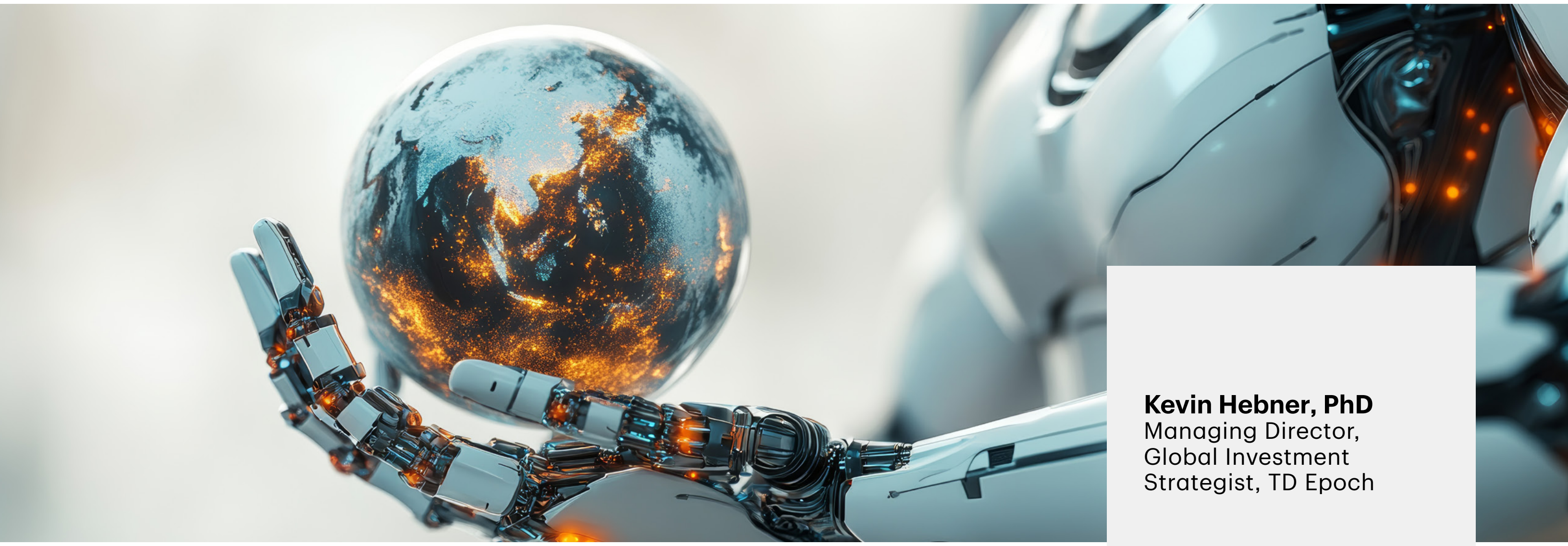
TD Global Investment Solutions

Whitepaper 25 Minutes
June 2025



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AI Eats the World:
Five Themes for 2025

We were all overwhelmed by AI commentary in 2024, but this year headlines have been dominated by Trump, tariffs and trade.[1] However, this pivot does not reflect a slowing in the pace of AI; to the contrary, progress is accelerating. To demonstrate this, we discuss five of the most important AI themes in play today: physical AI, China's ascending capabilities, Trump's tech agenda, agentic AI and open-source models.

I. The future of AI is physical AI

This theme was emphasized by Tech CEO Jensen Huang at the March GPU Technology Conference (GTC) and has also been stressed by AI scientist Yann LeCun. From their perspective, the sector is evolving from perception AI (image and speech recognition) to generative AI (creating content) to agentic AI (coding, customer service, research) to physical AI (self-driving cars, general robotics, drones).[2] Regarding the latter, there is a great deal of overlap in the underlying technology for autonomous vehicles (AVs), robots and drones, which explains why all three are experiencing such rapid advances concurrently.

