July 20, 2025 09:40 PM GMT

Thematics

Mapping AI's Rate of Change: The Broadening Trend Continues

AI's rate of change is broadening rapidly, both in technological capability and corporate exposures. In the fourth edition of the most extensive AI stock mapping in the market, we continue to see ample scope for alpha, ranging from new 'core to thesis' AI winners to adopters with pricing power.

Please click here *for the full database of >3,600 stocks mapped by AI exposure and materiality.*

AI's rate of change continues to surprise. We published our first AI Adopter survey in January 2024, our second in June 2024, and our third in January 2025. In this iteration, our fourth survey, investors will be surprised by the changes made by our analysts across >3,600 global stocks under coverage.

5 Key Takeaways From Our Fourth Analysis:

1. **Broadening of AI exposure and materiality, reaching multi-trillion-dollar scale.** 412 stocks ($8.7 trillion of market cap) have increased their exposure to AI and it is more material to 259 stocks ($8.5 trillion of market cap). We count 102 stocks ($2.4 trillion of market cap) that increased in both exposure to and materiality of AI.

2. **There are clear signs of alpha from AI materiality among companies — this can be seen in relative price performance and earnings revisions.** A stark performance gap has been widening between stocks where AI exposure has increased versus stocks with decreasing exposure (Exhibit 13). Furthermore, the AI Disrupted cohort continues to see negative revisions, while AI Adopters with high pricing power are leading the market with respect to positive earnings revisions (Exhibit 12 **).**

3. **This Round, the Big AI "rate of change" winners are the Consumer and Real Estate sectors.** Almost 30% of Consumer Durables & Apparel stocks saw an increase in exposure, and ~10% experienced an increase in materiality. The percent of Consumer Durables & Apparel companies now qualifying as Adopters moved from 20% to 44%. Consumer Discretionary Adopters jumped from 32% to 47%. 32% of REITs are now more exposed to AI. We find the Consumer sector exposure to AI Adoption notable given supply chain optimization.

4. **Financials see significant increases in exposure.** Insurance Adopters increased from 48% to 71%, while Financial Services Adopters increased from 66% to 73%. In our January report, we found that Financials shifted from AI being Insignificant to Moderate. In this latest survey, the number of companies in the Moderate and Significant categories grew even more.

5. **Regionally, Asia Pacific is the most notable leader.** AI exposure increased by 104 companies (net), and 30 of these stocks also saw an increase in materiality. Many countries in the Asia Pacific region have national AI strategies, investing billions of dollars to catch-up and/or obtain the AI leadership position. This investment is flowing to the AI related companies in the region and showing up in our data.

How does AI Adoption impact our Thematic investing framework? In our recent Blue Paper outlining our Thematic investing framework, we deploy multiple proprietary quantitative tools to avoid a common pitfall of thematic investing: embracing big picture concepts decoupled from rigorous analytics. Our analyses showed that, among categories of stocks driven by Morgan Stanley's 4 Key Themes (AI/Tech Diffusion, Multipolar World, the Future of Energy and Longevity), the majority of stock categories that screened as most attractive were linked to AI diffusion. ***We combine our Thematic analysis with our latest AI mapping results and recommend the following strategies and ideas:***

- **Strategy #1: Overweight-rated stocks with both materiality and exposure increases.** We favor this approach; (A) it focuses on stocks where Morgan Stanley analysts see attractive risk-reward and (B) where stocks are experiencing "AI rate of change," which is a powerful alpha signal. This includes a relatively large number of companies in APAC, which highlights the broader trend of increasing AI materiality. >$30 billion market cap stocks in this category include **S&P Global**, **EssilorLuxottica**, **Siemens Energy**, **Ecolab**, **Zijin Mining Group**, **Johnson Controls International**, and **Titan Company** (Exhibit 30).

- **Strategy #2: New "Core to Thesis" stocks.** The majority of market cap added since 2022 has been in Core to Thesis Enabler/Adopters such as Nvidia and the other Magnificent 7 stocks. However, for the most part, these companies have not seen a change in their mapping since our original survey. **Amazon.com**, **SAP**, **IBM**, **Johnson Controls International**, and **ASM International** are >$30 billion market cap companies on this list (Exhibit 31). Additional materiality and exposure stock ideas can be found in Exhibit 32 , Exhibit 33 , and Exhibit 34 .

- **Strategy #3: Adopters with pricing power.** These stocks have been breaking away from the market and we believe that pricing power will continue to be a key driver of alpha going forward, determining the extent to which AI-driven benefits and gains will be retained. The Industrials, Information Technology, and Consumer Discretionary sectors fall in this category with the highest pricing power. The largest 40 companies by market cap identified as Adopters with strong pricing power are listed in Exhibit 36 , including companies such as **Microsoft**, **Marriott International**, **DoorDash**, **Rolls-Royce**, and **Home Depot**.

- **Strategy #4: Stocks with the greatest level of AI materiality and pricing power.** These stocks tend to be central to AI proliferation, and their involvement ranges from key Enablers, Adopters, and Infrastructure plays. This strategy represents a relatively broad approach to investing in this theme. **NVDIA**, **Microsoft**, **Apple**, **Amazon.com**, **Meta Platforms**, **Alphabet**, **Broadcom**, and **TSMC** are the largest stocks in this bucket and the full list can be found in Exhibit 37 .

Contributors

MORGAN STANLEY & CO. LLC
Stephen C Byrd
Equity Strategist
+1 212 761-3865
Stephen.Byrd@morganstanley.com

MORGAN STANLEY & CO. LLC
Keith Weiss, CFA
Equity Analyst
+1 212 761-4149
Keith.Weiss@morganstanley.com

MORGAN STANLEY & CO. LLC
Jasper Lin
Equity Strategist
+1 212 761-0837
Jasper.Lin@morganstanley.com

MORGAN STANLEY & CO. LLC
Robert S Kad
Equity Analyst
+1 212 761-0065
Robert.Kad@morganstanley.com

MORGAN STANLEY EUROPE S.E., MADRID BRANCH+
Javier Martinez de Olcoz Cerdan
Equity Analyst
+34 9141-81289
Javier.Martinez.Olcoz@morganstanley.com

MORGAN STANLEY & CO. LLC
Diane Ding, Ph.D.
Quantitative Strategist
+1 212 761-6758
Qian.Ding@morganstanley.com

MORGAN STANLEY & CO. LLC
Brian Nowak, CFA
Equity Analyst
+1 212 761-3365
Brian.Nowak@morganstanley.com

MORGAN STANLEY & CO. LLC
David Arcaro, CFA
Equity Analyst
+1 212 761-1817
David.Arcaro@morganstanley.com

MORGAN STANLEY ASIA (SINGAPORE) PTE.+
Mayank Maheshwari
Equity Analyst
+65 6834-6719
Mayank.Maheshwari@morganstanley.com

MORGAN STANLEY & CO. LLC
Angel Castillo
Equity Analyst
+1 212 761-1931
Angel.Castillo@morganstanley.com

MORGAN STANLEY & CO. LLC
Todd Castagno, CFA, CPA
GVAT Strategist
+1 212 761-6893
Todd.Castagno@morganstanley.com

MORGAN STANLEY & CO. LLC
Qingyi Huang
Equity Strategist
+1 212 296-4837
Qingyi.Huang@morganstanley.com

MORGAN STANLEY & CO. LLC
Seth B Carpenter
Chief Global Economist
+1 212 761-0370
Seth.Carpenter@morganstanley.com

MORGAN STANLEY & CO. LLC
Megan Alexander Clapp, CFA
Equity Analyst
+1 212 761-3715
Megan.A.Clapp@morganstanley.com

MORGAN STANLEY & CO. LLC
Ravi Shanker
Equity Analyst
+1 212 761-6350
Ravi.Shanker@morganstanley.com

MORGAN STANLEY ASIA (SINGAPORE) PTE.+
Kristal Ji
Equity Strategist
+65 6834-6949
Kristal.Ji@morganstanley.com

MORGAN STANLEY & CO. LLC
Joseph Moore
Equity Analyst
+1 212 761-7516
Joseph.Moore@morganstanley.com

MORGAN STANLEY & CO. LLC
Andrew S Percoco
Equity Analyst
+1 212 296-4322
Andrew.Percoco@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Nigel van Putten
Equity Analyst
+44 20 7425-2803
Nigel.Putten@morganstanley.com

MORGAN STANLEY & CO. LLC
Brian Harbour, CFA
Equity Analyst
+1 617 856-8090
Brian.Harbour@morganstanley.com

MORGAN STANLEY & CO. LLC
Michelle M. Weaver, CFA
Equity Strategist
+1 212 296-5254
Michelle.M.Weaver@morganstanley.com
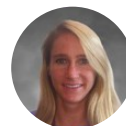
MORGAN STANLEY & CO. LLC
Elizabeth Porter, CFA
Equity Analyst
+1 212 761-3632
Elizabeth.E.Porter@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Regiane Yamanari
Equity Strategist
+44 20 7677-4652
Regiane.Yamanari@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Remi Grenu
Equity Analyst
+44 20 7425-0552
Remi.Grenu@morganstanley.com

MORGAN STANLEY & CO. LLC
Benjamin Swinburne, CFA
Equity Analyst
+1 212 761-7527
Benjamin.Swinburne@morganstanley.com

MORGAN STANLEY & CO. LLC
Erik W Woodring
Equity Analyst
+1 212 296-8083
Erik.Woodring@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
George W Webb
Equity Analyst
+44 20 7425-2686
George.Webb@morganstanley.com

MORGAN STANLEY MUFG SECURITIES CO., LTD.+
Shoji Sato
Equity Analyst
+81 3 6836-8404
Shoji.Sato@morganstanleymufg.com

MORGAN STANLEY & CO. LLC
Meta A Marshall
Equity Analyst
+1 212 761-0430
Meta.Marshall@morganstanley.com

MORGAN STANLEY & CO. LLC
Andrew R Ruben
Equity Analyst
+1 212 761-4415
Andrew.Ruben@morganstanley.com

MORGAN STANLEY & CO. LLC
Stephen W Grambling
Equity Analyst
+1 212 761-1010
Stephen.Grambling@morganstanley.com

MORGAN STANLEY & CO. LLC
Erin Wright
Equity Analyst
+1 212 761-6137
Erin.Wright1@morganstanley.com

MORGAN STANLEY AUSTRALIA LIMITED+
Andrew McLeod
Equity Analyst
+61 2 9770-1692
Andrew.Mcleod@morganstanley.com

MORGAN STANLEY & CO. LLC
Robert J Davies, Ph.D.
Equity Analyst
+1 212 761-4420
Robert.J.Davies@morganstanley.com

MORGAN STANLEY TAIWAN LIMITED+
Howard Kao
Equity Analyst
+886 2 2730-2989
Howard.Kao@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Bart Gysens, CFA
Equity Analyst
+44 20 7425-5862
Bart.Gysens@morganstanley.com

MORGAN STANLEY & CO. LLC
Nathan Feather
Equity Analyst
+1 212 761-9812
Nathan.Feather@morganstanley.com

MORGAN STANLEY & CO. LLC
Daniel Kutz
Equity Analyst
+1-212-761-0899
Dan.Kutz@morganstanley.com

MORGAN STANLEY & CO. LLC
Toni Kaplan
Equity Analyst
+1 212 761-3620
Toni.Kaplan@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Adam Wood
Equity Analyst
+44 7425-4450
Adam.Wood@morganstanley.com

MORGAN STANLEY & CO. LLC
Josh Baer, CFA
Equity Analyst
+1 212 761-4223
Josh.Baer@morganstanley.com

MORGAN STANLEY & CO. LLC
Carlos De Alba
Equity Analyst
+1 212 761-4927
Carlos.De.Alba@morganstanley.com

MORGAN STANLEY & CO. LLC
Devin McDermott
Equity Analyst and Commodities Strategist
+1 212 761-1125
Devin.McDermott@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Annelies Vermeulen
Equity Analyst
+44 20 7425-4367
Annelies.Vermeulen@morganstanley.com

MORGAN STANLEY ASIA LIMITED+
Sheng Zhong
Equity Analyst
+852 2239-7821
Sheng.Zhong@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Max R Yates
Equity Analyst
+44 20 7425-1917
Max.Yates@morganstanley.com

MORGAN STANLEY ASIA LIMITED+
Andy Meng, CFA
Equity Analyst
+852 2239-7689
Andy.Meng@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Lee Simpson
Equity Analyst
+44 20 7425-3378
Lee.Simpson@morganstanley.com

MORGAN STANLEY & CO. LLC
James E Faucette
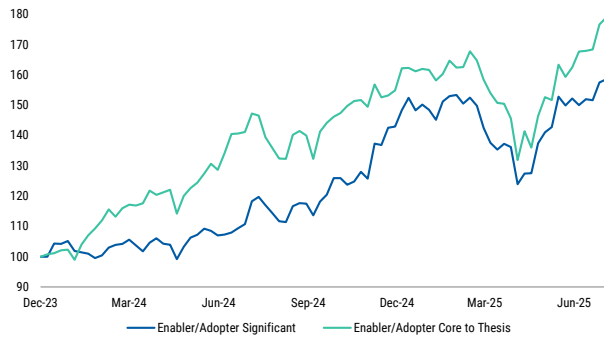Equity Analyst
+1 212 296-5771
James.Faucette@morganstanley.com

Contents

AI's Rate of Return in Charts

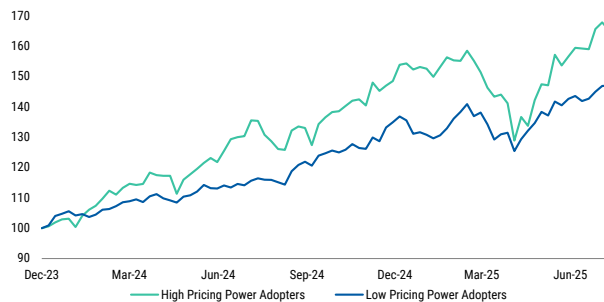**Exhibit 1:**   Enablers & Adopters Core vs. Significant

Source: FactSet, Morgan Stanley Research

Exhibit 3:   Adopters High vs. Low Pricing Power
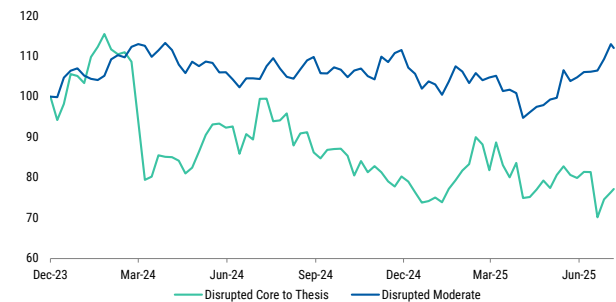

Note: Includes Enabler/Adopter category.
Source: FactSet and Morgan Stanley Research.

