **NVIDIA Corp.**, NXP Semiconductor NV, ON Semiconductor Corp., Qorvo Inc., Qualcomm Inc., Semtech Corp., Silicon Laboratories Inc., Skyworks Solutions Inc, Synopsys Inc., Texas Instruments, Western Digital.

Within the last 12 months, Morgan Stanley has received compensation for products and services other than investment banking services from Advanced Micro Devices, Allegro Microsystems Inc, Amkor Technology Inc, Analog Devices Inc., Broadcom Inc., Cadence Design Systems Inc, GlobalFoundries Inc, Intel Corporation, IonQ Inc, Marvell Technology Group Ltd, Microchip Technology Inc., Micron Technology Inc., NVIDIA Corp., NXP Semiconductor NV, ON Semiconductor Corp., Qorvo Inc, Qualcomm Inc., Semtech Corp., Silicon Laboratories Inc., SMIC, Synopsys Inc., Texas Instruments, Western Digital.

Within the last 12 months, Morgan Stanley has provided or is providing investment banking services to, or has an investment banking client relationship with, the following company: Advanced Micro Devices, Aeva Technologies Inc, Allegro Microsystems Inc, Ambor Technology Inc, Analog Devices Inc., Arm Holdings plc, Astera Labs Inc, Broadcom Inc., Cadence Design Systems Inc, Global Foundries Inc, Intel Corporation, IonQ Inc, Microchip Technology Inc., Micron Technology Inc., Navitas Semiconductor Corp., NVIDIA Corp., NXP Semiconductor NV, ON Semiconductor Corp., Qorvo Inc., Qualcomm Inc., Semtech Corp., Silicon Laboratories Inc., Skyworks Solutions Inc., Synopsys Inc., Texas Instruments, Western Digital.

Within the last 12 months, Morgan Stanley has either provided or is providing non-investment banking, securities-related services to and/or in the past has entered into an agreement to provide services or has a client relationship with the following company: Advanced Micro Devices, Allegro Microsystems Inc, Ambarella Inc, Amkor Technology Inc, Analog Devices Inc, Broadcom Inc, Cadence Design Systems Inc, GlobalFoundries Inc, Intel Corporation, IonQ Inc, Marvell Technology Group Ltd, Microchip Technology Inc., Micron Technology Inc., NVP Semiconductor NV, ON Semiconductor Corp., Qorvo Inc, Qualcomm Inc., Semtech Corp., Silicon Laboratories Inc., SMIC, Synopsys Inc., Texas Instruments, Western Digital, Wolfspeed, INC. Morgan Stanley & Co. LLC makes a market in the securities of Advanced Micro Devices, Aeva Technologies Inc, Allegro Microsystems Inc, Ambarella Inc, Amkor Technology Inc, Analog Devices Inc., Astera Labs Inc, Broadcom Inc., Cadence Design Systems Inc, GlobalFoundries Inc, Intel Corporation, Marvell Technology Group Ltd, Microchip Technology Inc., Micron Technology Inc., Navitas Semiconductor Corp., NVIDIA Corp., NXP Semiconductor NV, ON Semiconductor Corp., Qorvo Inc, Qualcomm Inc., Semtech Corp., Silicon Laboratories Inc., Skyworks Solutions Inc, Synopsys Inc., Texas Instruments, Western Digital, Wolfspeed, INC.

The equity research analysts or strategists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors, firm revenues and overall investment banking revenues. Equity Research analysts' or strategists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

Morgan Stanley and its affiliates do business that relates to companies/instruments covered in Morgan Stanley Research, including market making, providing liquidity, fund management, commercial banking, extension of credit, investment services and investment banking. Morgan Stanley sells to and buys from customers the securities/instruments of companies covered in Morgan Stanley Research on a principal basis. Morgan Stanley may have a position in the debt of the Company or instruments discussed in this report. Morgan Stanley trades or may trade as principal in the debt securities (or in related derivatives) that are the subject of the debt research report.

Certain disclosures listed above are also for compliance with applicable regulations in non-US jurisdictions.