AVs have been front-page news for over a decade but have finally reached takeoff **(Figure 1)**. One driverless-taxi company, just cracked ten million rides, elevating it from a research project to a $45 bn company. The company is operating in San Francisco, Los Angeles, Phoenix and Austin, with Atlanta and Miami coming soon.[3] Earlier this month an EV company launched a limited robotaxi service in Austin, Texas, with much hyped plans for a massive expansion by end-2025.[4] And the rollout in China, which is already ahead on most metrics, is accelerating. The former estimates its cost per vehicle at $50,000, and better safety data has driven its insurance costs down by 50%.

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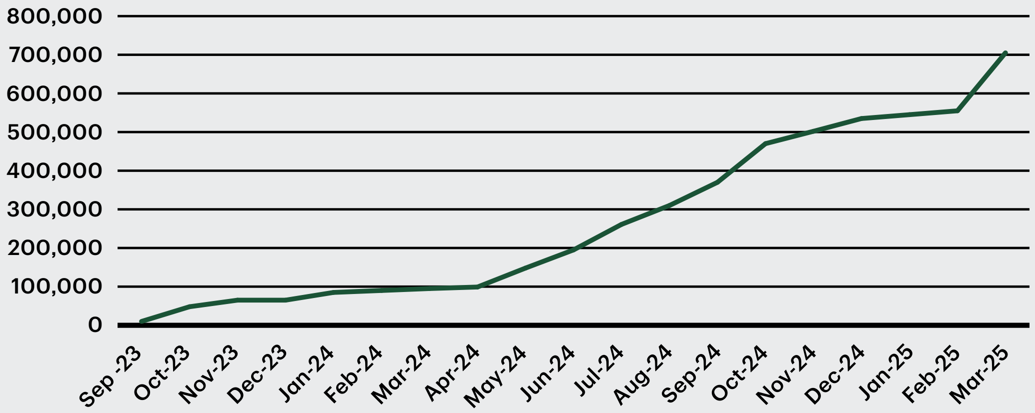
[1] This has also been our emphasis. Please see our white papers, "The New Global Order: Implications for investors" (April 2025) and "Trump, Tariffs and Trade: Toward a new global economic order" (Feb 2025).

[2] https://www.nvidia.com/gtc/

[3] https://waymo.com/waymo-one/

[4] The robotaxi platform could account for 90% of the company's enterprise value by 2029, according to Ark Invest.

Figure 1: Takeoff phase — Monthly driverless trips in California for the leading local robotaxi



Source: California Public Utilities Commission

Beyond cars, an AV company based in Pittsburgh, Pennsylvania launched commercial self-driving trucks last month, with regular service between Dallas and Houston, Texas and plans to expand to El Paso, Texas and Phoenix, Arizona by end-2025.[5] Rollouts are accelerating in dozens of countries across the globe as AV capabilities improve and safety concerns wane.[6]

We now turn to drones, where the war in Ukraine has seen a 'Cambrian Explosion' in shapes, sizes, objectives and capabilities. Global shipments have increased ten-fold since 2015 and Grand View Research expects a 14% CAGR for worldwide revenues from 2025 to 2030, with a rapid shift towards fully autonomous drones. They have already changed the future of the defense industry, and not just in Ukraine.[7] Delivery drones are also flying high in both America, and Meituan in China.[8]

In terms of production China is leagues ahead, making more drones in a day than the U.S. does in a year, according to Morgan Stanley. The Trump administration is determined to narrow this gap. A June 6 executive order promises far-reaching deregulation, to strengthen the American drone industrial base and promote their export.[9] Further, the Federal Aviation Administration (FAA) will soon publish a draft rule on drones, with a final rule by early 2026. Will this work? Early signs are encouraging, with startups determined to shape the future of drones through their emphasis on AI and autonomous systems.[10] One defense technology company with an estimated value of $30 bn is currently building a drone factory in Ohio the size of 87 football fields.

Physical AI is an exciting development, but the future won't arrive overnight. There remain many hurdles, including data, vexing edge cases (the last 10% is always fiendishly difficult) and legitimate safety concerns. It also seems likely that large language models won't get us there. Next-gen model architecture will require a better understanding of the physical 3D/ sensory world, as well as persistent memory, and improved capabilities for planning and reasoning.