Exhibit 5:   Market cap weighted performance by AI Exposure categorization
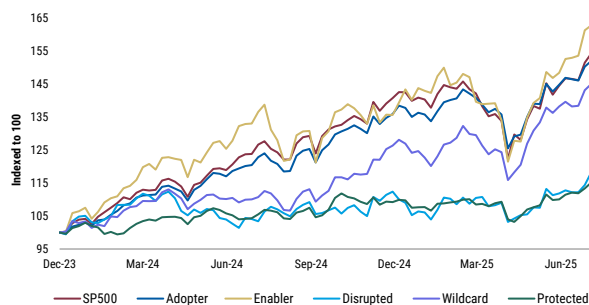
Note: Includes Enabler/Adopter category.
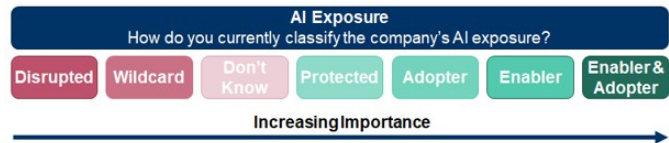Source: FactSet and Morgan Stanley Research.

Exhibit 2:   Adopters Significant vs. Insignificant

Note: Includes Enabler/Adopter category.
Source: FactSet and Morgan Stanley Research.

Exhibit 4:   Disrupted Core vs. Moderate

Source: FactSet, Morgan Stanley Research

Exhibit 6:   The gap between Adopter and Disrupted EPS revisions expands
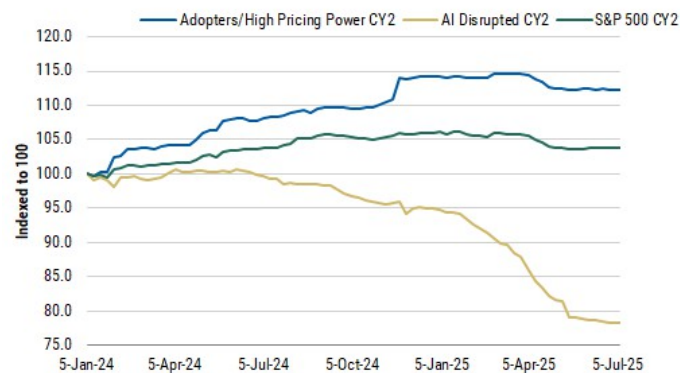
Source: FactSet, Morgan Stanley Research

Mapping AI's Rate of Change in Charts

Exhibit 7: AI Rate of Change "Exposure" Scoring

Source: Morgan Stanley Research

Exhibit 8: AI Rate of Change "Materiality" Scoring
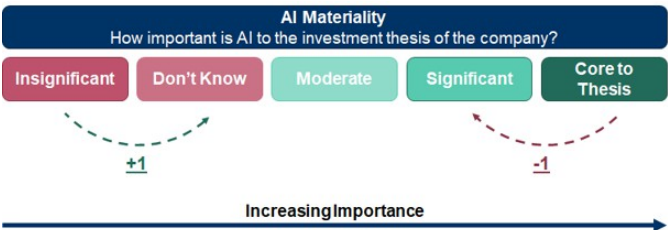
Source: Morgan Stanley Research

Exhibit 9: Most Analyst Reclassifications are by Multiple Increments
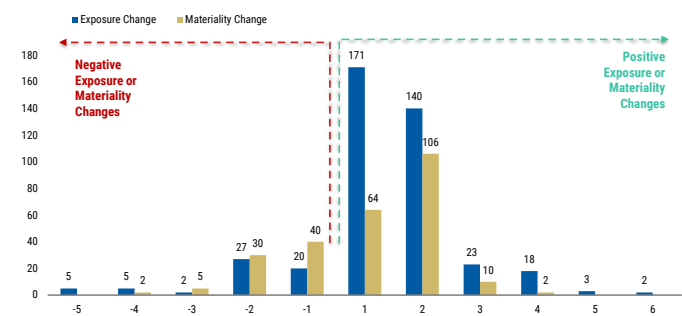
Source: Morgan Stanley Research; Please click here *for the full Excel database of >3,600 stocks mapped by AI exposure and materiality*

Exhibit 10: Steady Progress Conveying Investment and Equity Stories as They Relate to AI
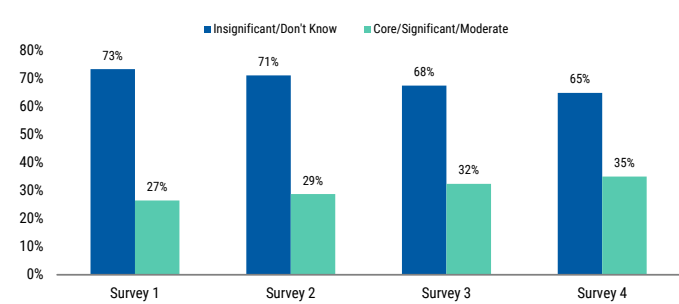
Source: Morgan Stanley Research; Please click here *for the full Excel database of >3,600 stocks mapped by AI exposure and materiality*

Executive Summary

Tech Diffusion

A Morgan Stanley Research Key Theme of 2025

Please click here *for the full excel database of >3,600 stocks mapped by AI exposure and materiality.*

This is the fourth mapping (see prior mapping notes here, here and here) of our global coverage as it pertains to the speed and breadth of AI adoption. We again surveyed Morgan Stanley Research analysts across the firm's global stock coverage with three questions:

- **How do you currently classify the company's AI exposure?** 7 categories from Enabler down to Disrupted (Exhibit 7).
- **How material do you believe AI will be to the investment thesis in the next 12-24 months?** 5 categories from Core to Thesis down to Insignificant (Exhibit 8).
- **How do you perceive this company's pricing power** (i.e., ability to retain cost savings vs. passing through to customers)? 3 categories: High, Neutral, and Low.

What's New — 5 Key Changes and Findings:

1. **412 stocks ($8.7 trillion of market cap) have increased their AI exposure and 259 stocks ($8.5 trillion of market cap) have AI as a more material factor in their business. 102 stocks ($2.4 trillion of market cap) have increased in both exposure to and materiality of AI.**

2. **We are seeing clear signs of alpha generation from the relative change in AI materiality among companies — this can be seen in relative price performance and earnings revisions.** We highlight the Industrials, Information Technology, and Consumer Discretionary sectors as best positioned to create alpha through higher pricing power.

3. **The big AI "rate of change" winners are in the Consumer and Real Estate sectors.** AI becoming more material for 22% of the Consumer Staples Distribution & Retail industry group while almost 30% of Consumer Durables & Apparel stocks saw an increase in exposure and ~10% of companies in that same industry also noted an increase in materiality. REITs saw rising exposure to AI for 32% of the group.

4. **The Financials sector also saw significant increases in exposure, notably,** Insurance Adopters (Adopters + Enabler/Adopter) increasing from 48% to 71%, while Financial Services Adopters (Adopters + Enabler/Adopter) increased from 66% to 73%.

5. **Regionally, Asia Pacific saw the greatest increase in AI exposure,** with a number of names also seeing an increase in materiality.

Rate of Change Continuing to Drive Outperformance

Investors predominantly use our survey for three reasons: (1) to understand the rate of change in AI and its corporate adoption; (2) portfolio risk management and (3) stock-picking.

We look at the performance of stocks for which our global analysts identified a change in materiality, exposure or both as part of the earlier re-mapping exercise to assess the relevance of AI's rate of change.

In our third iteration, 76 stocks saw an increase in both exposure and materiality. Those stocks outperformed the MSCI World by ~10% (Exhibit 11).

Exhibit 11: Performance of stocks upgraded both in exposure and materiality in Survey 3 vs MSCI AC World IMI
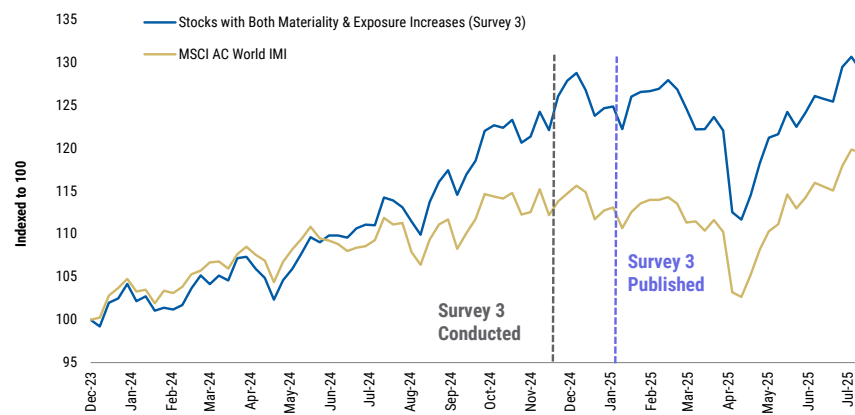
Source: FactSet, Morgan Stanley Research

AI Adoption Rate of Change as a Driver of Alpha

We see clear signs of alpha generation from the relative change in AI materiality among companies — this can be seen in earnings revisions and relative price performance. The AI Disrupted cohort continues to see negative revisions, while AI Adopters with high pricing power are leading the market with respect to earnings revisions (Exhibit 12). The performance gap between stocks where AI exposure has increased relative to stocks with decreasing exposure has been growing (Exhibit 13).

Exhibit 12: Adopter vs Disrupted CY2 EPS Revisions
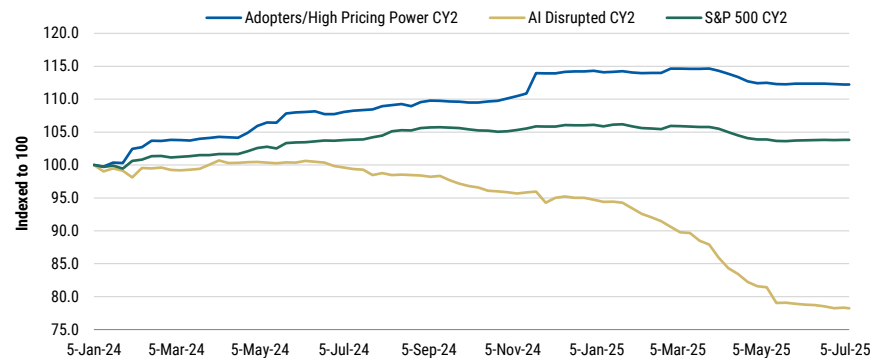
Source: FactSet, Morgan Stanley Research

Exhibit 13: Performance Gap Between Stocks With Increasing AI Materiality and Exposure vs. Decreasing
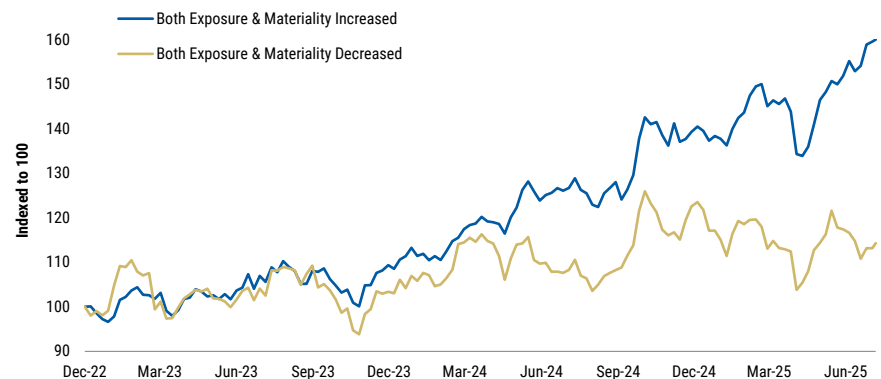
Note: Includes increases/decreases from Survey 4 only.
Source: FactSet and Morgan Stanley Research.