STOCK RATINGS

Morgan Stanley uses a relative rating system using terms such as Overweight, Equal-weight, Not-Rated or Underweight (see definitions below). Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold and sell. Investors should carefully read the definitions of all ratings used in Morgan Stanley Research. In addition, since Morgan Stanley Research contains more complete information concerning the analyst's views, investors should carefully read Morgan



Stanley Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

Global Stock Ratings Distribution

(as of March 31, 2025)

The Stock Ratings described below apply to Morgan Stanley's Fundamental Equity Research and do not apply to Debt Research produced by the Firm.

For disclosure purposes only (in accordance with FINRA requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

	Coverag	ge Universe	Inves	stment Banking Clients	s (IBC)		nvestment Services s (MISC)
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1516	40%	387	46%	26%	694	40%
Equal-weight/Hold	1682	44%	380	45%	23%	805	47%
Not-Rated/Hold	3	0%	0	0%	0%	0	0%
Underweight/Sell	598	16%	81	10%	14%	227	13%
Total	3,799		848			1726	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below

In-Line (1): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below. Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below. Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI Ac Asia Pacific ex Japan Index.

Stock Price, Price Target and Rating History (See Rating Definitions)

NVIDIA Corp. (NVDA.O) - As of 04/10/25 GMT in USD Industry : Semiconductors



Stock Rating History: 4/1/20 : 0/I; 6/16/20 : E/I; 9/13/20 : NA/I; 5/3/22 : E/I; 3/16/23 : 0/I; 12/7/23 : 0/A

Price Target History: 3/18/20: 6.7; 4/28/20: 7.05; 5/22/20: 9.07; 6/16/20: 9.5; 8/20/20: 12.68; 9/13/20: NA; 5/3/22: 21.7; 5/25/22: 18.2; 11/17/22: 17.5; 2/21/23: 24.6; 2/22/23: 25.5; 3/16/23: 30.4; 5/24/23: 45; 6/15/23: 50; 8/24/23: 63; 10/17/23: 60; 11/21/23: 60.3; 2/6/24: 75; 2/21/24: 79.5; 4/9/24: 100; 5/22/24: 116; 6/30/24: 144; 8/29/24: 150; 11/10/24: 160; 11/21/24: 168; 12/19/24: 166; 1/29/25: 152; 2/26/25: 162

Source: Morgan Stanley Research Date Format: MM/DD/YY Price Target - No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) - Stock Price (Covered by Current Analyst) Stock and Industry Ratings (abbreviations below) appear as + Stock Rating/Industry View
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)
Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry
(or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

SMIC (0981.HK) – As of 04/10/25 GMT in HKD Industry : Greater China Technology Semiconductors



Stock Rating History: 4/1/20 : U/A; 4/23/20 : U/I; 5/14/20 : E/I; 7/7/20 : NA/I; 8/18/20 : E/I; 2/26/21 : 0/I; 8/10/21 : E/I; 10/12/21 : E/C; 10/4/22 : E/A; 2/22/23 : U/I; 7/7/23 : U/A; 7/21/24 : U/I; 4/9/25 : E/I

Price Target History: 3/20/20 : 12.2; 5/14/20 : 18; 7/7/20 : NA; 8/18/20 : 25; 9/14/20 : 20.8; 11/12/20 : 23.8; 2/26/21 : 31.8; 7/12/21 : 25; 8/10/21 : 28; 11/13/21 : 25; 2/16/22 : 22.8; 3/28/22 : 18.8; 11/14/22 : 16.8; 12/14/22 : 15.8; 2/22/23 : 14; 9/11/23 : 16; 5/14/24 : 13.8; 8/9/24 : 14.7; 11/8/24 : 20.3; 2/12/25 : 38; 4/9/25 : 40

Source: Morgan Stanley Research Date Format: MM/DD/YY Price Target - No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —
Stock and Industry Ratings (abbreviations below) appear as + Stock Rating/Industry View

Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.



Important Disclosures for Morgan Stanley Smith Barney LLC Customers

Important disclosures regarding the relationship between the companies that are the subject of Morgan Stanley Research and Morgan Stanley Smith Barney LLC or Morgan Stanley or any of their affiliates, are available on the Morgan Stanley Wealth Management disclosure website at www.morganstanley.com/online/researchdisclosures. For Morgan Stanley specific disclosures, you may refer to www.morganstanley.com/researchdisclosures.

Each Morgan Stanley research report is reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval is conducted by the same person who reviews the research report on behalf of Morgan Stanley. This could create a conflict of interest.

