First Citizens INNOVATION BANKING
FORMERLY SILICON VALLEY BANK

Physical AI and the Future of Robotics

A look at the forces shaping the next generation of hardware technology, from silicon to steel.

Featuring a warehouse automation spotlight powered by:

PROLOGIS® VENTURES



July 2026

Disclaimer: This report was written prior to the rebrand from SVB to First Citizens Innovation Banking and therefore contains references to SVB.

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Everything Is Hardware Everywhere, All at Once

> “What makes this hardware cycle different from the last is intelligence. For the first time, robots have the capability to generalize in novel ways, operating in unfamiliar environments. That shift into physical AI is expanding the addressable market for robots in unprecedented ways.”

Silicon Valley is re-embracing silicon. Before the app store, chips and devices weren’t the side show; they were the main event. Cisco, Intel and Qualcomm were the most valuable companies in the world at the turn of the millennium. From the early 2000s through the early 2020’s hardware was sidelined. It represented less than one-fifth of all US venture capital (VC) investment.

VCs this year are on pace to deploy $120B, roughly one-third of all investment, into US companies developing physical technologies. One in five global VC firms investing today have at least 10% of its 2026 investments in US hardware companies.

What makes this hardware cycle different from the last is intelligence. For the first time, robots have the capability to generalize in novel ways, operating in unfamiliar environments. That shift into physical AI is expanding the addressable market for robots in unprecedented ways. Virtually every warehouse, factory and logistics hub may soon be within reach of a humanoid hand — at least if costs aren’t an issue.

One of the biggest opportunities for physical AI’s disruptive potential is a key opportunity: supply chains. Modern tech supply lines are a bewildering mesh of crisscrossing suppliers from around the globe. No product shows this better than a modern accelerator chip.

Just 10 countries provide nearly all of the component parts needed for modern AI chips. And while Taiwan rightfully receives the focus as a lynchpin producer of chips, other Asian countries are equally critical. Out of more than 100 primary suppliers that we counted, 57% come from Japan.

Industrial settings such as factories and warehouses are an ideal place for robots to prove their mettle. To understand how logistics facilities are adopting and experimenting with automation, we partnered with Prologis Ventures — the corporate innovation arm of the world’s largest owner of logistics and industrial real estate. With more than 1.3 billion square feet of warehouse space under management, Prologis has a clear view of the innovations shaping the warehouse floor. In a survey of roughly 400 Prologis customers, 83% have yet to automate any of their operations. Industrial automation is a greenfield — a massive market opportunity.

Executives in the space offered skepticism about the potential benefits of big swings like humanoids. The gap between this skepticism and the technology’s trajectory reflects the uphill battle robotics companies have faced. While this cycle of innovation is no different in in terms of challenges, the accelerated compute behind the machines is. Companies that can improve the economics may have the upper hand in a wide-open new market.



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Click Through to Key Takeaways

Trade disruptions have strained supply chains and pushed inflation to a four-year high.
Jump to page >

US hardware VC investment is on pace to double in 2026, reaching a new record high.
Jump to page >

Imports are shifting away from China and toward friendlier, chip-laden markets.
Jump to page >

Automation is still early at warehouses. A median of 40% of large warehouses reports no automation.
Jump to page >

Over 90% of high-bandwidth memory (HBM) is consumed by four companies as shortage grows.
Jump to page >

AI adoption is greatest among larger supply chain facilities (46%) compared to small operators (28%).
Jump to page >

US VC investment in edge computing and data center tech are at a record pace.
Jump to page >

Once implemented, warehouse automations often exceed savings and upkeep expectations.
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Macro



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Strait Talk: Supply Lines Under Strain

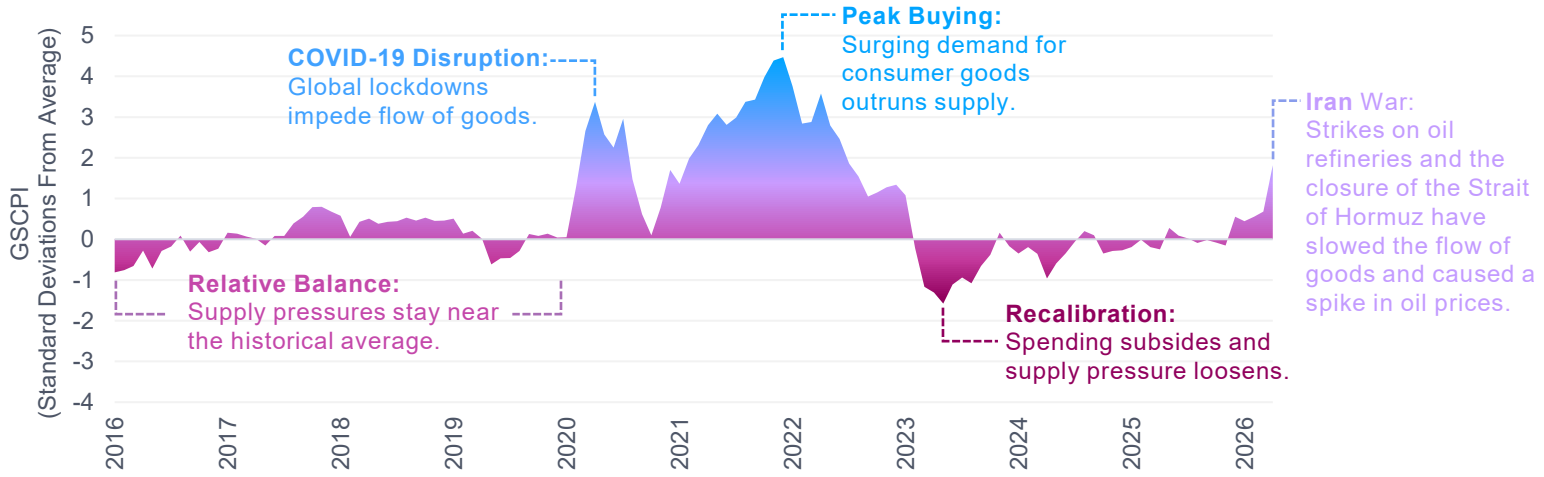
Iran's closure of the Strait of Hormuz is rippling across worldwide trading channels. The Global Supply Chain Pressure Index (GSCPI), a US Federal Reserve metric that tracks 27 factors impeding trade, is at its most constricted level in four years. West Texas Intermediate (WTI) crude is up 70% since January, and the cost to ship goods — by air, sea or land — is rising with it.