A critical driver of alpha will be companies' degree of pricing power, in our view, determining the extent to which AI-driven benefits will be retained. In terms of sectors with the highest pricing power, we highlight Industrials, Information Technology, and Consumer Discretionary.

Exhibit 14: Relative Share of Pricing Power by Sector

■ Share of Adopters & Enablers/Adopters w/High Pricing power
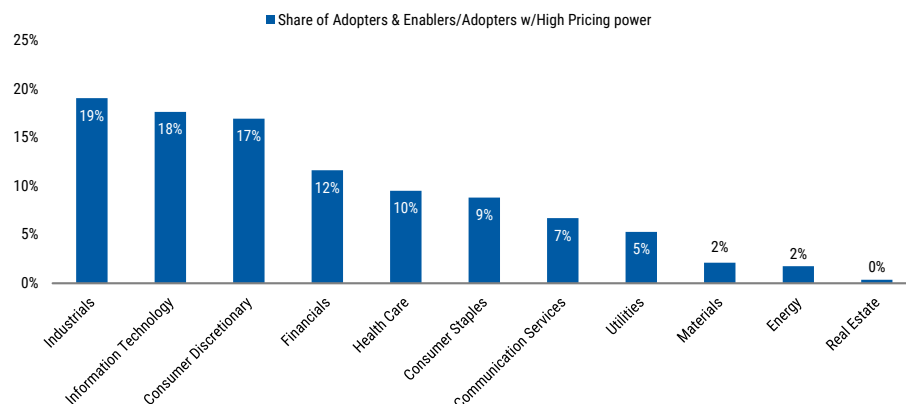
Source: Morgan Stanley Research.

Strong Rate of Change in the Consumer and Real Estate Sectors

The rate of change is important driver of alpha — we view our survey results as an early indicator of the rate of AI adoption and the benefits. We highlight the consumer sector where globally, our analysts are seeing rising exposure and materiality compared to January 2025. This uptick is noteworthy given supply chain optimization and trade dynamics, which could be further AI Adoption accelerants.

We discovered that AI became more material for 22% in Consumer Staples Distribution & Retail, while almost 30% of Consumer Durables & Apparel stocks saw an increase in exposure and ~10% of companies exhibited an increase in materiality.

Focusing on European Retail, our analysts recently identified the opportunity for AI adoption on both the consumer and operational side. Through intelligent product search and personalized pricing at the front of the till and operational improvements at the back, companies in Retail could expand marketplaces and create high-margin revenue streams for those who are quickly adopting AI technologies.

Exhibit 15: Consumer Sector Companies Saw the Greatest Rate of Change
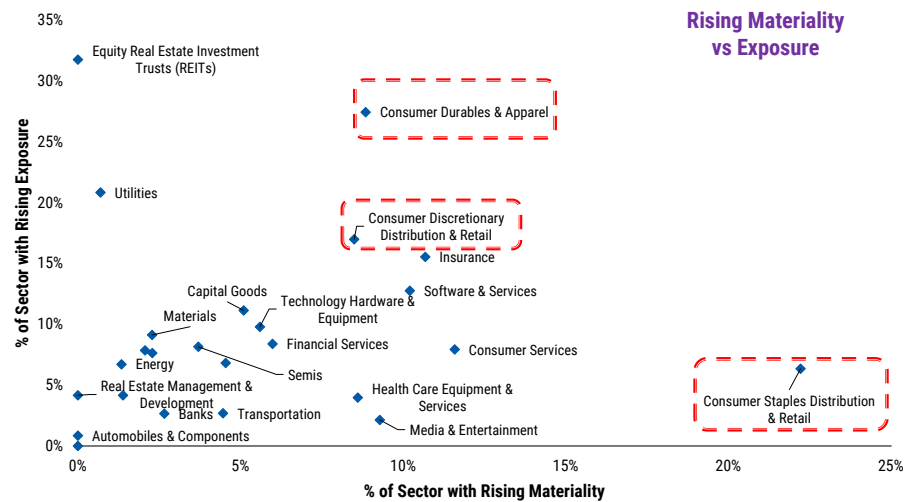
Source: Morgan Stanley Research

Exhibit 16: Sectors by Highest Materiality and Exposure
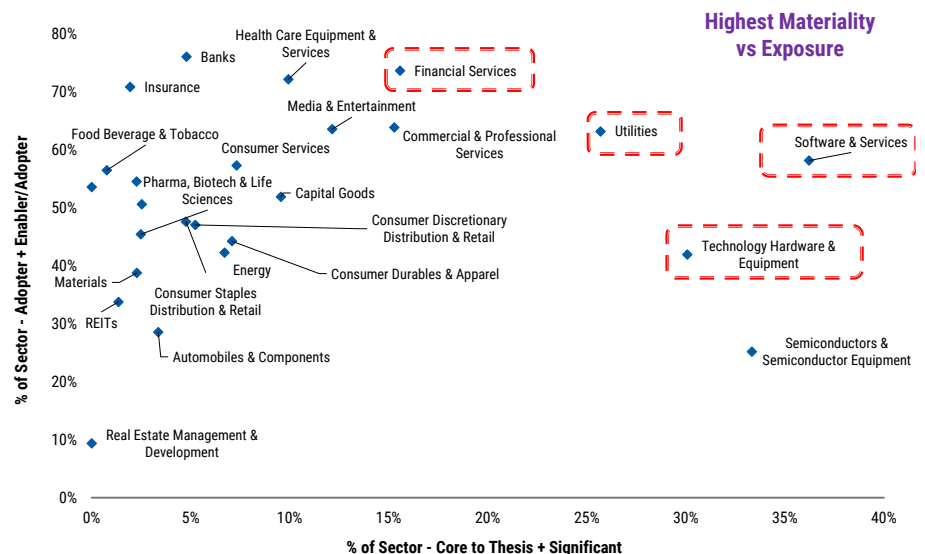
Source: Morgan Stanley Research

Real Estate shows a rapid increase in AI exposure, and our insights illuminate the large potential benefits. 32% of REITs are now more exposed to AI compared to last survey. The Anthropic Economic Index is a powerful tool to leverage AI adoption benefits, providing a rich information set that breaks down LLM use cases and shows a wide range of occupations that may have some or all of their tasks either "automated" by AI (which is more indicative of job replacement potential) or "augmented" (which is more indicative of enhancing the performance of humans).

In a recent report on how AI may reshape the US Real Estate sector, a team of analysts led by Ron Kamdem analyzed Anthropic AI usage data across a wide range of occupational categories from Anthropic's Economic Index, and concluded that~37% of tasks performed across ~525k occupations in the public REIT and CRE services space have the potential to be automated.

This is in line with our Global Technology team's estimate that the total US addressable market for GenAI applications will rise from ~25% to ~44% of occupations in 3 years. Indeed, across 162 public REIT and CRE services companies with $92 billion of total labor costs, the financial impact may be $34 billion, or ~16% of operating cash flow, before labor and interest cost.

Exhibit 17: AI Adoption Labor Cost Opportunity for the US Real Estate Sector
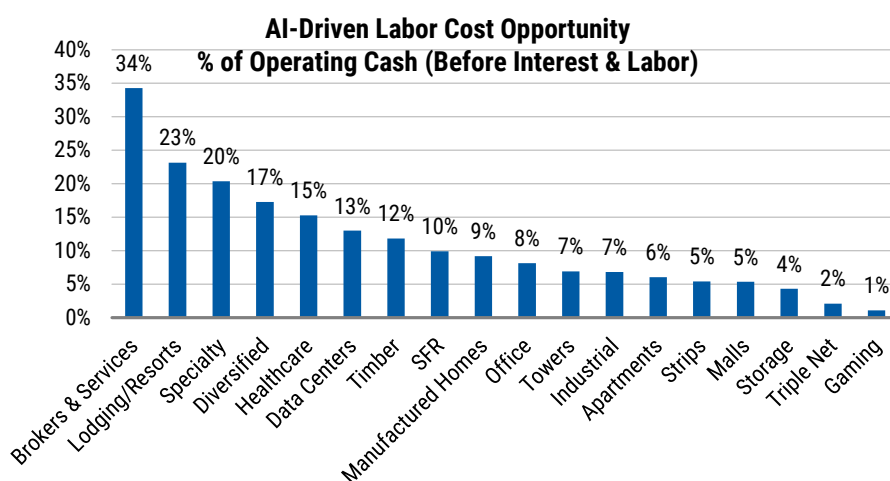
Source: AlphaWise, LinkUp, Anthropic Economic Index 3/27/2025, FactSet, Morgan Stanley Research

Financials at the Tipping Point

In our proprietary survey of 400 companies adopting GenAI into their products, Financials companies showed the greatest amount of low-hanging opportunities across both cost and revenue lines. Not surprising given this phenomenon, Financials have been investing heavily in AI to automate customer service, back-office processes, enhance risk management, fraud, and compliance functions, and to keep up with the industries many disruptors.

Exhibit 18: AI Revenue Growth and Cost Saving Opportunities by Sector

Financials companies have the broadest AI priorities
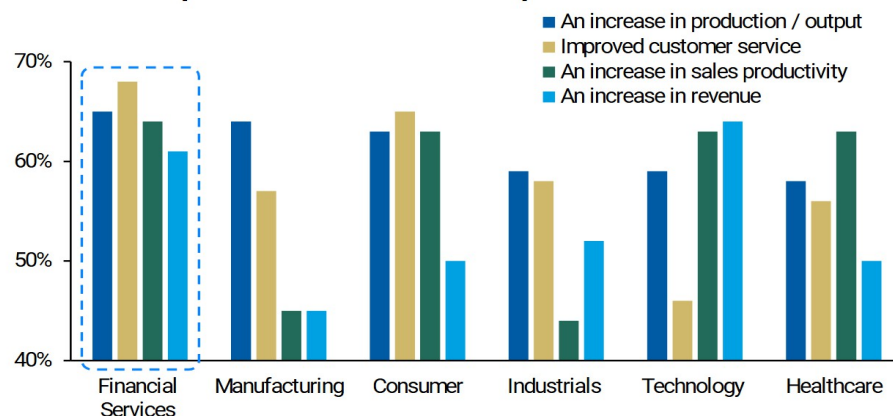
Source: Alphawise, Morgan Stanley Research

When we first started this survey work, Financials were largely considered to be "Adopter", "Protected" or "Don't Know" and with largely insignificant materiality of AI to the investment case. The tide has been rapidly turning as more Financials companies are realizing the impact that AI could have on their businesses.

Exhibit 19: Financials stocks categorized as Adopters
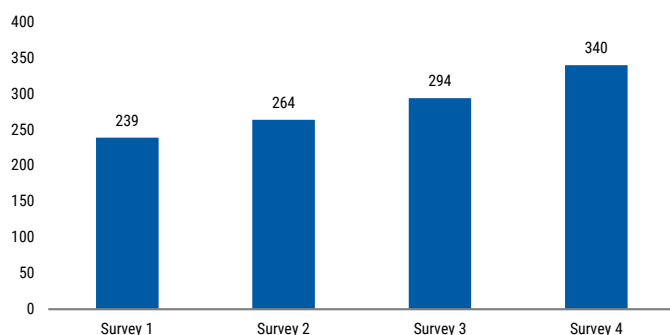
Note: Includes Enabler/Adopter category.
Source: Morgan Stanley Research.

Exhibit 20: Financials stocks categorized as AI having Moderate vs Insignificant impact on investment case
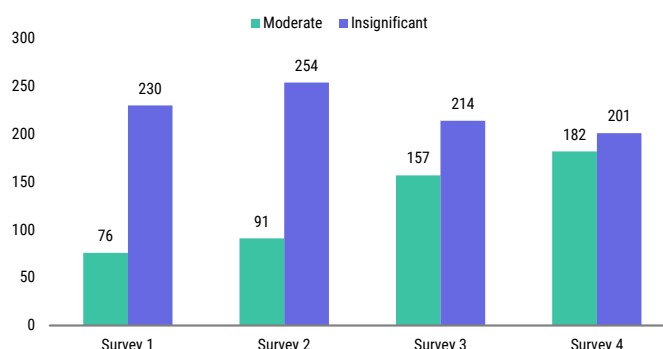
Source: Morgan Stanley Research.

Analysis by Region

Asia-Pacific showed the most significant shift between our third and fourth surveys. This movement likely reflects the impact of DeepSeek's January 2025 launch, which disrupted markets and challenged perceptions of US dominance in AI. Dario Amodei, CEO of Anthropic, reinforced the strong capabilities of AI developers in China: "DeepSeek-V3 was actually the real innovation and what should have made people take notice… As a pretrained model, it appears to come close to the performance of state of the art US models on some important tasks, while costing substantially less to train…. DeepSeek's team did this via some genuine and impressive innovations, mostly focused on engineering efficiency… All of this is to say that DeepSeek-V3 is not a unique breakthrough or something that fundamentally changes the economics of LLM's; it's an expected point on an ongoing cost reduction curve. What's different this time is that the company that was first to demonstrate the expected cost reductions was Chinese. This has never happened

before and is geopolitically significant. However, US companies will soon follow suit — and they won't do this by copying DeepSeek, but because they too are achieving the usual trend in cost reduction." Nvidia (NVDA) lost nearly $600 billion in market cap, dropping to $2.9 trillion — only to rebound to a record high of over $4 trillion six months later. Despite early investor concerns, the DeepSeek dynamic ultimately accelerated GenAI innovation, availability, and adoption through cost-efficiency breakthroughs, while also prompting investors to reassess the competitive landscape and the sustainability of US leadership in AI. Read our team's most recent report on DeepSeek's imminent release of their next-generation model, R2, here.