Other Important Disclosures

A member of Research who had or could have had access to the research prior to completion owns securities (or related derivatives) in the NVIDIA Corp.. This person is not a research analyst or a member of research analyst's household.

Morgan Stanley Research policy is to update research reports as and when the Research Analyst and Research Management deem appropriate, based on developments with the issuer, the sector, or the market that may have a material impact on the research views or opinions stated therein. In addition, certain Research publications are intended to be updated on a regular periodic basis (weekly/monthly/quarterly/annual) and will ordinarily be updated with that frequency, unless the Research Analyst and Research Management determine that a different publication schedule is appropriate based on current conditions.

Morgan Stanley is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Morgan Stanley produces an equity research product called a "Tactical Idea." Views contained in a "Tactical Idea" on a particular stock may be contrary to the recommendations or views expressed in research on the same stock. This may be the result of differing time horizons, methodologies, market events, or other factors. For all research available on a particular stock, please contact your sales representative or go to Matrix at http://www.morganstanley.com/matrix.

Morgan Stanley Research is provided to our clients through our proprietary research portal on Matrix and also distributed electronically by Morgan Stanley to clients. Certain, but not all, Morgan Stanley Research products are also made available to clients through third-party vendors or redistributed to clients through alternate electronic means as a convenience. For access to all available Morgan Stanley Research, please contact your sales representative or go to Matrix at http://www.morganstanley.com/matrix.

Any access and/or use of Morgan Stanley Research is subject to Morgan Stanley's Terms of Use (http://www.morganstanley.com/terms.html). By accessing and/or using Morgan Stanley Research, you are indicating that you have read and agree to be bound by our Terms of Use (http://www.morganstanley.com/terms.html). In addition you consent to Morgan Stanley processing your personal data and using cookies in accordance with our Privacy Policy and our Global Cookies Policy (http://www.morganstanley.com/privacy_pledge.html), including for the purposes of setting your preferences and to collect readership data so that we can deliver better and more personalized service and products to you. To find out more information about how Morgan Stanley processes personal data, how we use cookies and how to reject cookies see our Privacy Policy and our Global Cookies Policy (http://www.morganstanley.com/privacy_pledge.html).

If you do not agree to our Terms of Use and/or if you do not wish to provide your consent to Morgan Stanley processing your personal data or using cookies please do not access our research. Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the circumstances and objectives of those who receive it. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of an investment or strategy will depend on an investor's circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them. Morgan Stanley Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments.

The fixed income research analysts, strategists or economists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues), client feedback and competitive factors. Fixed Income Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

The "Important Regulatory Disclosures on Subject Companies" section in Morgan Stanley Research lists all companies mentioned where Morgan Stanley owns 1% or more of a class of common equity securities of the companies. For all other companies mentioned in Morgan Stanley Research, Morgan Stanley may have an investment of less than 1% in securities/instruments or derivatives of securities/instruments of companies and may trade them in ways different from those discussed in Morgan Stanley Research. Employees of Morgan Stanley not involved in the preparation of Morgan Stanley Research may have investments in securities/instruments or derivatives of securities/instruments of companies mentioned and may trade them in ways different from those discussed in Morgan Stanley Research. Derivatives may be issued by Morgan Stanley or associated persons.

With the exception of information regarding Morgan Stanley, Morgan Stanley Research is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

Morgan Stanley Research personnel may participate in company events such as site visits and are generally prohibited from accepting payment by the company of associated expenses unless pre-approved by authorized members of Research management.

Morgan Stanley may make investment decisions that are inconsistent with the recommendations or views in this report.

To our readers based in Taiwan or trading in Taiwan securities/instruments: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. The reader should independently evaluate the investment risks and is solely responsible for their investment decisions. Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Any non-customer reader within the scope of Article 7-1 of the Taiwan Stock Exchange Recommendation Regulations accessing and/or receiving Morgan Stanley Research is not permitted to provide Morgan Stanley Research to any third party (including but not limited to related parties, affiliated companies and any other third parties) or engage in any activities regarding Morgan Stanley Research which may create or give the appearance of creating a conflict of interest. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments.