A disruption in the flow of raw materials like aluminum and resins is creating a downstream shortage in finished products for everything from electric vehicle batteries to fertilizer. As a result, prices are rising across the board. US inflation spiked to 4.2% in May, the highest level since 2022.

The strait typically facilitates $3.5B worth of daily trade, including one-fifth of the world's petroleum products. Without that supply, many countries have tapped into strategic energy reserves, which are abundant in wealthy countries but not endless. The closure poses risks to the supply of semiconductors that is powering the AI boom. Japan, a primary supplier of chip inputs, sources over 90% of its crude oil from the Strait and has been drawing from its energy stores since March.[1] Taiwan is most exposed through its reliance on LNG imports — critical for powering fabs. Power providers have bid aggressively in the spot market to secure LNG, which has kept reserves intact, but at a cost of twice the prior rate per cargo.[1]

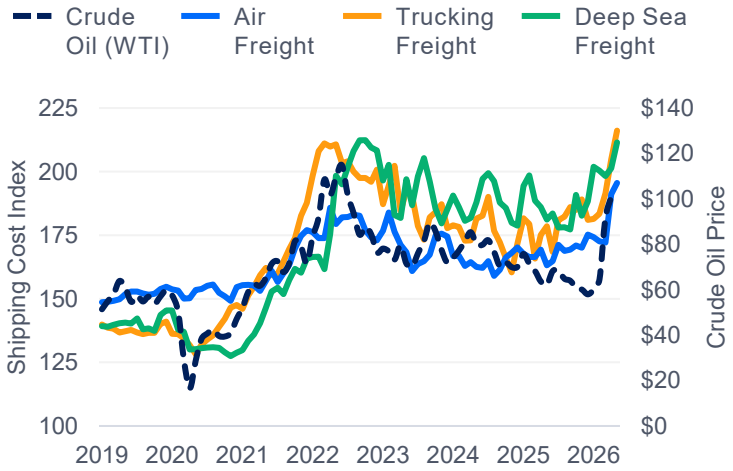
Supply Chains Feel Most Pressure in Four Years

Global Supply Chain Pressure Index



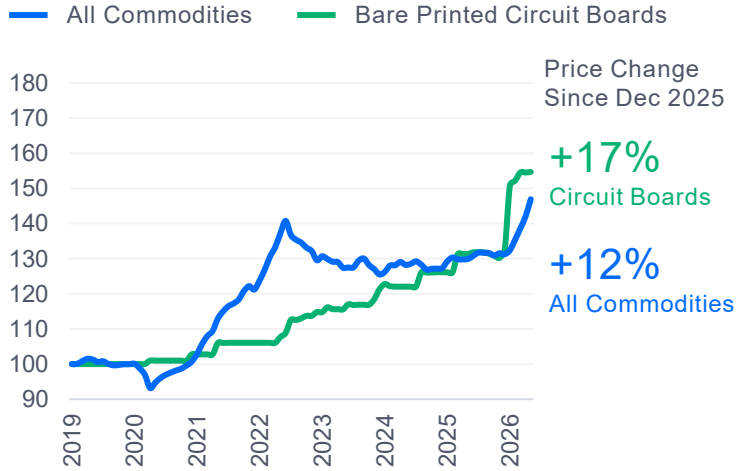
Hoist the Sales: Shipping Costs Rise on Oil Spike

US Producer Price Index: Shipping Costs vs. Oil Prices



Short on Circuit Boards

Producers Price Index (Jan 2019 = 100)



Notes: 1) According to reporting from S&P Global and other commodity news outlets.
Source: S&P Global, Reuters, US Federal Reserve, US Bureau of Labor Statistics and SVB analysis.

Shifting Trade Winds Bring Chips Ashore

Are the reshored sectors in the room with us? In the years since the trade bottlenecks of COVID-19, the terms “nearshoring and reshoring” have never strayed far from public view. Google searches for the terms hit seven all-time highs in the last three years, the latest in January. Judging by the rhetoric, you might expect hundreds of foreign factories to have decamped to places like Alabama or Florida. But the factory openings have not followed the search traffic.

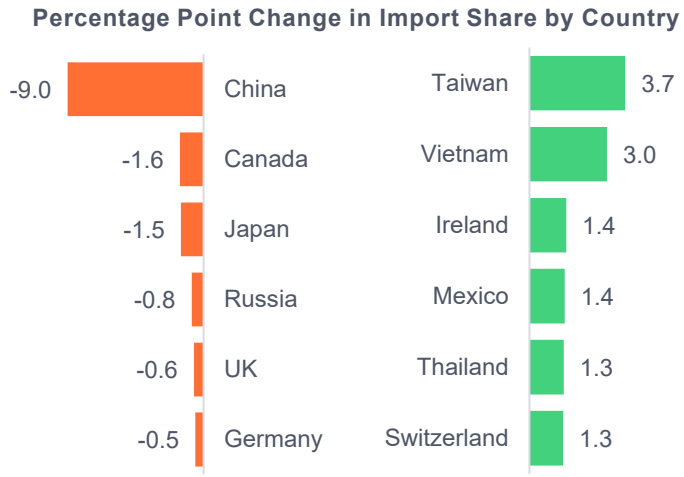
Instead, what we’re seeing is a shift away from China and toward other (mostly) distant markets. **China’s share of US imports has dropped 9 percentage points since 2019, while places like Taiwan (a chip manufacturer fueling the data center boom), Vietnam (a rising computer maker), Ireland (a pharmaceuticals hub) and Mexico (an auto assembly center) are dominating their own specialized pockets of commerce.**

One notable exception is semiconductor manufacturing. Construction of US manufacturing facilities (primarily for computer chips) has jumped 6x in the last four years. Yet, this investment is still years from bearing fruit. For example, out of six fab plants that TSMC has announced for Arizona since 2020, three have broken ground and only one is in production. Until more such plants come online, the US will remain a net importer of advanced tech.