Regionally, APAC stands out as the region with the greatest increase in AI Adoption:

- **Asia Pacific** saw the most significant shift in our fourth survey. AI exposure increased for 104 companies (net). Of these names, 30 stocks also saw an increase in materiality. Notably, Asia Pacific did see a drop in pricing power at 21 companies (net), possibly indicating some weakness in the region's ability to take price despite higher AI adoption.
- **Europe:** Changes in Europe were moderate with a slight uptick in materiality for 44 stocks (net) while AI exposure increased for 52 stocks (net). Pricing power for companies in the region remained unchanged with 32 going up and 32 going down.
- **North America** remained stable with minor increases in exposure and materiality, and no net change in pricing power. As AI related companies shift from hype to execution, things may appear quieter in the region, but much is still going on below the surface.
- **Latin America** had modest improvements in exposure with no stocks moving down and also remained steady on its pricing power. The bulk of Latin America's exposure lies within the Protected group with 37% of the region's stocks labeled as such.
- **Japan** had the highest percentage of exposure upgrades with 56 companies (net). Although a smaller sample, Japan's stock universe makes up 20% of the Enabler/ Adopters group.

In terms of stock performance of AI Adopters regionally, we have seen the strongest performance in North America and APAC. While there have been massive non-AI drivers of stock performance, especially in 2025 given critically important potential changes in trade policy, we find it notable that the two regions with the strongest AI technology capabilities have seen the strongest stock performance.

Exhibit 21: Performance of AI Adopters by Region
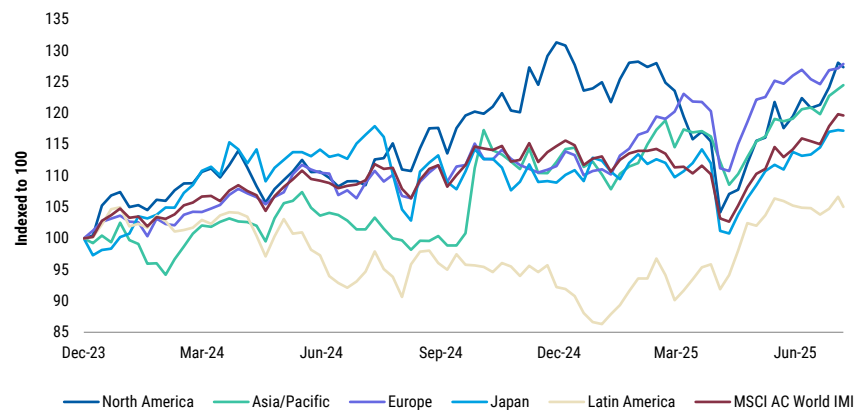
Note: Includes Enabler/Adopter category.
Source: FactSet and Morgan Stanley Research.

Why AI's Rate of Change Will Continue to Matter

This report maps the evolution of companies' exposure to AI, how that evolution is perceived and priced by analysts and the market. It's valuable to investors because it tracks the accelerating capabilities of the foundational AI infrastructure and demonstrates that the technology is diffusing faster and impacting more industries than ever before (see here, here, and here).

AI capabilities are improving at an exponential rate. As noted in a recent research report from multiple Morgan Stanley tech sector analysts, "A long history of algorithmic improvements suggests we should not understate the incremental demand that comes from lower costs, more advanced capabilities, and continued scaling." Regarding the rapid scaling of AI capabilities, a recent research report from an independent AI assessment organization (METR) highlights a "new Moore's law" for Agentic AI: "[W]e show that [the lengths of tasks AI agents can complete] has been consistently exponentially increasing over the past 6 years, with a doubling time of around 7 months. Extrapolating this trend predicts that, in under five years, we will see AI agents that can independently complete a large fraction of software tasks that currently take humans days or weeks."

The length of tasks AI can do is doubling every 7 months △ METR
Task length (at 50% success rate)
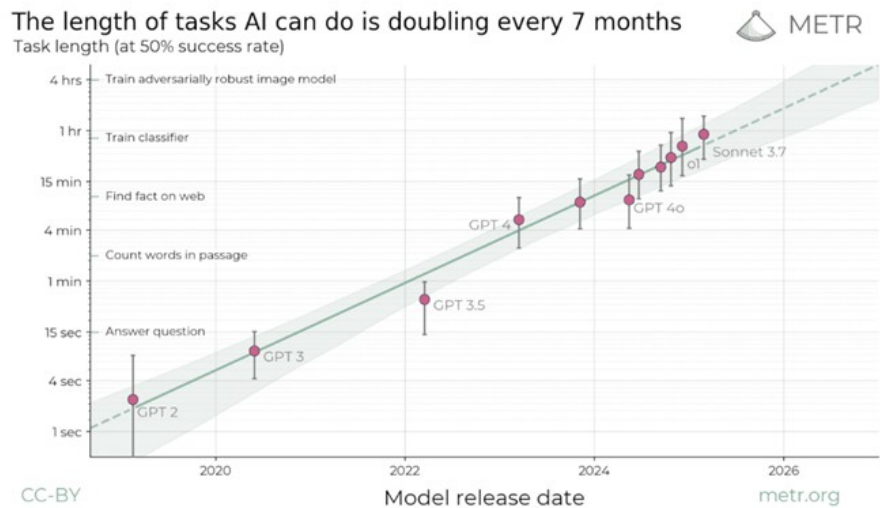
The length of tasks (measured by how long they take human professionals) that generalist frontier model agents can complete autonomously with 50% reliability has been doubling approximately every 7 months for the last 6 years. The shaded region represents 95% CI calculated by hierarchical bootstrap over task families, tasks, and task attempts.

In the context of this speed of evolution in foundational models, we believe corporate adoption and its materiality to global stock markets remains underappreciated. Our regular CIO survey continues to show robust spending and AI adoption. Indications of business units where Generative AI is most widely deployed across organizations suggests IT Operations (48%), Marketing (26%), HR/Payroll (22%), and Corporate Finance & Strategy (22%) are most widely adopting GenAI today. Drilling into the impact to the cost profiles of these different businesses units, CIOs usage of Generative AI is driving efficiency in Supply Chain/Inventory Management (-2.5%), Sales (-2.5%), and IT Operations (-0.6%), while there remains more to prove from an ROI perspective in Legal/Risk/Compliance (+1.5%), Marketing (+1.0%), and Customer Service (+1.0%).

Agentic AI Will Drive Productivity

As the name implies, AI Agent technologies give agency to the software program — moving the interaction with the algorithms from reactive (a chatbot responds to a prompt from the user) to proactive (an agent proactively suggests the next step in a workflow). In a similar vein, moving from static systems operating within a well defined set of rules to a dynamic system working to find the best solutions to an evolving set of problems; from the completion of simple workflows to working through more complex workflows with an increasing amount of autonomy.

Signs of the acceleration in Agentic AI adoption are seen in many data points, and perhaps most notable is the rapid acceleration in "token demand." US Semiconductor analyst Joe Moore described this dynamic well in a note focused on NVIDIA: "While Wall Street is wringing its hands over a laundry list of very real concerns, Silicon Valley focus has shifted to a very different challenge - growth in tokens generated of (by some accounts) more than 5x since the beginning of the year is very much straining the ecosystem, and is driving a surge in investment to handle those workloads."

The Anthropic Economic Index analysis shows the balance of augmentation vs automation on a task- and occupation-level with respect to Agentic AI adoption. For example, computer and mathematical occupations, which represents ~40% of the interactions in the data set, shows that ~50% of usage was for automation purposes while the other ~50% of usage was for augmentation purposes. Office & Administrative support, which represents ~7% of the interactions in the data set, shows that ~44% of usage was for automation purposes, while the other ~56% was for augmentation purposes. Key details from Anthropic's analysis includes:

- Claude insights and observations, or "Clio," is Anthropic's privacy-preserving analysis tool, which was used to map 1mn conversations to one of 17,000 tasks in the US Department of Labor's O*NET database.
- It then looks at the overall patterns in the occupations and high-level occupational categories associated with those tasks.
- In addition, Anthropic released a bottom-up taxonomy of usage on Claude.ai. using the same data set of anonymized conversations used for the above analysis. The new data set covers 630 granular categories ranging from "Help resolve household plumbing, water, and maintenance issues" to "Provide guidance on battery technologies and charging systems."
- See here for additional methodological details and data sets for Anthropic's analyses.

Exhibit 22: Anthropic Economic Index analysis shows the balance of augmentation / automation
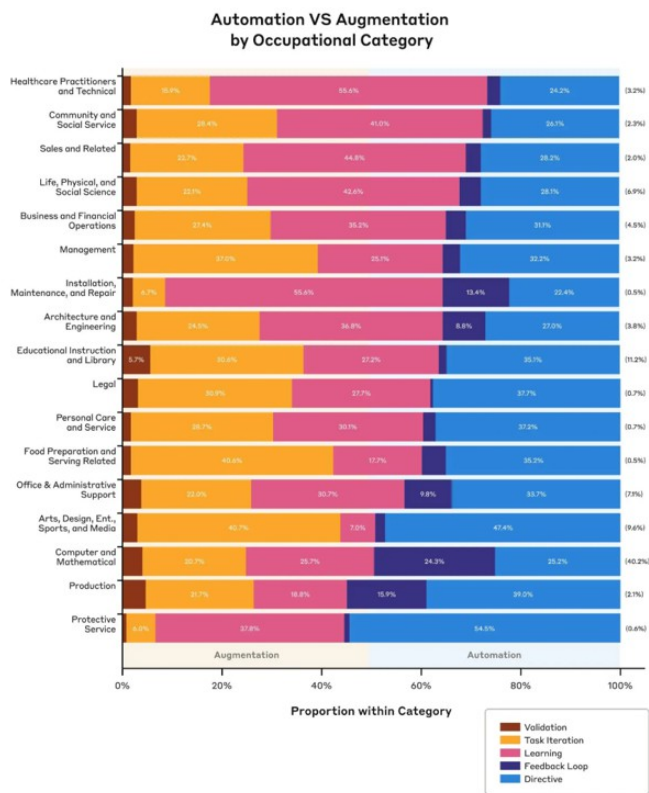
Source: Anthropic Economic Index 3/27/2025, Morgan Stanley Research. Proportion of different interaction modes across high-level occupational categories. Occupational categories shown are limited to those with at least 0.5% representation in the data.

Exhibit 23: The balance of augmentation and automation is essentially unchanged in the two months between data samples (V1 and V2)
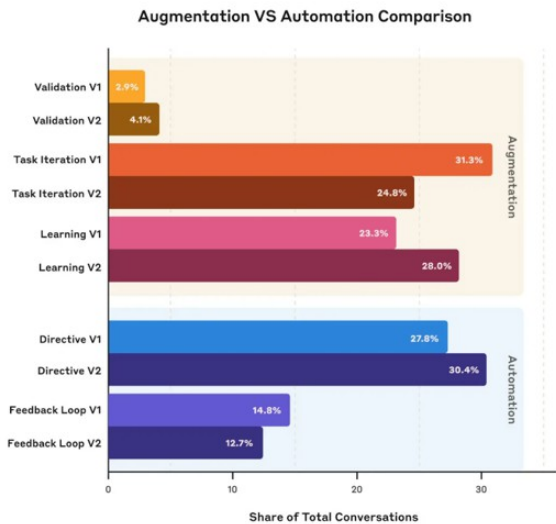
Source: Anthropic Economic Index 3/27/2025, Morgan Stanley Research. The balance of augmentation and automation has stayed relatively constant in the two months between the data samples (V1 and V2), though the share of Learning conversations has grown appreciably.

Applying a Thematic Investing Framework

Please click here *for the full excel database of >3,600 stocks mapped by AI exposure and materiality.*

How does AI Adoption intersect with our Thematic investing framework? In a recent Blue Paper outlining our Thematic investing framework, we deployed multiple proprietary quantitative tools to avoid a common pitfall of thematic investing: embracing big picture concepts decoupled from rigorous analytics. Our analyses showed that, among categories of stocks driven by Morgan Stanley's 4 Key Themes (AI/Tech Diffusion, Multipolar World, the Future of Energy and Longevity), the majority of stock categories that screened as most attractive were linked to AI diffusion.

When we assess impacts on equities exposed to the AI/Tech Diffusion theme, we evaluate (1) what has already been discounted by markets; (2) to what extent stock mapping is a driver of outperformance relative to the market; and (3) what remaining opportunities may not have already been discounted by markets.

- **By exposure:** Since the end of 2022, the Enabler/Adopter stocks have added >$14 trillion in market cap; or 85%. This is more than all other categories combined and more than double the $6.6 trillion added to the Adopter group of stocks over the same period.
- **By materiality:** Over the same period, and unsurprisingly, the lion's share of uplift to market cap by materiality classification has been in the Core to Thesis grouping, adding 124%, or $11.6 trillion in absolute terms. The Significant and Moderate AI exposed buckets each saw a $4.9 trillion increase to their market values, representing a 70% and 27% gain, respectively.