The most sophisticated robots today find it exceedingly difficult to fold laundry, load a dishwasher, or make a sandwich.[11] Everything about bringing AI into the world of atoms is hard and we can think of only a handful of firms globally that excel at both software and hardware. Expect progress to be measured in years and decades rather than months and quarters.

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[5] https://aurora.tech/

[6] https://arstechnica.com/cars/2023/09/are-self-driving-cars-already-safer-than-human-drivers/

[7] https://www.diu.mil/blue-uas The defense innovation unit (DIU) within the Department of Defense is focused on seven critical technology sectors (including AI and autonomy), working closely with Silicon Valley.

[8] https://www.economist.com/briefing/2025/06/12/chinas-low-altitude-economy-is-taking-off. The article's subtitle is, "(China's) authorities have found a new industry they want Chinese firms to dominate."

[9] https://www.whitehouse.gov/presidential-actions/2025/06/unleashing-american-drone-dominance/

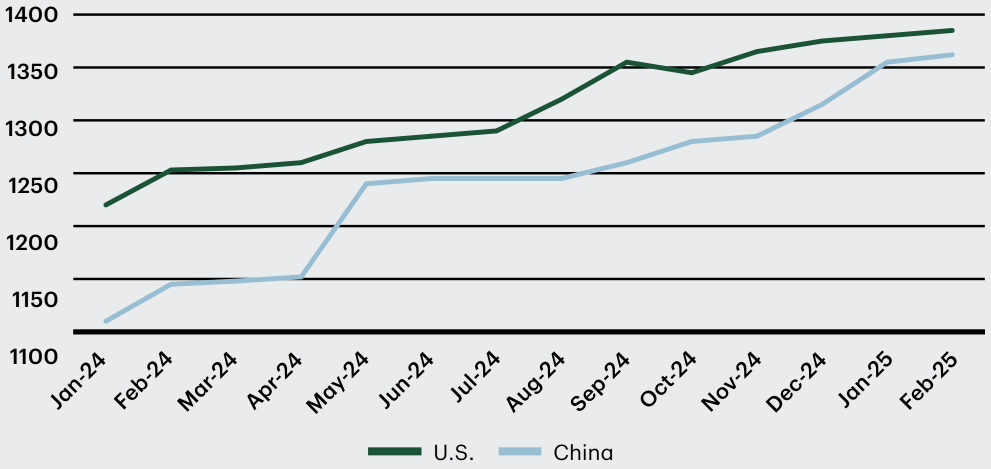
[10] "A new U.S. military-industrial complex is emerging as novel defense technology companies begin to disrupt traditional large military contractors," 13D Research, May 2025.

[11] "The humanoid workforce is running late," MIT Tech Review, May 2025 and "Robot dexterity still seems hard," Construction Physics, April 2025.

II. AI superpower: China is home to 50% of the world's AI researchers

China has made enormous advances in all domains, including physical AI, infrastructure, applications and foundational models.[12] A few months ago, China's leading AI company released its R1 model, sending shockwaves through global markets. R1's reasoning and problem-solving capabilities demonstrated that America's lead over China has narrowed significantly **(Figure 2)**.

Figure 2: Mind the gap — Performance of top U.S. vs Chinese AI models



Source: Stanford University, 2025 AI Index Report

This is probably the least surprising thing that's happened in 2025. Afterall, China has 25% more software engineers than the U.S., leads in AI research publications, and was granted 50% more AI patents in 2024 (although U.S. patents are cited seven times as often).[13] An annual list of the top universities in the world is provided by Nature, one of the most cited scientific journals. Its most recent ranking shows Chinese universities holding eight of the top ten slots (the other two are Harvard and MIT).[14]

China is also leading the U.S. in most aspects of physical AI, largely because of its "Made in China 2025" plan to dominate industries of the future. To illustrate, China accounts for 51% of all global robot installations (vs 9% for the U.S.) and has a 70% share in drones. Additionally, China has a 70% global share in batteries, which is a critical component of physical AI systems.