Morgan Stanley is not incorporated under PRC law and the research in relation to this report is conducted outside the PRC. Morgan Stanley Research does not constitute an offer to sell or



the solicitation of an offer to buy any securities in the PRC. PRC investors shall have the relevant qualifications to invest in such securities and shall be responsible for obtaining all relevant approvals, licenses, verifications and/or registrations from the relevant governmental authorities themselves. Neither this report nor any part of it is intended as, or shall constitute, provision of any consultancy or advisory service of securities investment as defined under PRC law. Such information is provided for your reference only.

Morgan Stanley Research is disseminated in Brazil by Morgan Stanley C.T.V.M. S.A. located at Av. Brigadeiro Faria Lima, 3600, 6th floor, São Paulo - SP, Brazil; and is regulated by the Comissão de Valores Mobiliários; in Mexico by Morgan Stanley México, Casa de Bolsa, S.A. de C.V which is regulated by Comision Nacional Bancaria y de Valores. Paseo de los Tamarindos 90, Torre 1, Col. Bosques de las Lomas Floor 29, 05120 Mexico City; in Japan by Morgan Stanley MUFG Securities Co., Ltd. and, for Commodities related research reports only, Morgan Stanley Capital Group Japan Co., Ltd; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents) and by Morgan Stanley Bank Asia Limited; in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore (which accepts legal responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research) and by Morgan Stanley Bank Asia Limited, Singapore Branch (Registration number T14FC0118)); in Australia to "wholesale clients" within the meaning of the Australian Corporations Act by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents; in Australia to "wholesale clients" and "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited having Corporate Identification No (CIN) U22990MH1998PTC115305, regulated by the Securities and Exchange Board of India ("SEBI") and holder of licenses as a Research Analyst (SEBI Registration No. INHO00001105); Stock Broker (SEBI Stock Broker Registration No. INZ000244438), Merchant Banker (SEBI Registration No. INM000011203), and depository participant with National Securities Depository Limited (SEBI Registration No. IN-DP-NSDL-567-2021) having registered office at Altimus, Level 39 & 40, Pandurang Budhkar Marg, Worli, Mumbai 400018, India; Telephone no. +91-22-61181000; Compliance Officer Details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: tejarshi.hardas@morganstanley.com; Grievance officer details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: msic-compliance@morganstanley.com; in Canada by Morgan Stanley Canada Limited; in Germany and the European Economic Area where required by Morgan Stanley Europe S.E., authorised and regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin) under the reference number 149169; in the US by Morgan Stanley & Co. LLC, which accepts responsibility for its contents. Morgan Stanley & Co. International plc, authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, disseminates in the UK research that it has prepared, and research which has been prepared by any of its affiliates, only to persons who (i) are investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order"); (ii) are persons who are high net worth entities falling within Article 49(2)(a) to (d) of the Order; or (iii) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000, as amended) may otherwise lawfully be communicated or caused to be communicated. RMB Morgan Stanley Proprietary Limited is a member of the JSE Limited and the communicated or caused to be communicated. The proprietary Limited is a member of the JSE Limited and the communicated or caused to be communicated. The proprietary Limited is a member of the Limited and the proprietary Limited is a member of the Limited and the proprietary Limited is a member of the Limited and the proprietary Limited is a member of the Limited and the Limited and Limited is a member of the Limited and Limited is a member of the Limited and Limited is a member of the Limited and Limited and Limited is a member of the Limited and Limited is a member of the Limited and Limited is a member of the Limited and Limited and Limited is a member of the Limited and Limitedand A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings Inc. and RMB Investment Advisory (Proprietary) Limited, which is wholly owned by FirstRand Limited. The information in Morgan Stanley Research is being disseminated by Morgan Stanley Saudi Arabia, regulated by the Capital Market Authority in the Kingdom of Saudi Arabia, and is directed at Sophisticated investors only.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (DIFC Branch), regulated by the Dubai Financial Services Authority (the DFSA) or by Morgan Stanley & Co. International plc (ADGM Branch), regulated by the Financial Services Regulatory Authority Abu Dhabi (the FSRA), and is directed at Professional Clients only, as defined by the DFSA or the FSRA, respectively. The financial products or financial services to which this research relates will only be made available to a customer who we are satisfied meets the regulatory criteria of a Professional Client. A distribution of the different MS Research ratings or recommendations, in percentage terms for Investments in each sector covered, is available upon request from your sales representative.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (QFC Branch), regulated by the Qatar Financial Centre Regulatory Authority (the QFCRA), and is directed at business customers and market counterparties only and is not intended for Retail Customers as defined by the QFCRA.