Exhibit 24: Performance of Stocks Upgraded to "Core to Thesis" vs. S&P 500
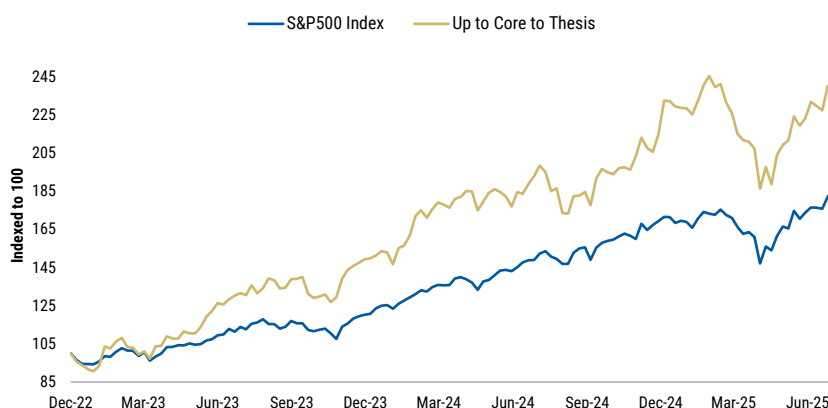
Note: Includes increases from Survey 4 only.
Source: Eikon, Morgan Stanley Research

Materiality matters more than exposure. The market is paying a higher multiple for businesses where AI is a material factor. "Materiality" stocks also have higher growth and margin expectations than "Exposed" companies.

Exhibit 25: Price to NTM Sales Forward Multiple
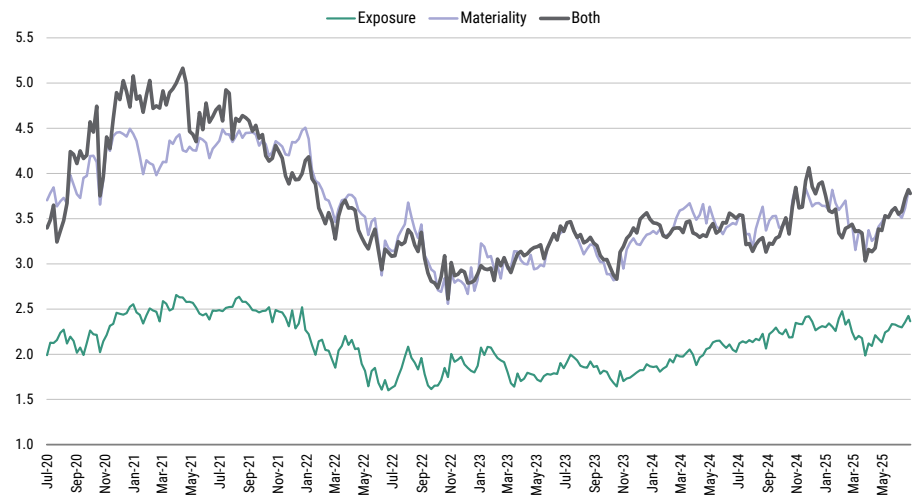
Exhibit 26: Consensus Sales Growth Expectations
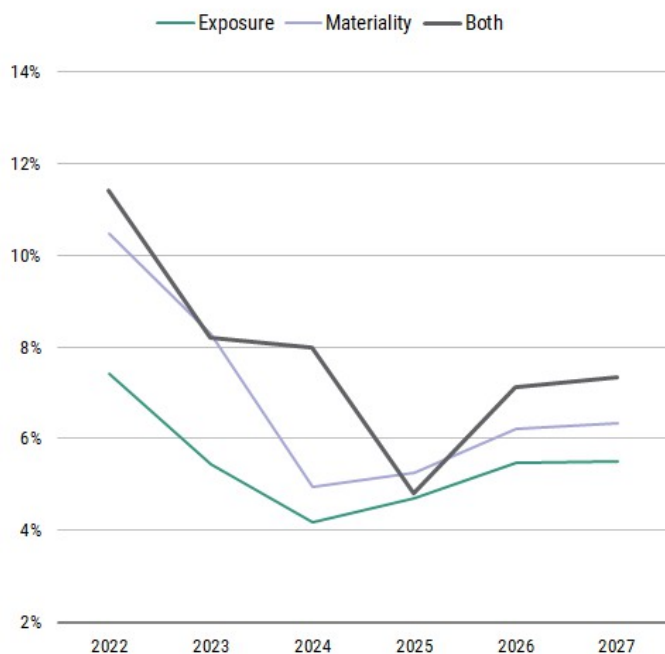
Exhibit 27: Consensus EBITDA Margin Expectiaions
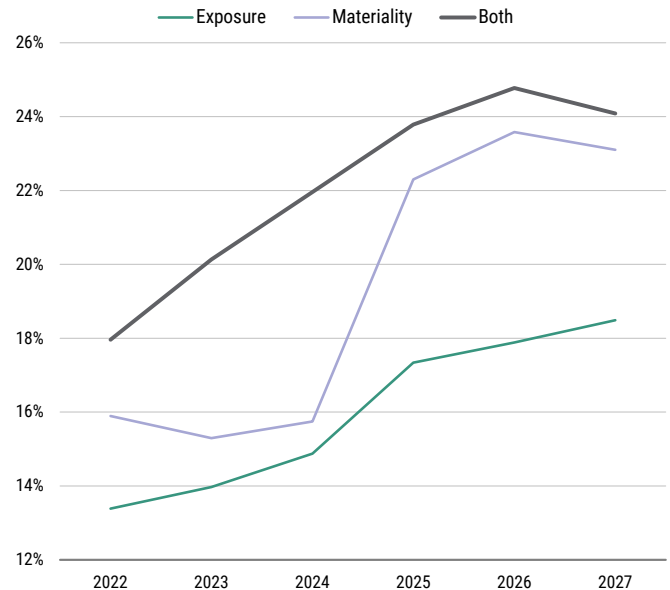
Enablers Up Multiple Exposures. As a reminder, the Enabler category encompasses stocks that are classified as Enabling AI for other businesses. Even in our fourth iteration of this survey, we are still seeing jumps from "Protected" and "Wildcard" to the Enabler category, highlighting AI's rapid rate of change. Specifically, this survey saw 35 stocks that were categorized as "Protected" in our December 2024 survey that made the leap to Enabler in our June 2025 survey. These stocks, and the others that were increased multiple notches to the Enabler category, have seen steady outperformance versus the S&P 500 since the launch of ChatGPT.

Core to Thesis Up Multiple Materialities: Similarly, on the materiality front, Core to Thesis is the highest categorization available to our analysts in our survey. As Exhibit 10 highlights, we are seeing companies gradually improve their AI story to investors as analysts shift their stocks' AI materiality from "Insignificant" or "Moderate" to Core to the company's investment debate and outcome. Those companies that have seen their materiality increase in our latest survey have outperformed the S&P 500 by just over 50%.

Exhibit 28: Relative Performance of Stocks Raised Multiple Levels to "Enabler" or "Core to Thesis" vs. S&P 500
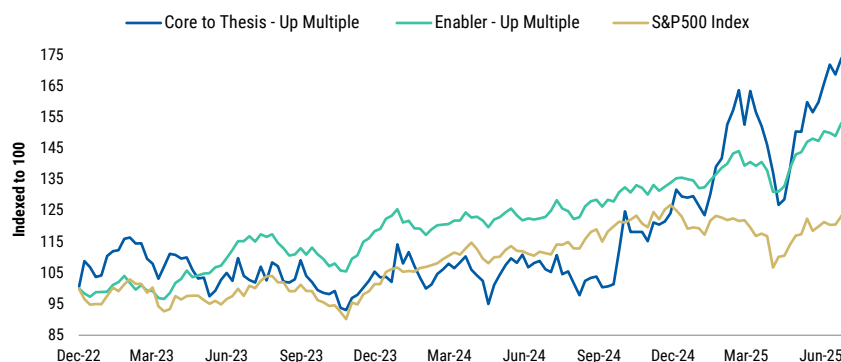
Source: Eikon, Morgan Stanley Research

The AI Disrupted cohort continues to see negative revisions. Meanwhile, the AI adopters with high pricing power are leading the market, with a substantial gap between the disrupted. However, the gap has remained steady with the market (S&P 500) since our last survey.

Exhibit 29: Adopter vs Disrupted CY2 EPS Revisions
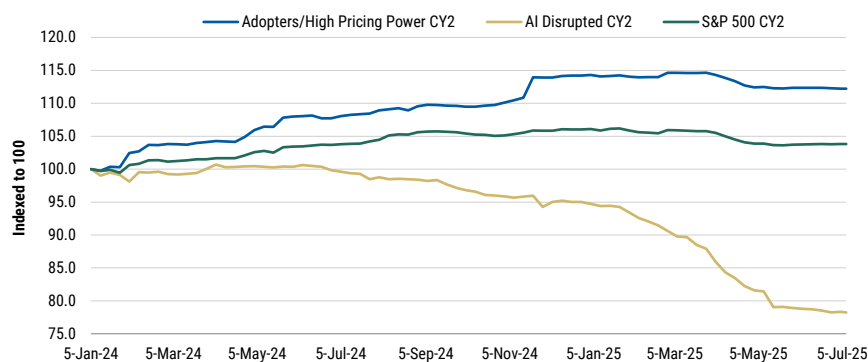
Source: FactSet, Morgan Stanley Research

We combined our Thematic stock quantitative analysis with our latest AI mapping results, and recommend the following strategies and resulting stocks:

Strategy #1: Overweight-rated stocks with both materiality and exposure increases. We favor this approach, because (A) it focuses on stocks where Morgan Stanley analysts see attractive risk-reward, and (B) the stocks are experiencing "AI rate of change," which we have shown above to be a powerful alpha signal, in our view. The list includes a relatively large number of companies in APAC, which is representative of the broader trend of increasing AI materiality for stocks in the region.

Exhibit 30: Overweight-rated stocks where both materiality and exposure increased

Ticker	Company	Region	GICS Sector	Market Cap ($bn)	Rating	Last Price (LCY)	New Exposure	New Materiality	Pricing Power
688169.SS	Beijing Roborock Technology Co Ltd	Asia/Pacific	Consumer Discretionary	0.3	Overweight	163.70	Enabler/Adopter	Significant	High
TREN.NS	Trent Ltd	Asia/Pacific	Consumer Discretionary	22.6	Overweight	5,392.65	Adopter	Moderate	Neutral
TITN.NS	Titan Company Ltd	Asia/Pacific	Consumer Discretionary	35.6	Overweight	3,414.85	Adopter	Moderate	High
PAGE.NS	Page Industries Ltd.	Asia/Pacific	Consumer Discretionary	6.4	Overweight	49,053.25	Adopter	Moderate	Neutral
EDV.AX	Endeavour Group Ltd	Asia/Pacific	Consumer Staples	4.9	Overweight	4.15	Adopter	Moderate	Low
COL.AX	Coles Group Limited	Asia/Pacific	Consumer Staples	18.1	Overweight	20.46	Adopter	Moderate	Low
PDN.AX	Paladin Energy Ltd	Asia/Pacific	Energy	2.0	Overweight	7.69	Adopter	Moderate	Neutral
FUTU.O	Futu Holdings Ltd	Asia/Pacific	Financials	17.2	Overweight	145.96	Adopter	Moderate	Low
6060.HK	ZhongAn Online P & C Insurance Co Ltd	Asia/Pacific	Financials	3.4	Overweight	18.06	Enabler/Adopter	Significant	High
KPLM.SI	Keppel Ltd	Asia/Pacific	Industrials	11.1	Overweight	7.95	Enabler	Moderate	Neutral
601100.SS	Jiangsu Hengli Hydraulic Co.Ltd	Asia/Pacific	Industrials	13.5	Overweight	73.52	Enabler/Adopter	Significant	Neutral
603986.SS	GigaDevice Semiconductor Beijing Inc	Asia/Pacific	Information Technology	11.3	Overweight	115.00	Enabler	Moderate	Neutral
2899.HK	Zijin Mining Group	Asia/Pacific	Materials	72.7	Overweight	20.40	Enabler	Significant	Neutral
CPIJ.J	Capitec Bank Holdings Ltd	Europe	Financials	23.4	Overweight	3,393.39	Enabler/Adopter	Moderate	High
FSRJ.J	FirstRand Limited	Europe	Financials	24.0	Overweight	73.28	Enabler/Adopter	Moderate	High
ESLX.PA	EssilorLuxottica SA	Europe	Health Care	127.0	Overweight	242.20	Adopter	Moderate	High
ENR1n.DE	Siemens Energy AG	Europe	Industrials	78.3	Overweight	93.22	Enabler/Adopter	Significant	Neutral
4004.T	Resonac Holdings	Japan	Materials	4.7	Overweight	3,591.00	Enabler/Adopter	Moderate	Neutral
TOST.N	Toast, Inc.	North America	Financials	26.3	Overweight	45.25	Enabler/Adopter	Moderate	High
SPGI.N	S&P Global Inc	North America	Financials	162.0	Overweight	527.28	Enabler/Adopter	Significant	High
IQV.N	Iqvia Holdings Inc	North America	Health Care	29.0	Overweight	159.27	Enabler/Adopter	Significant	Neutral
JCI.N	Johnson Controls International Plc	North America	Industrials	69.7	Overweight	106.32	Enabler/Adopter	Core to Thesis	High
ECL.N	Ecolab Inc.	North America	Materials	76.6	Overweight	265.78	Enabler	Moderate	High

Source: FactSet, Morgan Stanley Research. Please click here *for the full excel database of >3,600 stocks mapped by AI exposure and materiality*

Strategy #2: New "Core to Thesis" stocks. The majority of market cap added since 2022 has been in Core to Thesis Enabler/Adopters such as Nvidia and the other Magnificent 7 stocks. However, for the most part, those companies have not seen a change in their mapping since our original survey. The table below shows higher market cap companies such as AMZN, IBM and SAP where AI materiality is now Core to Thesis.