However, most Chinese companies are terrible capital allocators. For example, China's top chipmaker has an important public mission (ensuring self-reliance and countering U.S. export controls) and is partially state-owned, with the government's effective stake in the range of 40 to 50%. Reflecting this, the company has produced a dismal return on invested capital (ROIC), averaging 2% over the last decade **(Figure 3)**. However, several AI-adjacent companies have become global champions and feature impressive returns **(Figure 4)**.

China also possesses numerous private companies that are global leaders including is the world's dominant telecoms equipment manufacturer. It also manufactures smart phones, semiconductors and AV systems, and in terms of breadth, is considered by some expert commentators to be the world's #1 tech company. Other examples include dominant in drones), a leading video-sharing social network, and a computer vision, smart security, and AVs company.

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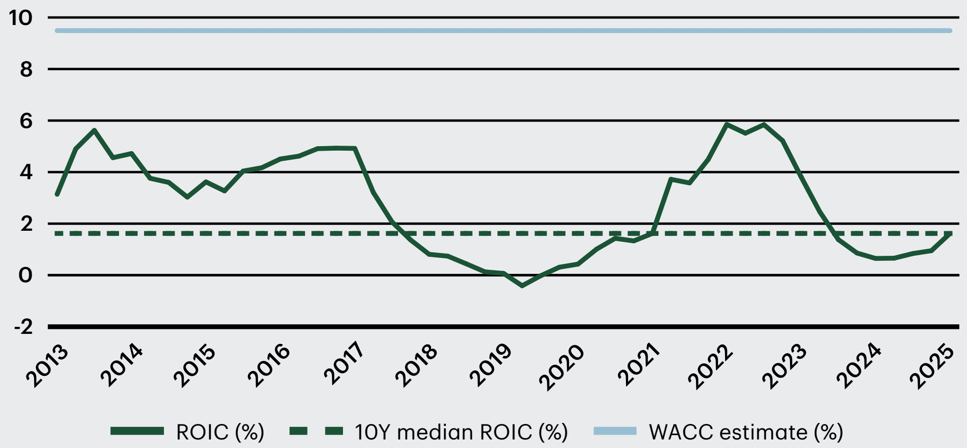
[12] "The superpower technology race: Xi Jinping's plan to overtake America in AI," May 2025, The Economist.

[13] What will be the best AI model at end-2025? According to the betting site Polymarket, only two of the top seven companies are Chinese. In all likelihood the top company will be American. However, we expect this ranking to change dramatically by end-2026.

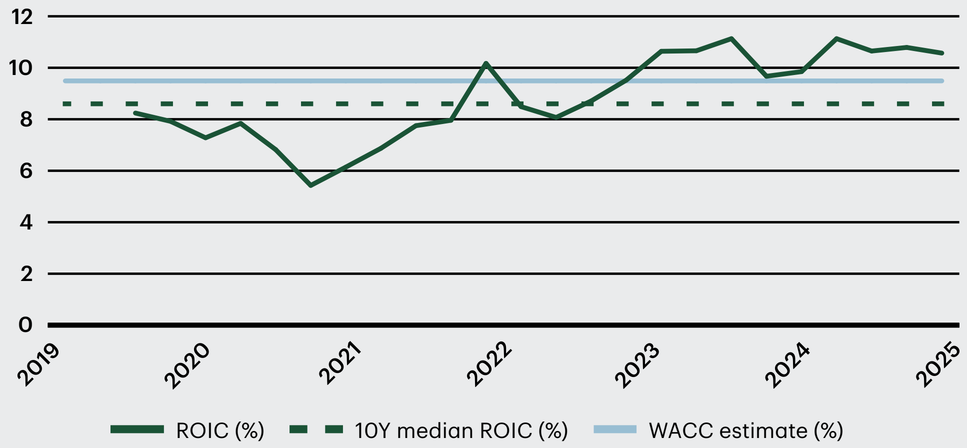
[14] https://www.nature.com/nature-index/research-leaders/2024/institution/academic/all/global

Figure 3: China's top semiconductor foundry earns a paltry ROIC, far below its cost of capital



Source: Bloomberg Finance L.P.