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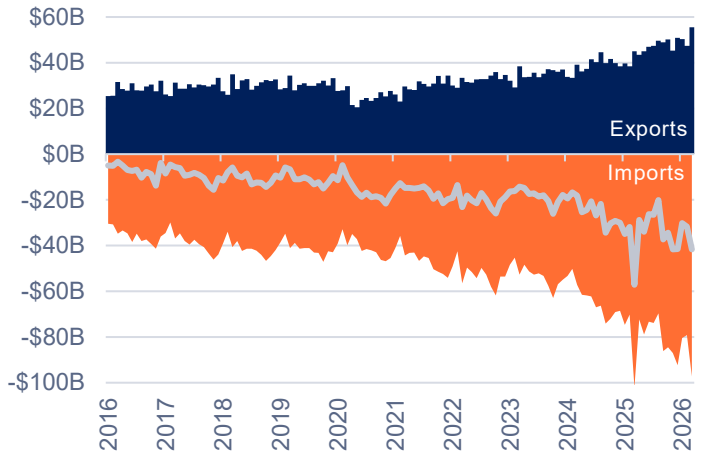
Friendshoring: Trade Shifts Away from China

Largest Swings in Import Share for Top US Trade Partners and Products (2019-2025)[1]



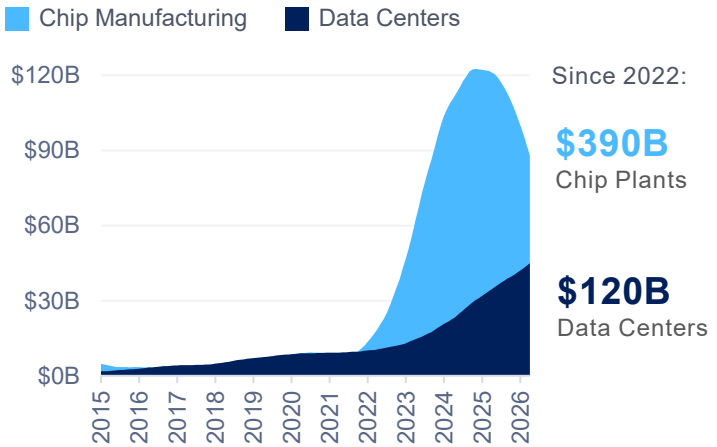
Advanced Tech Still Comes From Overseas

Balance of US Trade for Advanced Technology Products[2]



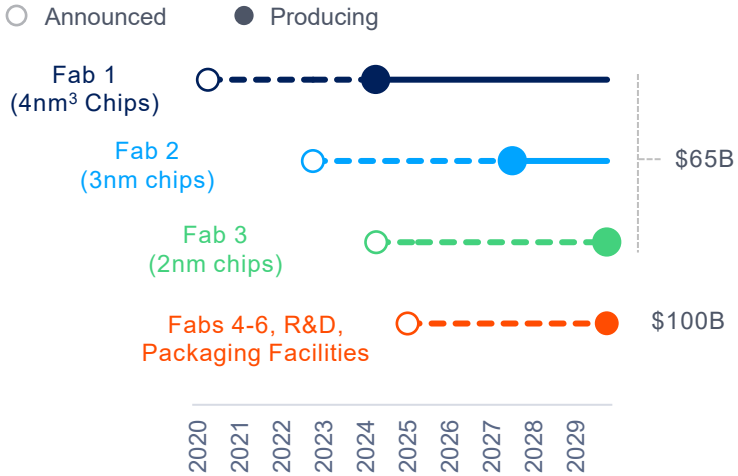
Half a Trillion Dollars on Fabs and Data Centers

US Construction Spending on Computer and Chip Manufacturing and Data Centers (12-month total)



How TSMC Is Investing $165B in Arizona

Timeline of TSMC Investments in Phoenix Since 2020



Notes: 1) Trade measured in dollars. 2) Census definitions of advanced technologies include 500 commodity codes 10 core groups: biotechnology, life science, optoelectronics, information and communications, electronics, flexible manufacturing, advanced materials, aerospace, weapons and nuclear technology. 3) Nanometer.

Source: Google Trends, US Census Bureau and SVB analysis.

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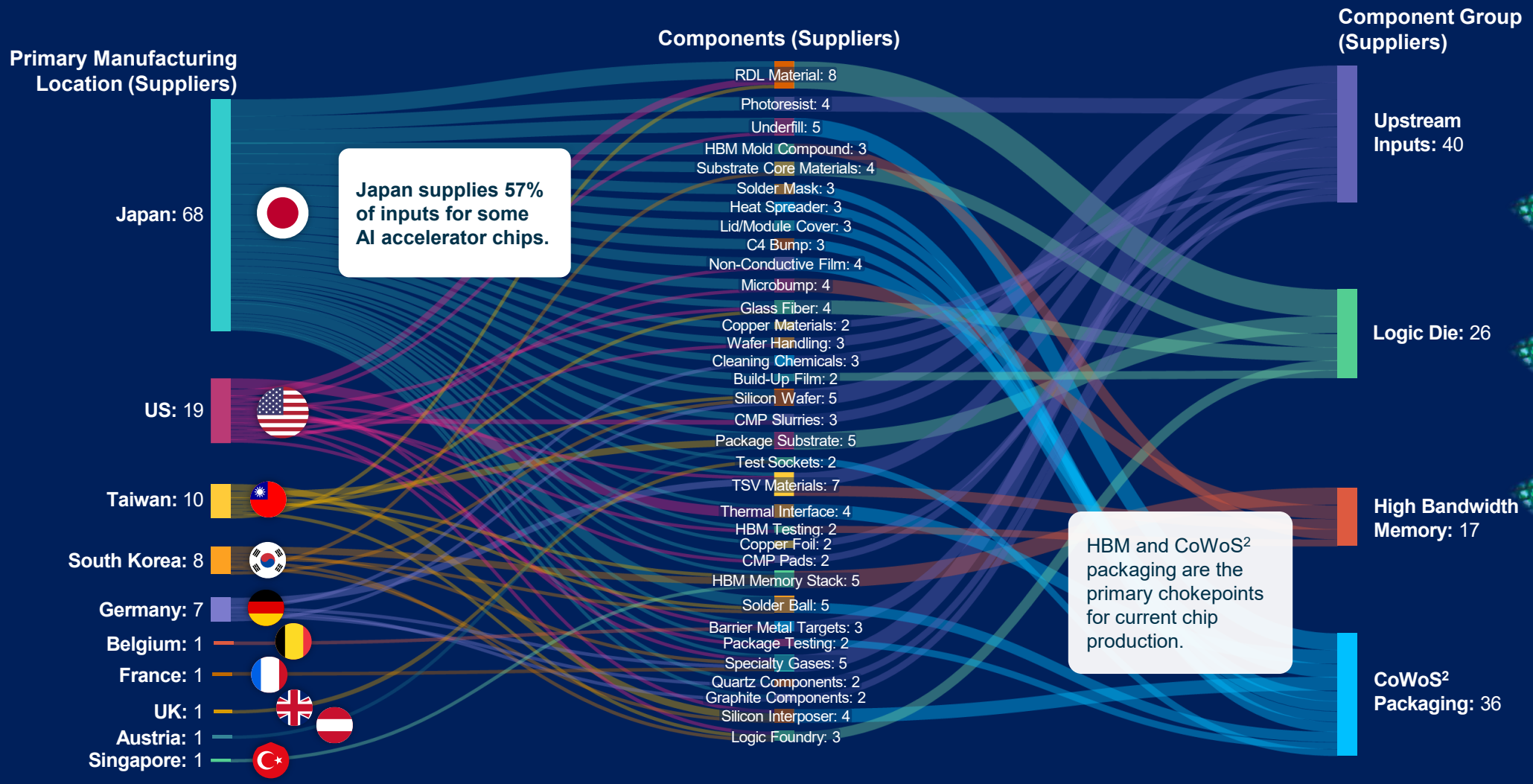
Chips and Compute