Exhibit 31: Stocks where materiality was upgraded to Core to Thesis

Ticker	Company	Region	GICS Sector	Market Cap ($bn)	Rating	Last Price (LCY)	New Exposure	New Materiality	Pricing Power
1357.HK	Meitu Inc	Asia/Pacific	Communication Services	5.5	Overweight	10.18	Adopter	Core to Thesis	High
3037.TW	Unimicron	Asia/Pacific	Information Technology	5.9	Equal-Weight	132.00	Enabler	Core to Thesis	Low
9669.HK	Beisen Holding Limited	Asia/Pacific	Information Technology	0.8	Overweight	8.72	Adopter	Core to Thesis	Neutral
TUYA.N	Tuya Inc.	Asia/Pacific	Information Technology	1.5	Overweight	2.73	Adopter	Core to Thesis	High
0268.HK	Kingdee International Software Group	Asia/Pacific	Information Technology	6.7	Equal-Weight	16.54	Enabler/Adopter	Core to Thesis	Neutral
GDS.O	GDS Holdings Ltd	Asia/Pacific	Information Technology	6.4	Overweight	37.72	Enabler	Core to Thesis	Neutral
002230.SZ	iFlytek Co Ltd	Asia/Pacific	Information Technology	13.6	Equal-Weight	47.24	Enabler	Core to Thesis	High
3324.TWO	Auras Technology Co Ltd	Asia/Pacific	Information Technology	1.9	Equal-Weight	694.00	Enabler	Core to Thesis	Neutral
VNET.O	VNET Group Inc	Asia/Pacific	Information Technology	2.2	Overweight	9.09	Enabler	Core to Thesis	Neutral
2345.TW	Accton Technology Corporation	Asia/Pacific	Information Technology	14.6	Overweight	776.00	Enabler	Core to Thesis	High
ACS.MC	ACS Actividades de Construccion y Servic	Europe	Industrials	17.2	Equal-Weight	55.70	Enabler	Core to Thesis	Neutral
BEAN.S	Belimo Holding AG	Europe	Industrials	12.5	Equal-Weight	830.50	Enabler	Core to Thesis	Neutral
ASMI.AS	ASM International NV	Europe	Information Technology	30.0	Overweight	531.60	Enabler	Core to Thesis	Neutral
SAPG.DE	SAP SE	Europe	Information Technology	366.8	Overweight	259.80	Enabler/Adopter	Core to Thesis	High
AMZN.O	Amazon.com Inc	North America	Consumer Discretionary	2,455.1	Overweight	226.57	Enabler/Adopter	Core to Thesis	High
JCI.N	Johnson Controls International Plc	North America	Industrials	69.7	Overweight	106.32	Enabler/Adopter	Core to Thesis	High
PATH.N	UiPath Inc	North America	Information Technology	7.3	Equal-Weight	12.49	Wildcard	Core to Thesis	Neutral
IBM.N	IBM	North America	Information Technology	274.3	Equal-Weight	282.45	Enabler/Adopter	Core to Thesis	Neutral

Source: FactSet, Morgan Stanley Research.

Given the especially large outperformance among stocks with materiality levels that have been upgraded multiple notches, the following list includes such stocks from our latest mapping survey (this list is a subset of the prior Exhibit):

Exhibit 32: Stocks where materiality was upgraded multiple notches to Core to Thesis

Ticker	Company	Region	GICS Sector	Market Cap ($bn)	Rating	Last Price (LCY)	New Exposure	New Materiality	Pricing Power
3037.TW	Unimicron	Asia/Pacific	Information Technology	5.9	Equal-Weight	132.00	Enabler	Core to Thesis	Low
9669.HK	Beisen Holding Limited	Asia/Pacific	Information Technology	0.8	Overweight	8.72	Adopter	Core to Thesis	Neutral
TUYA.N	Tuya Inc.	Asia/Pacific	Information Technology	1.5	Overweight	2.73	Adopter	Core to Thesis	High
0268.HK	Kingdee International Software Group	Asia/Pacific	Information Technology	6.7	Equal-Weight	16.54	Enabler/Adopter	Core to Thesis	Neutral
2345.TW	Accton Technology Corporation	Asia/Pacific	Information Technology	14.6	Overweight	776.00	Enabler	Core to Thesis	High
BEAN.S	Belimo Holding AG	Europe	Industrials	12.5	Equal-Weight	830.50	Enabler	Core to Thesis	High
IBM.N	IBM	North America	Information Technology	274.3	Equal-Weight	282.45	Enabler/Adopter	Core to Thesis	Neutral

Source: FactSet, Morgan Stanley Research. Please click here *for the full excel database of >3,600 stocks mapped by AI exposure and materiality*

We would also highlight stocks where AI exposure and materiality have decreased, and where exposure was downgraded to "Wildcard":

Exhibit 33: Stocks where both materiality and exposure decreased

Ticker	Company	Region	GICS Sector	Market Cap ($bn)	Rating	Last Price (LCY)	New Exposure	New Materiality	Pricing Power
NTES.O	NetEase, Inc	Asia/Pacific	Communication Services	85.3	Overweight	133.08	Adopter	Moderate	Neutral
DMP.AX	Domino's Pizza Enterprises LTD	Asia/Pacific	Consumer Discretionary	1.1	Equal-Weight	17.90	Adopter	Insignificant	Low
TCOM.O	Trip.com Group Ltd	Asia/Pacific	Consumer Discretionary	43.2	Overweight	62.77	Adopter	Moderate	Neutral
GPSC.BK	Global Power Synergy PCL	Asia/Pacific	Utilities	2.5	Overweight	31.25	Adopter	Insignificant	Neutral
EPD.N	Enterprise Products LP	North America	Energy	70.0	Equal-Weight	31.43	Don't Know	Insignificant	Neutral
ROL.N	Rollins Inc.	North America	Industrials	26.9	Equal-Weight	55.39	Adopter	Insignificant	Neutral
TRU.N	TransUnion	North America	Industrials	18.3	Overweight	91.92	Adopter	Moderate	Neutral

Source: Eikon, Morgan Stanley Research.

Exhibit 34: Exposure Lowered Down to Wildcard

Ticker	Company	Region	GICS Sector	Market Cap ($bn)	Rating	Last Price (LCY)	New Exposure	New Materiality	Pricing Power
3759.HK	Pharmaron	Asia/Pacific	Health Care	3.9	Overweight	19.08	Wildcard	Insignificant	Neutral
6127.HK	Joinn Laboratories China Co Ltd	Asia/Pacific	Health Care	2.5	Equal-Weight	20.30	Wildcard	Moderate	Neutral
6488.TWO	GlobalWafers Co Ltd	Asia/Pacific	Information Technology	4.4	Equal-Weight	310.00	Wildcard	Moderate	Neutral
ITV.L	ITV PLC	Europe	Communication Services	4.1	Equal-Weight	0.79	Wildcard	Insignificant	Low
SECUb.ST	Securitas AB	Europe	Industrials	8.6	Underweight	144.85	Wildcard	Insignificant	Neutral
HAYS.L	Hays PLC	Europe	Industrials	1.5	Equal-Weight	0.67	Wildcard	Moderate	Neutral
PAGE.L	Page Group PLC	Europe	Industrials	1.1	Equal-Weight	2.73	Wildcard	Moderate	Neutral
TIETO.HE	Tietoevry Oyj	Europe	Information Technology	2.3	Equal-Weight	16.46	Wildcard	Moderate	Low
SOPR.PA	Sopra Steria Group	Europe	Information Technology	4.9	Equal-Weight	199.80	Wildcard	Moderate	Low
MLXS.BR	Melexis N.V.	Europe	Information Technology	3.5	Overweight	73.85	Wildcard	Insignificant	Neutral
7202.SE	Arabian Internet and Comms Services Co	Europe	Information Technology	8.5	Underweight	254.00	Wildcard	Moderate	Low
NETCG.CO	Netcompany Group A/S	Europe	Information Technology	2.1	Equal-Weight	269.20	Wildcard	Moderate	Neutral
IDR.MC	Indra	Europe	Information Technology	7.8	Overweight	38.12	Wildcard	Moderate	Low
CAPP.PA	Capgemini	Europe	Information Technology	28.6	Equal-Weight	136.90	Wildcard	Moderate	Low
PFGC.N	Performance Food Group Co	North America	Consumer Staples	13.8	Equal-Weight	97.56	Wildcard	Insignificant	Low
LSPD.N	Lightspeed POS Inc.	North America	Information Technology	2.0	Equal-Weight	16.41	Wildcard	Insignificant	Neutral
WDC.O	Western Digital	North America	Information Technology	23.4	Overweight	67.55	Wildcard	Moderate	High

Source: Eikon, Morgan Stanley Research. Please click here *for the full excel database of >3,600 stocks mapped by AI exposure and materiality*

Strategy #3: Adopters pricing power. These stocks have been breaking away from the market and we believe that pricing power will continue to be a key driver of alpha going forward, determining the extent to which AI-driven benefits and gains will be retained.

Exhibit 35: Adopters with High Pricing Power
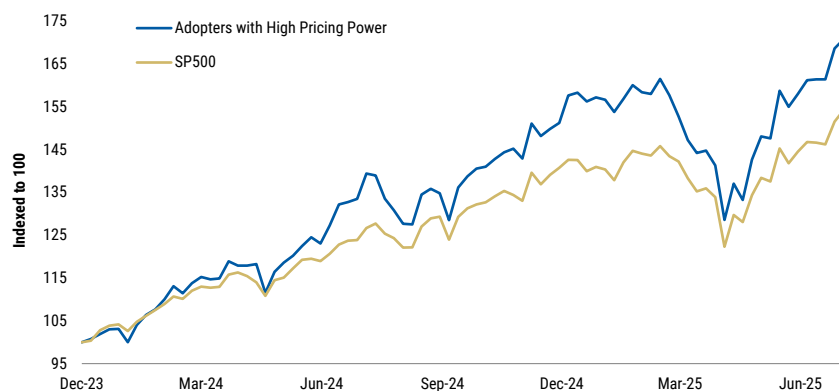
Note: Companies with >$10B market cap. Includes Enabler/Adopter category and a materiality of Moderate, Significant, or Core to Thesis.
Source: FactSet and Morgan Stanley Research.

Exhibit 36: Top 40 Adopters with High Pricing Power among the Industrials, Information Technology, & Consumer Discretionary sectors by Market Cap

Ticker	Company	Region	GICS Sector	Market Cap ($bn)	Last Price (LCY)
NVDA.O	NVIDIA Corp.	North America	Information Technology	3,921.5	170.70
MSFT.O	Microsoft	North America	Information Technology	3,713.0	507.79
AAPL.O	Apple, Inc.	North America	Information Technology	3,149.5	211.06
AMZN.O	Amazon.com Inc	North America	Consumer Discretionary	2,455.1	226.57
TSLA.O	Tesla Inc	North America	Consumer Discretionary	1,035.0	314.06
2330.TW	TSMC	Asia/Pacific	Information Technology	962.3	1,110.00
ORCL.N	Oracle Corporation	North America	Information Technology	676.5	233.68
SAPG.DE	SAP SE	Europe	Information Technology	366.8	259.80
HD.N	Home Depot Inc	North America	Consumer Discretionary	366.4	362.00
005930.KS	Samsung Electronics	Asia/Pacific	Information Technology	330.0	63,700.00
PLTR.O	Palantir Technologies Inc.	North America	Information Technology	303.4	149.09
CRM.N	Salesforce, Inc.	North America	Information Technology	265.4	258.84
INTU.O	Intuit	North America	Information Technology	218.6	745.90
NOW.N	ServiceNow Inc	North America	Information Technology	213.8	966.70
UBER.N	Uber Technologies Inc	North America	Industrials	208.2	92.58
RTX.N	RTX Corp	North America	Industrials	195.6	148.98
AIR.PA	Airbus SE	Europe	Industrials	166.3	180.14
ADBE.O	Adobe Inc.	North America	Information Technology	161.7	365.43
SHOP.O	Shopify Inc	North America	Information Technology	155.0	158.57
ARM.O	Arm Holdings plc	Europe	Information Technology	150.9	149.17
GEV.N	GE Vernova	North America	Industrials	146.8	557.40
SAF.PA	Safran SA	Europe	Industrials	136.5	279.90
MELI.O	Mercadolibre Inc.	Latin America	Consumer Discretionary	127.6	2,399.03
LOW.N	Lowe's Companies Inc	North America	Consumer Discretionary	125.5	216.54
RR.L	Rolls-Royce Holdings PLC	Europe	Industrials	111.1	9.90
DASH.O	DoorDash Inc	North America	Consumer Discretionary	107.5	238.00
REL.L	RELX	Europe	Industrials	101.2	39.83
TT.N	Trane Technologies PLC	North America	Industrials	96.6	436.85
1211.HK	BYD Company Limited	Asia/Pacific	Consumer Discretionary	89.0	123.40
EDU.N	New Oriental Education & Technology	Asia/Pacific	Consumer Discretionary	86.4	51.22
ATCOa.ST	Atlas Copco	Europe	Industrials	80.9	159.65
0300.HK	Midea Group Co Ltd.	Asia/Pacific	Consumer Discretionary	77.5	79.20
MAR.O	Marriott International Inc	North America	Consumer Discretionary	76.8	276.06
CMG.N	Chipotle Mexican Grill, Inc.	North America	Consumer Discretionary	75.3	54.33
MSI.N	Motorola Solutions Inc	North America	Information Technology	72.1	411.08
JCI.N	Johnson Controls International Plc	North America	Industrials	69.7	106.32
ADSK.O	Autodesk	North America	Information Technology	68.7	290.98
AXON.O	Axon Enterprise Inc	North America	Industrials	66.4	749.55
HLT.N	Hilton Worldwide Holdings Inc	North America	Consumer Discretionary	66.3	274.84
WDAY.O	Workday Inc	North America	Information Technology	66.1	225.36

Note: Includes Enabler/Adopter category.
Source: Morgan Stanley Research.