As required by the Capital Markets Board of Turkey, investment information, comments and recommendations stated here, are not within the scope of investment advisory activity. Investment advisory service is provided exclusively to persons based on their risk and income preferences by the authorized firms. Comments and recommendations stated here are general in nature. These opinions may not fit to your financial status, risk and return preferences. For this reason, to make an investment decision by relying solely to this information stated here may not bring about outcomes that fit your expectations.

The trademarks and service marks contained in Morgan Stanley Research are the property of their respective owners. Third-party data providers make no warranties or representations relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages relating to such data. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P.

Morgan Stanley Research, or any portion thereof may not be reprinted, sold or redistributed without the written consent of Morgan Stanley.

Indicators and trackers referenced in Morgan Stanley Research may not be used as, or treated as, a benchmark under Regulation EU 2016/1011, or any other similar framework.

The issuers and/or fixed income products recommended or discussed in certain fixed income research reports may not be continuously followed. Accordingly, investors should regard those fixed income research reports as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or individual fixed income products. Morgan Stanley may hold, from time to time, material financial and commercial interests regarding the company subject to the Research report.

Registration granted by SEBI and certification from the National Institute of Securities Markets (NISM) in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Investment in securities market are subject to market risks. Read all the related documents carefully before investing.

INDUSTRY COVERAGE: Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (04/10/2025)
Joseph Moore		
Advanced Micro Devices (AMD.0)	E (06/09/2024)	\$88.70
Aeva Technologies Inc (AEVA.O)	E (07/19/2021)	\$7.51
Allegro Microsystems Inc (ALGM.0)	++	\$21.82
Ambarella Inc (AMBA.O)	0 (03/29/2016)	\$43.62

Amkor Technology Inc (AMKR.O)	E (11/08/2023)	\$15.99
Analog Devices Inc. (ADI.O)	O (11/16/2023)	\$178.36
Astera Labs Inc (ALAB.O)	E (01/20/2025)	\$58.86
Broadcom Inc. (AVGO.0)	O (06/09/2024)	\$172.30
GlobalFoundries Inc (GFS.0)	E (10/28/2024)	\$33.81
Intel Corporation (INTC.O)	E (02/22/2023)	\$19.88
IonQ Inc (IONQ.N)	E (04/25/2023)	\$25.89
Marvell Technology Group Ltd (MRVL.0)	E (09/14/2015)	\$52.87
Microchip Technology Inc. (MCHP.0)	E (07/10/2024)	\$38.81
Micron Technology Inc. (MU.O)	E (05/20/2024)	\$70.05
Navitas Semiconductor Corp (NVTS.0)	U (04/06/2025)	\$1.76
NVIDIA Corp. (NVDA.O)	O (03/16/2023)	\$107.57
NXP Semiconductor NV (NXPI.0)	O (02/11/2025)	\$165.59
ON Semiconductor Corp. (ON.O)	++	\$34.88
Qorvo Inc (QRVO.0)	O (01/20/2025)	\$55.12
Qualcomm Inc. (QCOM.0)	E (12/07/2023)	\$134.40
SanDisk Corporation. (SNDK.0)	O (03/03/2025)	\$31.08
Semtech Corp. (SMTC.0)	E (04/06/2025)	\$27.00
Silicon Laboratories Inc. (SLAB.O)	E (01/19/2021)	\$88.19
Skyworks Solutions Inc (SWKS.0)	E (11/28/2018)	\$53.84
Texas Instruments (TXN.0)	U (04/13/2020)	\$156.60
Western Digital (WDC.0)	0 (01/23/2020)	\$34.87
Wolfspeed, INC (WOLF.N)	NR (04/06/2025)	\$2.16
Lee Simpson		
Arm Holdings plc (ARM.O)	O (07/19/2024)	\$100.46
Cadence Design Systems Inc (CDNS.O)	O (02/14/2024)	\$254.02
Synopsys Inc. (SNPS.0)	0 (11/10/2023)	\$406.89

Stock Ratings are subject to change. Please see latest research for each company.

© 2025 Morgan Stanley

^{*} Historical prices are not split adjusted.