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AI Chips Weave a Global Tapestry of Supply Lines

Flow of Major AI Chip Suppliers by Manufacturing Country and Input Component[1]



Notes: 1) Analysis based on SVB review of primary manufacturing locations for more than 100 suppliers across the AI accelerator supply chain, including upstream materials, logic fabrication , HBM, and CoWoS advanced packaging. Supplier counts reflect primary manufacturing location. RDL is redistribution layer. C4 is controlled collapse chip connection. CMP is chemical mechanical planarization. TSV is through silicon via. 2) Chip-on-wafer-on-substrate.

Source: SVB analysis.

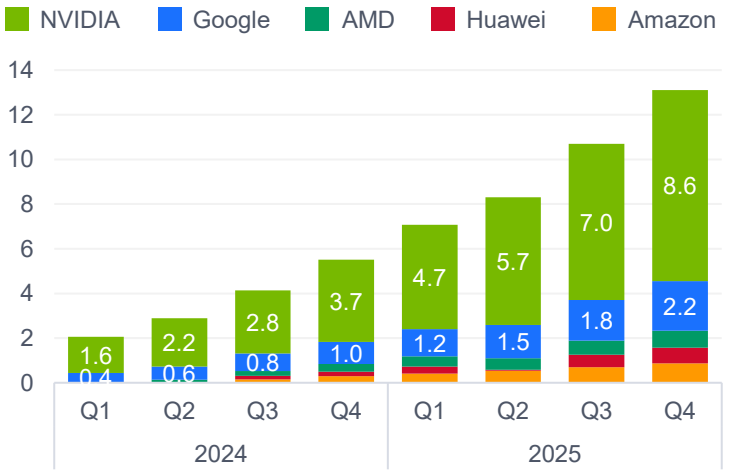
Hungry Hungry Chippos

The supply chain for AI chips is perhaps the most complicated and critical of any product today. Insatiable demand for compute from the rapid growth of AI inference is pushing current data infrastructure to its limits. **Advanced chipmakers have added 13 gigawatts (GW) of annual semiconductor power to the market since 2022, with NVIDIA accounting for two-thirds of that supply.** The cumulative draw from those AI chips is equivalent to a country the size of the Netherlands. More than 830 data centers are underway in the US.[1] Major markets like Dallas and Northern Virginia have less than 1% vacancy at existing facilities. Power projects are lining up to meet the expected demand. The median wait for a proposed project to be approved for connection to the grid is now 45 months, up 36% from two years ago.

Beyond the power needs, the chips require a complicated web of components that come from around the world, yet there are some vulnerable bottlenecks. While Taiwan is the epicenter of fabrication, our analysis more than 100 suppliers found that 57% of inputs for AI accelerators come from Japan. Manufacturing several key components such as photoresists and HBM molds, Japan has a near monopoly on certain parts. That chokepoint could slow the growth of AI-enabled devices as they compete with data centers for scarce goods. The top four chipmakers currently consume 90% of HBM.

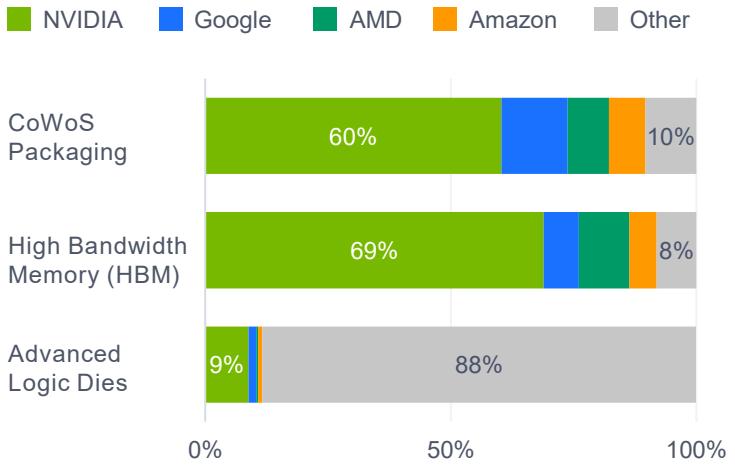
Chips Add Power Demand to the Grid

Cumulative Chip Sales since 2022 by Total Chip Power (GW)[2]



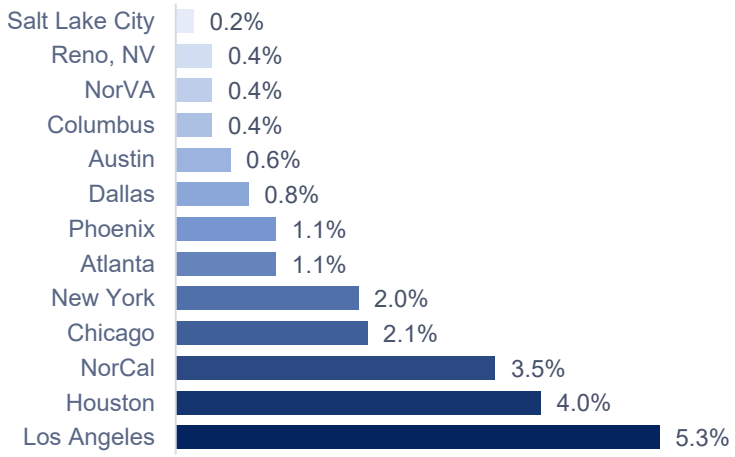
Top Four Chipmakers Control 90% of Key Inputs

Global Share of Semiconductor Components Consumed in 2025[3]