Strategy #4: Stocks with the greatest level of AI materiality and pricing power. These stocks tend to be central to AI proliferation, and their involvement ranges from key Enablers, Adopters, and Infrastructure plays. This strategy represents a relatively broad approach to investing in this theme.

Exhibit 37: Stocks with the Highest Degree of AI Materiality and Pricing Power

Ticker	Company	Region	GICS Sector	Market Cap ($bn)	Last Price (LCY)
2330.TW	TSMC	Asia/Pacific	Information Technology	962.3	1,110.00
2317.TW	Hon Hai Precision	Asia/Pacific	Information Technology	75.7	163.00
601138.SS	Foxconn Industrial Internet Co. Ltd.	Asia/Pacific	Information Technology	69.1	27.25
300308.SZ	Zhongji Innolight Co Ltd	Asia/Pacific	Information Technology	22.3	174.81
300502.SZ	Eoptolink Technology Inc Ltd	Asia/Pacific	Information Technology	18.7	157.08
2345.TW	Accton Technology Corporation	Asia/Pacific	Information Technology	14.6	776.00
002230.SZ	iFlytek Co Ltd	Asia/Pacific	Information Technology	13.6	47.24
2395.TW	Advantech	Asia/Pacific	Information Technology	10.1	337.50
SHLG.DE	Siemens Healthineers AG	Europe	Health Care	62.2	46.18
REL.L	RELX	Europe	Industrials	101.2	39.83
WLSNc.AS	Wolters Kluwer	Europe	Industrials	39.6	139.30
BEAN.S	Belimo Holding AG	Europe	Industrials	12.5	830.50
SAPG.DE	SAP SE	Europe	Information Technology	366.8	259.80
ARM.O	Arm Holdings plc	Europe	Information Technology	150.9	149.17
6857.T	Advantest	Japan	Information Technology	55.3	11,720.00
6146.T	DISCO	Japan	Information Technology	31.1	46,250.00
META.O	Meta Platforms Inc	North America	Communication Services	2,230.9	717.35
GOOGL.O	Alphabet Inc.	North America	Communication Services	2,167.9	183.84
AMZN.O	Amazon.com Inc	North America	Consumer Discretionary	2,455.1	226.57
DUOL.O	Duolingo Inc	North America	Consumer Discretionary	19.3	380.98
ENB.TO	Enbridge	North America	Energy	97.0	61.92
WMB.N	Williams Companies Inc	North America	Energy	70.8	58.28
KMI.N	Kinder Morgan Inc.	North America	Energy	62.5	27.92
ET.N	Energy Transfer LP	North America	Energy	60.9	17.46
TRP.TO	TC Energy Corp	North America	Energy	49.2	66.71
DTM.N	DT Midstream, Inc.	North America	Energy	10.7	103.70
ETN.N	Eaton Corporation PLC	North America	Industrials	140.5	362.88
TT.N	Trane Technologies PLC	North America	Industrials	96.6	436.85
JCI.N	Johnson Controls International Plc	North America	Industrials	69.7	106.32
AXON.O	Axon Enterprise Inc	North America	Industrials	66.4	749.55
VRT.N	Vertiv Holdings Co.	North America	Industrials	49.1	127.76
NVDA.O	NVIDIA Corp.	North America	Information Technology	3,921.5	170.70
MSFT.O	Microsoft	North America	Information Technology	3,713.0	507.79
AAPL.O	Apple, Inc.	North America	Information Technology	3,149.5	211.06
AVGO.O	Broadcom Inc.	North America	Information Technology	1,323.2	281.10
ORCL.N	Oracle Corporation	North America	Information Technology	676.5	233.68
PLTR.O	Palantir Technologies Inc.	North America	Information Technology	303.4	149.09
CRM.N	Salesforce, Inc.	North America	Information Technology	265.4	258.84
AMD.O	Advanced Micro Devices	North America	Information Technology	220.0	156.04
NOW.N	ServiceNow Inc	North America	Information Technology	213.8	966.70
ADBE.O	Adobe Inc.	North America	Information Technology	161.7	365.43
MRVL.O	Marvell Technology Group Ltd	North America	Information Technology	62.6	72.63
CEG.O	Constellation Energy Corporation	North America	Utilities	100.4	318.93
VST.N	Vistra Corp	North America	Utilities	64.7	193.01
NRG.N	NRG Energy Inc	North America	Utilities	30.8	147.10
BIP.N	Brookfield Infrastructure Partners L.P.	North America	Utilities	15.3	32.38
TLN.O	Talen Energy Corp	North America	Utilities	13.0	271.33

Note: Companies with >$10b in Market Cap.
Source: Morgan Stanley Research.

AI Data by Sector

Exhibit 38: Industry Groups by Highest Materiality and Exposure
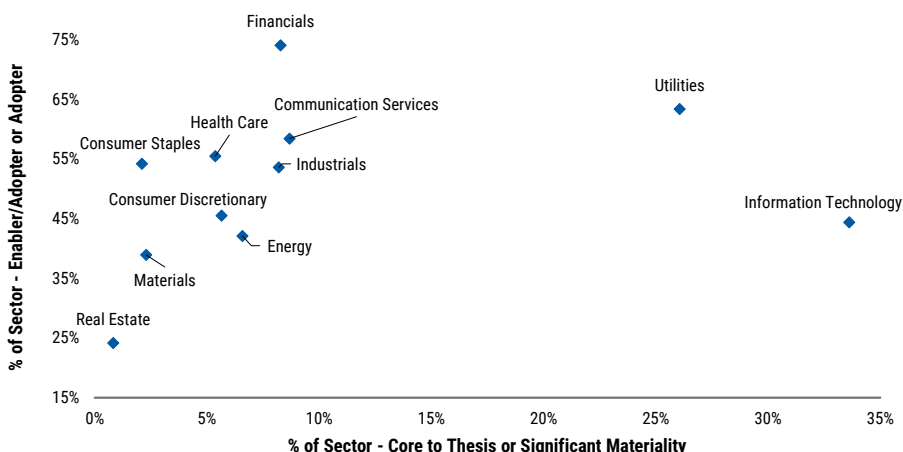
Note: Enabler/Adopter category has been included with Adopter category.
Source: Morgan Stanley Research.

Exhibit 39: Industry Group by Exposure

	Enabler/Adopter	Enabler	Adopter	Protected	Don't Know	Wildcard	Disrupted	Total
Utilities	37%	23%	26%	11%	1%	3%	0%	142
Information Technology	29%	29%	15%	15%	4%	6%	1%	473
Communication Services	17%	4%	42%	14%	7%	15%	2%	219
Industrials	11%	9%	42%	17%	11%	6%	2%	500
Financials	9%	0%	65%	6%	18%	1%	0%	459
Health Care	8%	0%	48%	16%	24%	4%	0%	391
Consumer Discretionary	7%	1%	38%	23%	13%	15%	2%	549
Materials	5%	10%	34%	48%	2%	2%	0%	262
Consumer Staples	5%	3%	50%	18%	16%	7%	1%	238
Real Estate	3%	2%	21%	45%	22%	7%	0%	244
Energy	1%	5%	41%	44%	9%	0%	0%	152

Source: Morgan Stanley Research.

Exhibit 40: Sector Group by Exposure

	Enabler/Adopter	Enabler	Adopter	Protected	Don't Know	Wildcard	Disrupted	Total
Software & Services	44%	21%	14%	6%	2%	10%	3%	196
Utilities	37%	23%	26%	10%	1%	3%	0%	144
Telecommunication Services	27%	11%	24%	29%	5%	4%	0%	79
Technology Hardware & Equipment	20%	36%	22%	15%	6%	1%	0%	143
Commercial & Professional Services	18%	3%	46%	7%	6%	13%	8%	72
Semiconductors & Semiconductor Equipment	18%	35%	7%	27%	7%	6%	0%	135
Financial Services	17%	1%	56%	9%	15%	1%	1%	167
Consumer Staples Distribution & Retail	16%	0%	32%	22%	14%	11%	5%	63
Capital Goods	14%	14%	38%	17%	12%	5%	0%	314
Automobiles & Components	12%	3%	17%	44%	3%	20%	2%	119
Media & Entertainment	11%	0%	52%	5%	8%	21%	3%	140
Health Care Equipment & Services	10%	0%	62%	11%	15%	3%	0%	151
Consumer Durables & Apparel	8%	3%	36%	15%	23%	15%	0%	113
Consumer Discretionary Distribution & Retail	8%	1%	39%	13%	22%	12%	5%	153
Pharmaceuticals, Biotechnology & Life Sciences	6%	0%	39%	20%	29%	5%	0%	242
Materials	5%	10%	33%	48%	2%	2%	0%	263
Banks	4%	0%	72%	4%	19%	2%	0%	188
Equity Real Estate Investment Trusts (REITs)	4%	3%	30%	46%	15%	2%	0%	148
Insurance	3%	0%	68%	7%	21%	0%	1%	103
Consumer Services	2%	1%	55%	23%	5%	13%	1%	164
Energy	1%	5%	41%	44%	9%	0%	0%	149
Real Estate Management & Development	1%	1%	8%	43%	33%	14%	0%	96
Transportation	1%	0%	53%	25%	10%	6%	5%	112
Food Beverage & Tobacco	1%	1%	56%	15%	20%	8%	0%	131
Household & Personal Products	0%	16%	55%	18%	9%	2%	0%	44

Source: Morgan Stanley Research.

AI Charts by Geography

Adopters and Enablers by Geography

Exhibit 41: AI Adopters Relative Returns
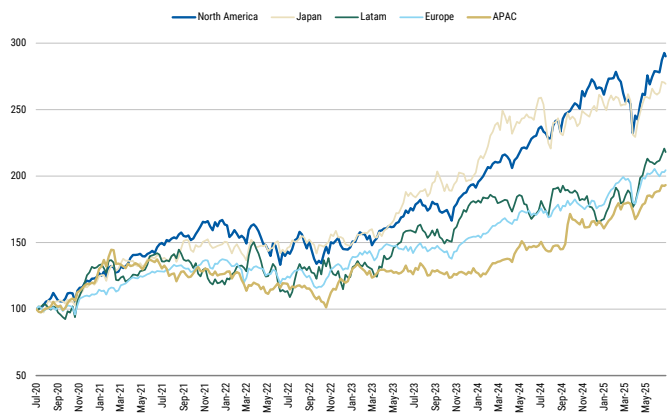
Source: FactSet, Morgan Stanley Research

Exhibit 42: Price to Sales
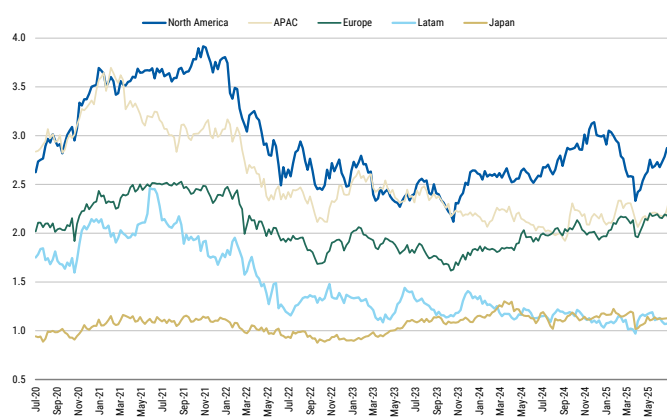
Source: FactSet, Morgan Stanley Research