Figure 4: A Chinese battery company has developed into a global champion with a 33% share in the global battery market and an improving ROIC



Source: Bloomberg Finance L.P.

III. Pro-tech Trump: "It's time to build"

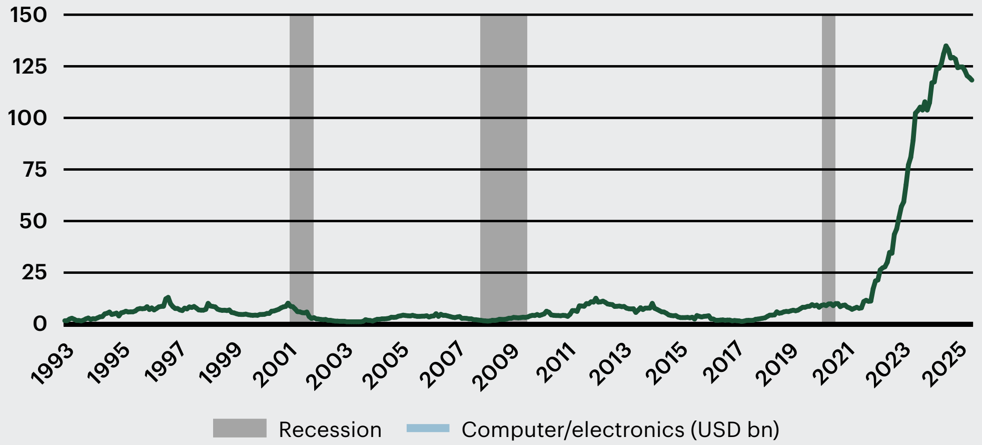
Beijing's "Made in China 2025" industrial policy, aimed at dominating the industries of the future, has been enormously successful. It has also created gaping vulnerabilities and critical risks for America which, for the first time in decades, now views industrial policy as a national security imperative.

Recall that Tech CEOs enjoyed front row seats during Trump's inauguration, signaling their importance to the administration. Three days later and to much fanfare, Trump released the "Removing Barriers to American Leadership in AI," Presidential action. Further, his administration will soon submit an action plan to "sustain and enhance America's global AI dominance in order to promote human flourishing, economic competitiveness, and national security."

This is all part of Trump's "America First" strategy on AI, recognizing it is critical for all three domains of power (economic strength, tech leadership, defense capabilities). So far, the strategy has resulted in executive orders (EOs) on critical minerals, the electric grid, nuclear power and natural gas permitting, as well as revoking Biden's EO on AI safety.

Trump has also introduced tariffs to encourage the homeshoring of semiconductors and other sectors critical to AI development. Further, a major objective of the One Big Beautiful Bill (OBBB) is to encourage domestic investment. And the evidence over the last few years suggests such incentives can be extremely effective **(Figure 5)**. Beyond semiconductors, the administration wants to encourage the construction of data centers, as well as factories for batteries, drones, and all elements of defense tech.

Figure 5: Homeshoring has been a home run – Construction spending for semiconductors has increased 12x since 2021



Source: Bloomberg Finance L.P.

IV. Agentic AI: From a glitchy gimmick to diffuse deployment

The fourth theme concerns a type of model that has made great strides this year. Agentic models break complex objectives into small, simple tasks, with the number of tasks the leading AI models are capable of handling doubling every seven months.[15] While generative AI models respond directly and immediately to prompts, agentic AI reasons through multi-step tasks, usually with minimal human intervention. Examples of applications include writing code (debugging, building APIs and websites) and customer service reps (pulling data from customer profiles, learning from previous conversations).