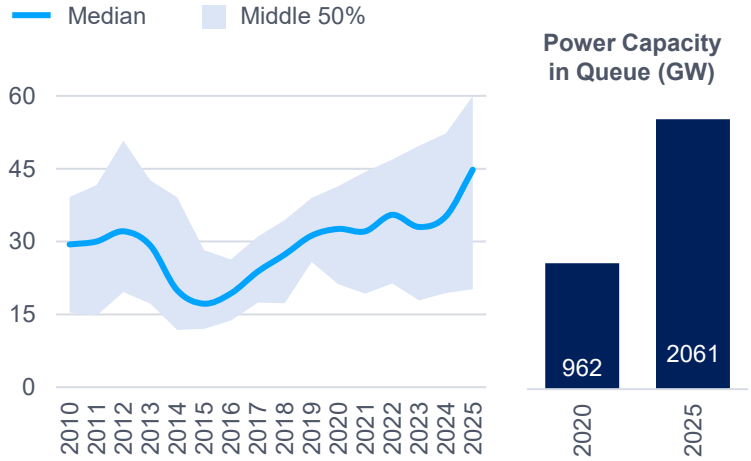
Top Data Center Markets Have <1% Vacancy

Colliers: Data Center Vacancy Rates by US Market



Approval Times Stretch for New Power Projects

Median Months From Interconnection Request to Agreement[4]



Notes: 1) According to Bloomberg NEF. 2) Cumulative annual power draw equivalent of chips sold according to calculations by Epoch AI. AMD is Advanced Micro Devices. 3) Estimates and definitions from Epoch AI. 4) Interconnection requests are required for power plants to sell power to the grid but are not required for plants using power for private projects.

Source: Colliers, BloombergNEF, Epoch AI, Lawrence Berkeley National Lab and SVB analysis.

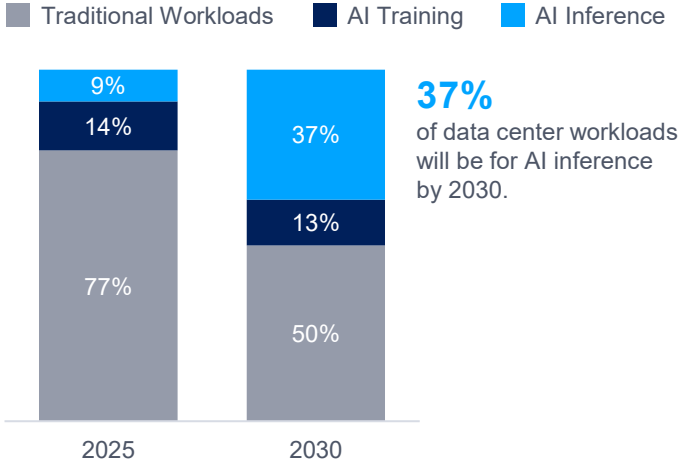
Having Your AI and Using It, Too

If AI is becoming the nucleus of computing, tokens are the atomic unit of AI cost. Yet the economics of inference differ dramatically depending on how you deploy it. Cloud inference for knowledge work is getting both smarter and cheaper, which is driving adoption in white-collar jobs. Having AI write an email costs about 1,000 tokens, or about five cents. Summarizing a 60-minute team meeting? That's 100k tokens, or $5. **Dollar costs for individual tasks like these are already dropping quickly. The challenge is how to string these tasks into fully automated roles.**

Agentic AI can do that, but at a steep token multiplier that is harder to quantify; agents use up to 1,000x more tokens than simple queries.[1] Goldman Sachs estimates agentic workflows will drive a 24x increase in token consumption by 2030. Data centers running AI reasoning models depend on HBM, which is in short supply. One group competing for HBM is AI-embodied machines, which must contend with another factor: latency. Real-world AI needs high memory it can't outsource to the cloud. Lag that is tolerable in a chatbot might be catastrophic for a humanoid, making HBM shortages a supply chain constraint for robots. Founders in warehouse automation today must therefore navigate both token pricing and the bottleneck of supply for HBM.

Inference Will Become the Way We Compute

Estimated Global Data Center Workloads by Use Type[3]



37%
of data center workloads will be for AI inference by 2030.

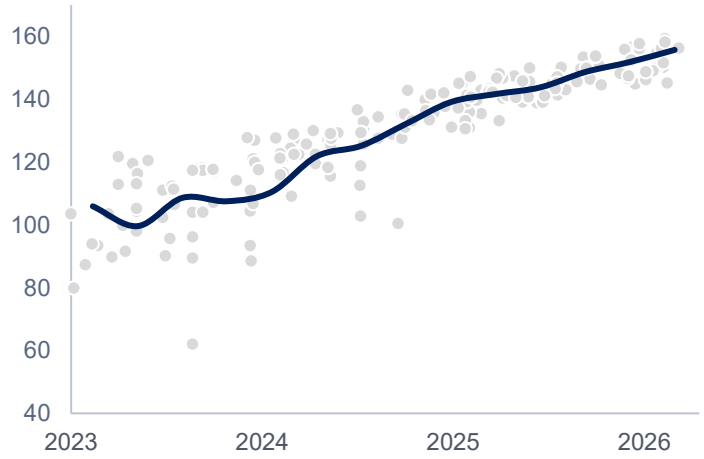
What Office Work Can You Afford To Infer?

Estimated Token Costs for Various Inference Tasks[2]

Task	Tokens	2026 Cost
Draft an introductory email	~1K	$0.05
Review 100 lines of code	~10K	$0.50
Summarize a 5K-word article	~25K	$1.25
Compare two 50-page contracts	~100K	$5
Summarize a 90-minute video lecture	~180K	$9
Analyze a 10-K Filing (Agentic)	~300K	$15
Route 100 Customer Tickets (Agentic)	~350K	$17
Screen 200 Candidates (Agentic)	~800K	$40

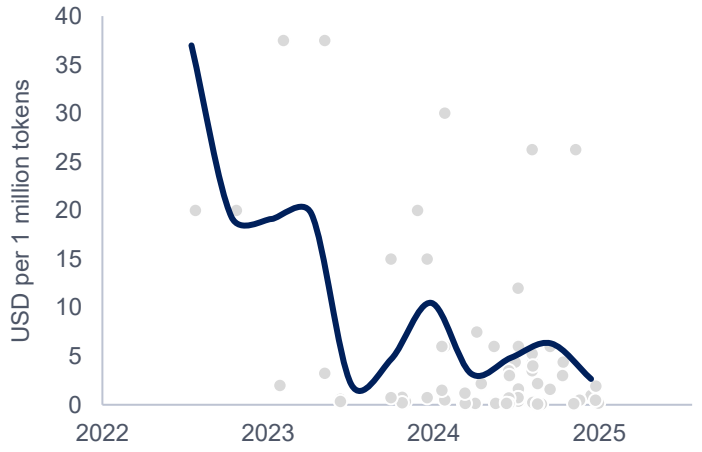
Even the Worst AI Models Are Pretty Smart Now

Performance of AI Models on the Epoch Capabilities Index



AI Models Are Getting Cheaper, but Unevenly

AI Applications by Approximate Memory and Latency Requirements



Notes: 1) Stanford Digital Economy Lab "How are AI agents spending your tokens?" 2) Estimates based on blended inference rate of five cents per 1,000 tokens and published benchmarks of token cost and performance. 3) Colliers estimate.