Exhibit 43: Sales Growth
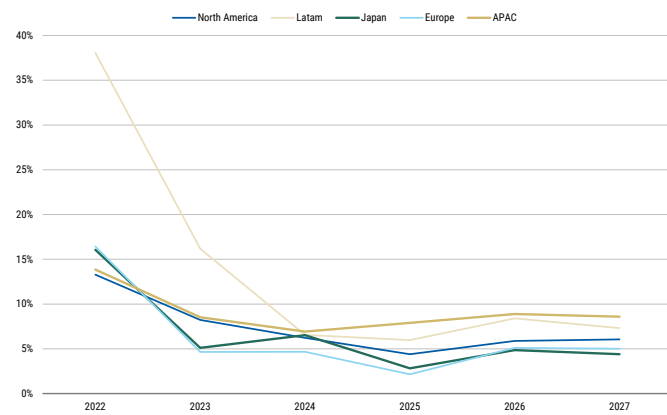
Source: FactSet, Morgan Stanley Research

Exhibit 44: EBITDA Margin
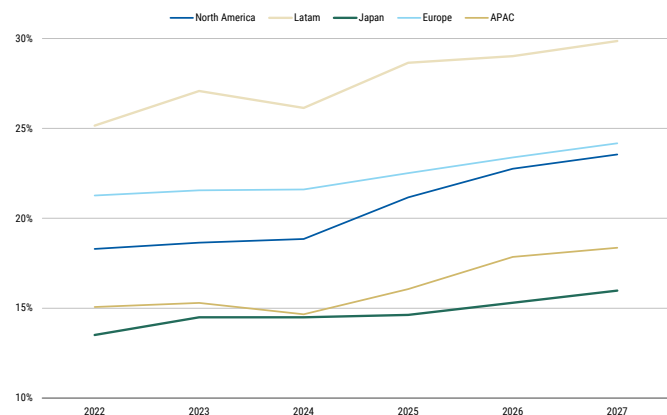
Source: FactSet, Morgan Stanley Research

Methodology & Synopsis

Mid 2025, our global Morgan Stanley Research analysts completed a simple survey of just two questions for each of their stocks under coverage. This was a broad survey, based on the analyst's view of AI's impact on their stocks over the next 12 to 24 months. Our analysts tagged their coverage stocks on three distinct criteria:

First: The company's role in, or impact from, AI (categories shown below in Exhibit 45); and

Second: The speed of expected diffusion of disruption from AI to the investment debate on the stock (Exhibit 46). Exhibit 46

Exhibit 45: Survey Question 1, Company's Key Role in the Context of AI

In the context of AI, the company's key role is _____ :

A) **Enabler** – Company is *Enabling* AI for other businesses

B) **Adopter** – Company is actively *Adopting* AI to improve operations

C) **Both** – The company is both an *Enabler and Adopter*

D) **Protected** – Company's business model is protected from AI disruption

E) **Wildcard** – Company could be both an Enabler/Adopter or Disrupted

F) **Disrupted** – The company's business model is disrupted by AI

G) **Don't Know** – Too early to assess/know impact of AI

Source: Morgan Stanley Research

Exhibit 46: Survey Question 2, the Importance of AI to the Stock's Investment Debate

How important is AI to the key investment debate on the stock over the next 12 – 24 months?

A) **Core to Thesis** – AI is core to the investment debate and outcome

B) **Significant** – AI is among the most important significant topics in the debate

C) **Moderate** – AI is one of many key debates on the stock

D) **Insignificant** – AI does not play an important role in the stock debate

E) **Don't Know** – Not sure how the market views the importance of AI

Source: Morgan Stanley Research

Third: In addition to our key questions around companies' AI exposure and AI's importance to the investment case, we have added a question to understand **pricing power** in our global coverage. Our sector analysts tagged their relevant companies and their pricing power vs. the sector average.

Exhibit 47: Pricing Power Question posed to our analysts

What is the company's pricing power vs sector average (i.e. ability to retain cost savings and investment ROIC vs passing through to customers)?

A) **High** Pricing Power

B) **Neutral** / Don't Know

C) **Low** Pricing Power

Source: Morgan Stanley Research

In doing so, we have been able to identify:

- Companies and sectors where our analysts take a **differing view on the salience and speed of AI to the investment case compared to the prevailing wisdom** in the market.
- Stocks where our analysts believe the **diffusion of AI into non-tech sectors is yet to be priced efficiently** into company valuations/narratives.

- **Differentiate between companies Adopting AI** and where the benefits are likely to become commoditized versus those that could lead to lasting revenue or profitability gains.
- How the global investor should think of the AI impact on **sectors and regions** across relevant markets.

Stock Mapping Considerations & Learnings

Our latest AI stock mapping survey of our analysts will have some of the same inherent caveats for investors to consider as with other similar surveys, as well as some different ones:

- **Qualitative not quantitative assessment:** In the first instance we have not asked our analysts for revenue, profit nor capex exposure. This is because we considered the AI theme too early or insignificant for most analysts to estimate these figures credibly in the absence of disclosure from companies.
- **Broad ML rather than narrow Generative AI:** Many analysts — particularly those with more knowledge of the subject — asked the question: "Is this just about Generative AI, or is this about Machine Learning more broadly, which many companies have been doing for years?". The answer is that we encouraged analysts to answer with the latter in mind.
- **Company disclosure:** Similar to the difficulty of analysts being asked for revenue exposure estimates to the climate change theme, being asked for exposure to AI presents challenges. Companies — even those closely exposed to a theme — tend to avoid quantification, which leave analysts to best guess exposure levels.
- **Analyst knowledge:** Many analysts — particularly in adjacent sectors to the theme (i.e., Airlines for AI) — are estimating their coverage's exposure relative to their own perceptions of AI. Most analysts however may not be up to date on the latest developments and therefore may underestimate the scope or speed of diffusion into their sectors, both to the upside and downside. Consequently, and not entirely unexpectedly, the use of *Don't know* and *Insignificant* makes up nearly three quarters of all stock responses.
- **Wider use of Beneficiary *Enabler* than expected:** Beneficiary *Enabler* we had expected to be used primarily for semis, semicap, hyperscalers as well as builders of foundational Large Language Models (such as GPT-4 from OpenAI/Microsoft, Gemini from Alphabet, or Llama from Meta). What we found was a broader tagging of data centre construction companies, heat exchangers, medium-voltage cabling and mining companies required for critical metals in the supply chain, for example.
- **Narrower use of *Disrupted* than expected:** Disrupted will be an important category as we focus on the "Rate of Change," which we will monitor through periodic updates to this analysis over the coming years. Currently the number of companies tagged as Disrupted by our analysts is lower than we would have expected when we embarked on this project. However, where they are tagged as Disrupted, the analysts' conviction in AI's materiality to the investment case (i.e., core to thesis rather than don't know) tends to skew toward the more material end of the spectrum.

Disclosure Section

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: Megan Alexander Clapp, CFA; David Arcaro, CFA; Josh Baer, CFA; Stephen C Byrd; Angel Castillo; Robert J Davies, Ph.D.; Carlos De Alba; Diane Ding, Ph.D.; James E Faucette; Nathan Feather; Stephen W Grambling; Remi Grenu; Bart Gysens, CFA; Brian Harbour, CFA; Qingyi Huang; Kristal Ji; Robert S Kad; Howard Kao; Toni Kaplan; Daniel Kutz; Jasper Lin; Mayank Maheshwari; Meta A Marshall; Javier Martinez de Olcoz Cerdan; Devin McDermott; Andrew McLeod; Andy Meng, CFA; Joseph Moore; Brian Nowak, CFA; Andrew S Percoco; Elizabeth Porter, CFA; Nigel van Putten; Andrew R Ruben; Shoji Sato; Ravi Shanker; Lee Simpson; Benjamin Swinburne, CFA; Annelies Vermeulen; Michelle M. Weaver, CFA; George W Webb; Keith Weiss, CFA; Adam Wood; Erik W Woodring; Erin Wright; Regiane Yamanari; Max R Yates; Marina Zavolock; Sheng Zhong.

.

Global Research Conflict Management Policy

Important Regulatory Disclosures on Subject Companies

The analyst or strategist (or a household member) identified below owns the following securities (or related derivatives): Megan Alexander Clapp, CFA - Amazon.com Inc(common or preferred stock), Microsoft(common or preferred stock), S&P Global Inc(common or preferred stock); David Arcaro, CFA - Apple, Inc.(common or preferred stock); Josh Baer, CFA - Amazon.com Inc(common or preferred stock), Apple, Inc.(common or preferred stock); Stephen C Byrd - Apple, Inc.(common or preferred stock); Robert J Davies, Ph.D. - Apple, Inc.(common or preferred stock); Diane Ding, Ph.D. - Apple, Inc.(common or preferred stock), Meta Platforms Inc(common or preferred stock), NetEase, Inc(common or preferred stock); James E Faucette - Amazon.com Inc(common or preferred stock), Apple, Inc.(common or preferred stock), Constellation Energy Corporation(common or preferred stock), Meta Platforms Inc(common or preferred stock), NVIDIA Corp.(common or preferred stock); Nathan Feather - NVIDIA Corp.(common or preferred stock); Mayank Maheshwari - Amazon.com Inc(common or preferred stock), Apple, Inc.(common or preferred stock), Broadcom Inc.(common or preferred stock), Microsoft(common or preferred stock); Meta A Marshall - Adobe Inc.(common or preferred stock), Advanced Micro Devices(common or preferred stock), Alphabet Inc.(common or preferred stock), Amazon.com Inc(common or preferred stock), Apple, Inc.(common or preferred stock), Broadcom Inc.(common or preferred stock), Meta Platforms Inc(common or preferred stock), Microsoft(common or preferred stock), NVIDIA Corp.(common or preferred stock), Oracle Corporation(common or preferred stock), S&P Global Inc(common or preferred stock); Devin McDermott - Apple, Inc.(common or preferred stock), Eaton Corporation PLC(common or preferred stock), Meta Platforms Inc(common or preferred stock), Microsoft(common or preferred stock); Brian Nowak, CFA - NVIDIA Corp.(common or preferred stock); Elizabeth Porter, CFA - Microsoft(common or preferred stock); Andrew R Ruben - Adobe Inc.(common or preferred stock), Alphabet Inc.(common or preferred stock), Apple, Inc.(common or preferred stock), Salesforce, Inc.(common or preferred stock); Keith Weiss, CFA - IBM(common or preferred stock), NVIDIA Corp.(common or preferred stock); Erik W Woodring - Alphabet Inc.(common or preferred stock), Amazon.com Inc(common or preferred stock), NVIDIA Corp.(common or preferred stock).

As of June 30, 2025, Morgan Stanley beneficially owned 1% or more of a class of common equity securities of the following companies covered in Morgan Stanley Research: Accton Technology Corporation, Adobe Inc., Advanced Micro Devices, Advantech, Advantest, Alphabet Inc., Amazon.com Inc, Apple, Inc., Auras Technology Co Ltd, Axon Enterprise Inc, Belimo Holding AG, Broadcom Inc., Capgemini, Constellation Energy Corporation, Domino's Pizza Enterprises LTD, Eaton Corporation PLC, Ecolab Inc., Energy Transfer LP, Enterprise Products LP, Eoptolink Technology Inc Ltd, Futu Holdings Ltd, GDS Holdings Ltd, Hays PLC, IBM, Indra, Iqvia Holdings Inc, ITV PLC, Johnson Controls International Plc, Kinder Morgan Inc., Lightspeed POS Inc., Marvell Technology Group Ltd, Meta Platforms Inc, Microsoft, NRG Energy Inc, NVIDIA Corp., Oracle Corporation, Page Group PLC, Paladin Energy Ltd, Palantir Technologies Inc., Performance Food Group Co, Pharmaron, RELX, S&P Global Inc, Salesforce, Inc., SAP SE, Securitas AB, ServiceNow Inc, Siemens Energy AG, Talen Energy Corp, Toast, Inc., Trane Technologies PLC, TransUnion, Trip.com Group Ltd, TSMC, UiPath Inc, Unimicron, Vertiv Holdings Co., Vistra Corp, VNET Group Inc, Western Digital, Williams Companies Inc, ZhongAn Online P & C Insurance Co Ltd, Zhongji Innolight Co Ltd, Zijin Mining Group.

Within the last 12 months, Morgan Stanley managed or co-managed a public offering (or 144A offering) of securities of Advanced Micro Devices, Alphabet Inc., Apple, Inc., Axon Enterprise Inc, Broadcom Inc., Domino's Pizza Enterprises LTD, Eaton Corporation PLC, Ecolab Inc., Enbridge, Energy Transfer LP, Enterprise Products LP, EssilorLuxottica SA, GDS Holdings Ltd, Johnson Controls

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 June 30, 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.

Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1497	40%	372	45%	25%	702	41%
Equal-weight/Hold	1632	44%	380	46%	23%	776	45%
Not-Rated/Hold	4	0%	0	0%	0%	2	0%
Underweight/Sell	593	16%	79	10%	13%	233	14%
Total	3,726		831			1713	

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 or Over) - The stock's total return is expected to exceed the total return of the relevant country MSCI Index or 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 or Equal) - The stock's total return is expected to be in line with the total return of the relevant country MSCI Index or 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 relevant country MSCI Index or 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 or Under) - The stock's total return is expected to be below the total return of the relevant country MSCI Index or 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 (I): 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.

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 Apple, Inc., Microsoft, NVIDIA Corp., Vertiv Holdings Co.. 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