Agentic AI is also improving at tasks such as organizing a birthday party or booking a trip to Paris. The process by which a model gathers data from various sources (airlines, hotels, restaurants), analyzes it, and then iteratively creates and improves the agenda is termed "Iterative Reasoning and Learning" This is especially useful when the feedback loop allows the model to adjust plans and respond to unforeseen challenges.[16]

Reflecting these improvements, roughly 40% of startups are now focused on agentic AI. By 2030 we expect its capabilities will include: generating human-level text (e.g., legal and financial analysis), creating full-length films and games, real-time translation into multiple languages, advanced personal assistants, fully operational customer service reps, and autonomous drug design. It will also become an indispensable collaborative partner, for projects such as writing books, music production, interior design, marketing strategies, portfolio management and retirement planning.[17]

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[15] "Where is my ten-minute AGI?" Epoch AI, May 2025.

[16] Yann LeCun stresses this is a big challenge facing AI models. Imagine the dozens of steps required to book a week holiday in Paris, researching hotels, restaurants, and activities. And then what happens if you sprain your ankle or your return flight is cancelled due to a strike.

[17] Over the last 25 years, Application Programming Interfaces (APIs) became ubiquitous (allowing different software systems to communicate and exchange data). Similarly, as agentic AI becomes commonplace, Model Context Protocols (MCPs) will become pervasive. They allow AI agents to integrate with external tools, APIs, data sources and web-sites.

V. Open-Source vs. the Proprietary Giants

Moving on to our fifth theme, two years ago it appeared that most AI models would be closed and proprietary. However, through 2024 and into 2025 open-source models have been snagging a progressively larger share of the marketplace, representing one of the biggest surprises over the last eighteen months.[18]

Open-source offers many societal benefits, including greater transparency and accountability. It also produces a more vibrant ecosystem, encouraging collaboration, shared innovation and much faster progress. The main disadvantage is that it is tougher to regulate and enforce guardrails, thereby increasing weaponization (bioterrorism, cyberattacks) and national security risks (China, Russia, Iran, North Korea).

What is made public? In the narrowest of cases just the parameter values or model weights. Intermediate cases include source code and model architecture, while the most open will also include training data. Given that it costs tens of billions of dollars to develop a leading AI model, why would a company choose to open-source? The goal is to attract developers and customers, so that network effects kick in and your model becomes a global standard and a major platform. Such an ecosystem opens up many avenues to monetize the initial heavy investment.

Open-source models and platforms include those from a dominant social media company, a French AI startup, the leading Chinese AI company, a widely-used ML framework, developed by the leading search engine, an ML library used by the EV pioneer and a community platform, hosting millions of pre-trained AI models and tools, which has become the first stop for developers building models or apps. Reflecting the market's evolution, the leading U.S. AI company has announced that its next model, due in a couple of months, will be open-source. It is already #1 in terms of popularity and this move will help it stay there, at least for a few more quarters. Regardless, we still wonder, will it ever generate free cash?

AI progress continues to accelerate: Three implications for investors

First, investors should overweight quality tech. This is where the bulk of innovation is occurring, as reflected in the sector's high margins and return on capital. Further, rather than concentrated bets on hype or hope stocks, we recommend a diversified portfolio of companies that have demonstrated skill in capital allocation and possess a track record of free cash flow generation.

The key risks to this view? That it will take considerably longer for killer apps to arrive, similar to the experience of the tech boom in the late-1990s. Additionally, it is a highly disruptive technology. In Silicon Valley, titans rise and titans fall, sometimes shockingly swiftly. Many of today's incumbents will be displaced by hungry startups and become case studies for the innovator's dilemma. Recall that only one of the top fifteen global tech companies in 2000 remains in that elite tier today.

The second implication for investors is that, outside of tech, American exceptionalism is waning. This suggests investors should increase their exposure to global champions outside the U.S. (including in China), many of which trade at significantly discounted multiples. We also believe the USD is overvalued and could decline dramatically over the next three years.

Third, infrastructure as an asset class is extremely compelling. The AI boom requires enormous spending on data centers, electrical grids, and so on. Further, the "reinventing globalization" theme means huge outlays for factories, ports, pipelines, and such. Together, this creates an excellent environment for investing in infrastructure.

[18] Why China is giving away its tech for free: Its newfound fondness for open source is awkward for an authoritarian state." The Economist, June 2025.

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