Source: Colliers, Epoch AI and SVB analysis.

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Fundraising and Investment



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What Have You Done for Me, Latency?

As edge compute and cloud inference both scale, they are competing for the same constrained supply chains. Yet, the economics differ in key ways.

Machines running physical AI have strict latency requirements compared to inference. A driverless car or a pick-and-pack robot making split-second decisions can't tolerate the same lag that is it acceptable for AI chatbots. As a result, these devices must carry their compute hardware onboard. **Rather than benefiting from the economics of token pricing through data centers, next-generation AI devices require the same expensive components that are being channeled to data centers.** This strains the economics and use cases for advanced robots.

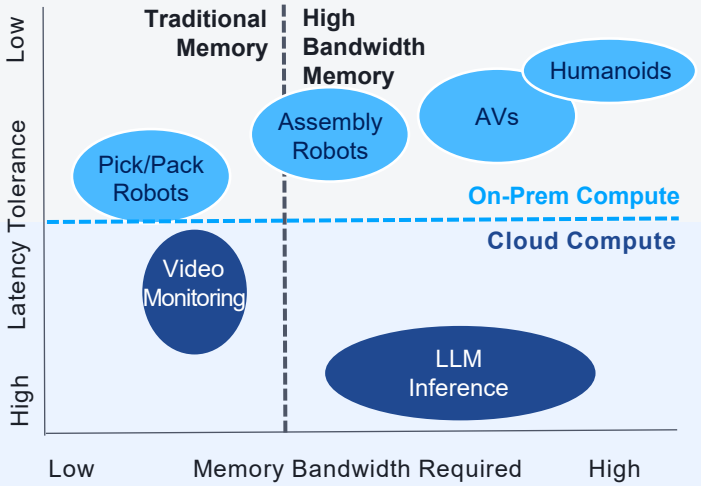
As robots move toward generalized tasks, their latency and memory requirements grow. Machines capable of the kind of dexterity needed for assembly, for example, require a shift from traditional DRAM memory to HBM. VC-backed companies are stepping in with specialized products for edge compute. Companies like Hailo and Rebellions are manufacturing inference chips purpose-built for on-device physical AI. The space is early in its evolution. As these chips mature and proliferate, the economics of on-device inference could follow the same deflationary curve that reshaped cloud-computing.

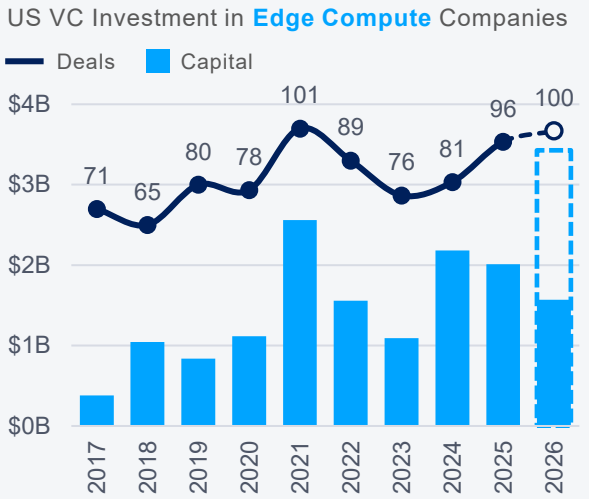
Edge vs. Cloud: Two AI Paths Diverging in the Working World

AI Applications by Approximate Memory and Latency Requirements[1]

Edge Compute

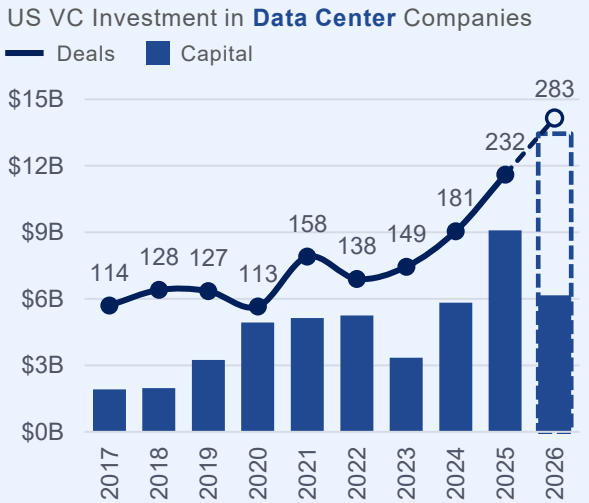
Physical AI companies face a constraint that cloud AI companies do not: They can not afford to lag. To avoid critical glitches, devices like humanoid robots must carry their compute with them. Companies are responding with hardware to improve the performance and economics of edge compute. US VC investment in edge compute is on track for $3.4B across 100 deals in 2026, which would both be all-time highs.





Cloud Inference

Cloud inference applications like document processing *can* tolerate latency, but the challenge is about volume. Stringing tasks into autonomous workflows consumes much more compute than simple queries. Investors are deploying record amounts of capital into companies making compute more efficient for data centers. US VC investment into data center companies is on pace to eclipse $12B in 2026.



Notes: 1) VC investment in edge computing includes companies with keywords in their description that are associated with edge computing such as edge computing, edge ai, ai of things, embedded ai, neuromorphic computing, neuromorphic chips, and edge devices. VC in data center companies keywords such as: data center infrastructure, ai infrastructure, cloud computing infrastructure, gpu cloud, liquid cooling, and data center. 2) DRAM is dynamic random-access memory

Source: PitchBook Data, Inc. and SVB analysis.

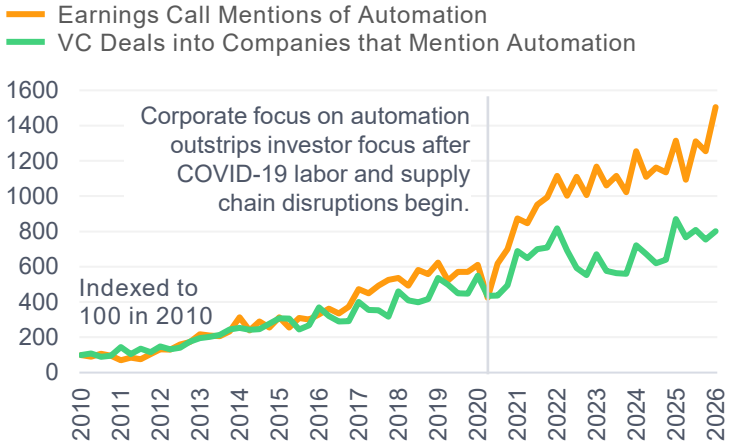
Earnings Call, Automation Answers

VCs recognize the coming wave of real-world automation, and they are shifting their investments to match. **In 2022, just 9% of VC investors had at least 10% of their deals in US hardware companies; in 2026, that has jumped to 22%.** Many VC-backed software founders worry about obsolescence in the face of AI disruption. Because of its physical IP, hardware is more resilient to disruption. In fact, it is made powerful by new AI models with potential to improve hardware generalizability.

Amid labor shortages and operational pressure, executives increasingly see automation as a core growth strategy. Mentions of automation on corporate earnings calls have jumped threefold since 2020. AI implementation and a broader focus on corporate efficiency have only sharpened the focus on automation. For most companies, automation means not just implementing AI software, but also implementing physical technologies in manufacturing, warehouses, and transportation. **VC investment in hardware-focused companies this year has already eclipsed the full-year total in 2025 and is on pace to reach $120B by year-end.** Excluding investments in Anthropic and OpenAI, hardware companies account for nearly a third of VC investment this year. One area of particular interest is defense tech. In a sign of the enthusiasm for government applications, defense-oriented companies are commanding a 31% premium to all hardware companies.

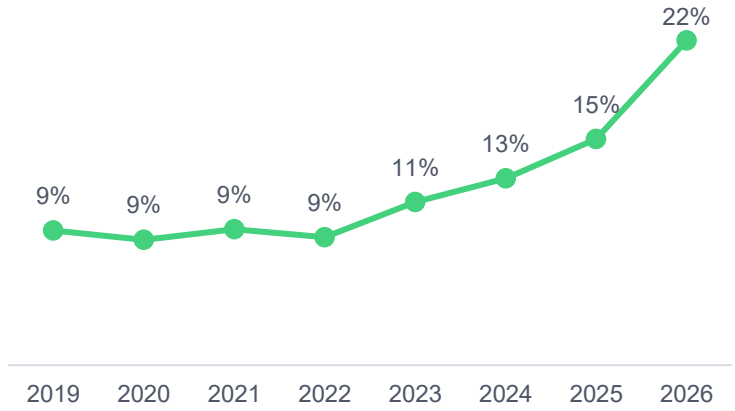
Corporate America Obsessed With Automation

Automation Mentions in Earnings Calls and by Formerly VC-Backed Companies



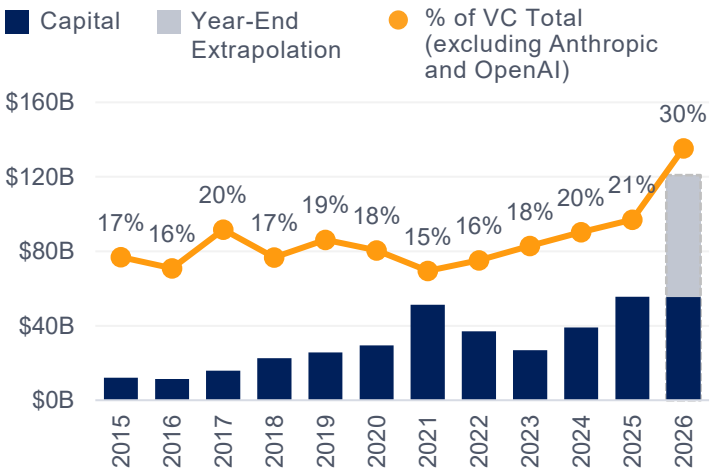
Investors Turn to Hardware

Percentage of Global VC Investors With at Least 10% of Deals in US Hardware Companies[1]



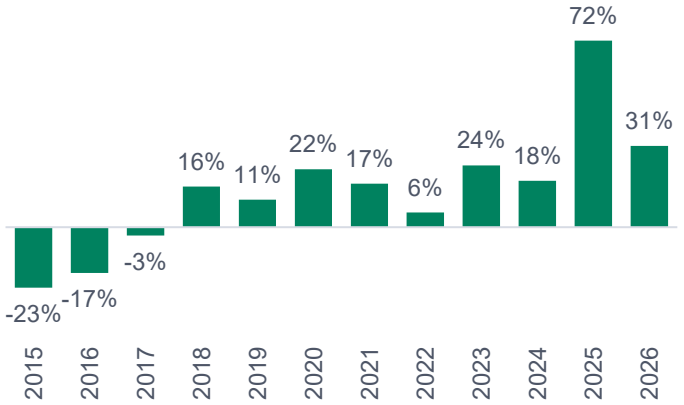
Hardware Investment Reaches New Heights

US VC Investment in Hardware Companies and Share of Total VC



Dual-Use? VCs Pay a Premium for Defense Tech

Pre-Money Valuation Premium/Discount for US VC-Backed Defense Tech Companies Compared to US VC-Backed Hardware Companies



Notes: 1) Numerator is investors with at least 10% of VC deals in US hardware companies; denominator is investors with at least 10% of VC deals in US companies.

Source: PitchBook Data, Inc., CB Insights and SVB analysis.

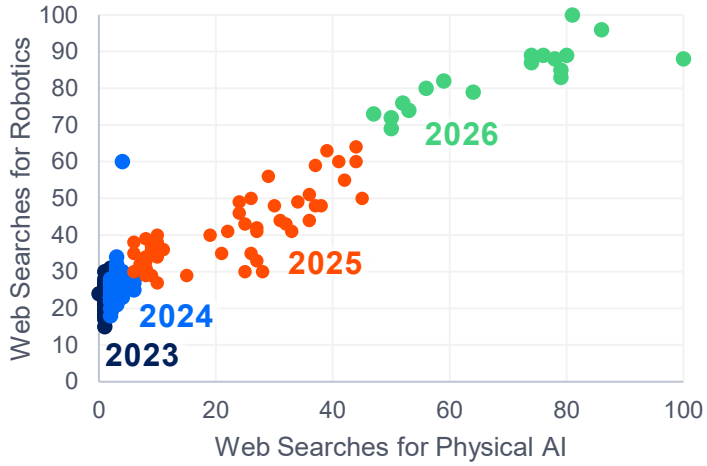
Let's Get Physical AI

One of the core challenges with automating warehouses is that robots have historically been developed for a specific task. Often, these tasks are highly standardized with few obstacles (smooth floors, consistent parts, etc.). In many warehouses, this simply isn't the reality. **As physical AI commercializes, the promise is models that allow robots to generalize and perform a wide range of tasks in a variety of environments.** This not only drastically increases the potential to automate more of the supply chain, but it also increases the total addressable market that robotics companies can serve, making them more attractive to venture investors.

The scaling laws that unlocked LLMs like Claude and ChatGPT catapulted us into the AI age. But those scaling laws don't apply in the same way to physical AI. Physical AI faces hard constraints like sensor quality and coverage, safety requirements, and limits to simulated data. As simulation improves, it's possible that we will see scaling laws begin to look more like the power-law functions LLMs have benefited from. Companies tackling physical AI are taking many different approaches from companies like Scale AI to create training data for Physical Intelligence that builds a vision-language-action (VLA) foundational model, allowing any robot to do any task.

People Are Searching Robotics and Physical AI

Google Trends Physical AI and Robotics

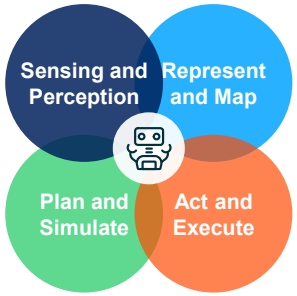


It's Not Just LLMs

Notable Physical AI Models[3]

Vision Foundation Models: Generalist perception models that understand diverse visual scenes without task-specific training

Neural World Models: Compact representations of environments, enabling agents to predict dynamics, simulate outcomes and plan actions efficiently



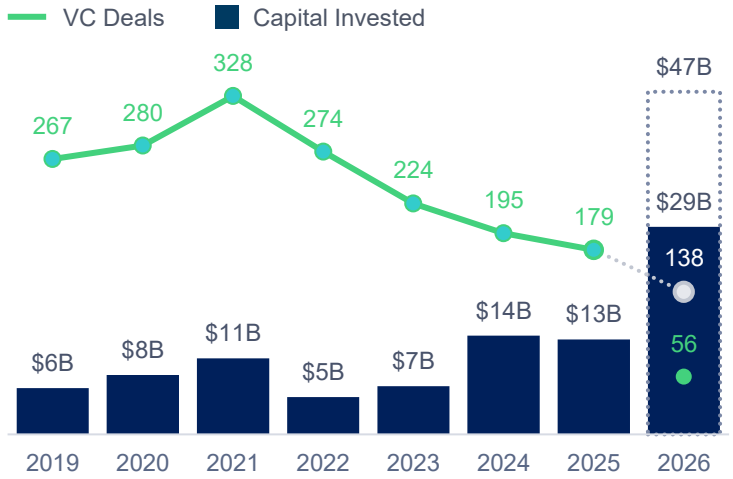
BEV Transformer Models: Specialized spatial reasoning models optimized for navigation and physical-world coordination

3D Gaussian Splatting: Photorealistic 3D world models for machine readable 3D representations of the real world

VLA Models: Models that sense, interpret (often via language), and act in the physical world

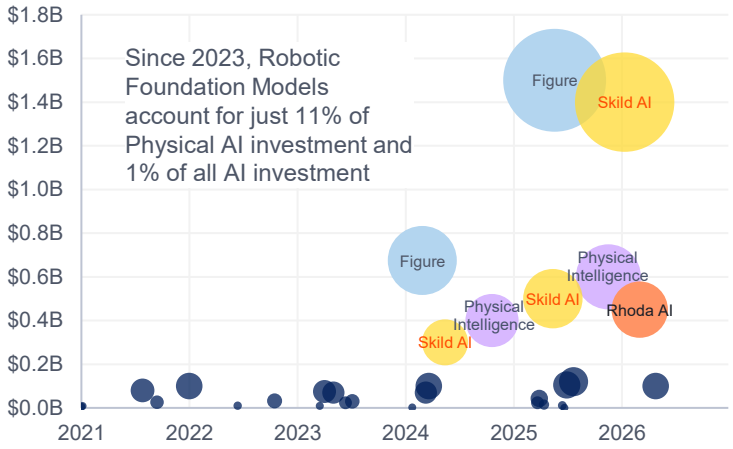
Physical AI Hits Inflection Point for Investment

US VC Investment Into Physical AI[1,2]



Robotic Foundation Models Remain Small

US VC Investment into Robotic Foundation Models (RFMs)



Notes: 1) Computer vision, autonomous vehicles, intelligent robotics, intelligent sensors and devices, RFMs. 2) 2026 full year extrapolation excludes $16B investment into Waymo completed in February. 3) BEV is Bird's-Eye-View.

Source: PitchBook Data, Inc. and SVB analysis.

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Spotlight: Warehouse Automation

With data powered by: PROLOGIS® VENTURES



→ RETURN TO TABLE OF CONTENTS

How Are Logistics Hubs Automating? We Asked the Experts.

Prologis, Global Leader in Logistics Real Estate, on the Future of Automation and Physical AI

The warehouse is where physical AI meets reality. Warehouse automation is entering perhaps its most consequential phase yet. Advances in AI, robotics, sensing and edge compute are expanding what is technically possible. At the same time, our customers face persistent pressure around labor, throughput, service levels, resilience and cost. The opportunity is clear, but the bar is high. Operators are buying uptime, efficiency, safety, flexibility and payback — not technology for novelty's sake.

That is why warehouses are such an important test bed for physical AI. In a live logistics environment, hype gets filtered quickly. A system may perform well in a controlled demo, but it still has to integrate into an active facility, work around people, handle exceptions, adapt to changing SKUs, survive peak periods and deliver a credible return on investment.

We surveyed 400+ warehouse managers and senior supply chain leaders — who understand the true state of automation adoption — on what they're seeing on the ground. The picture is nuanced. Proven automation categories are scaling across leading networks, while AI adoption is beginning in lower-friction workflows such as reporting, document automation, labor planning and exception management. Newer capabilities — from robotic picking and palletizing to computer vision and more flexible robots — remain earlier in their commercial journey.

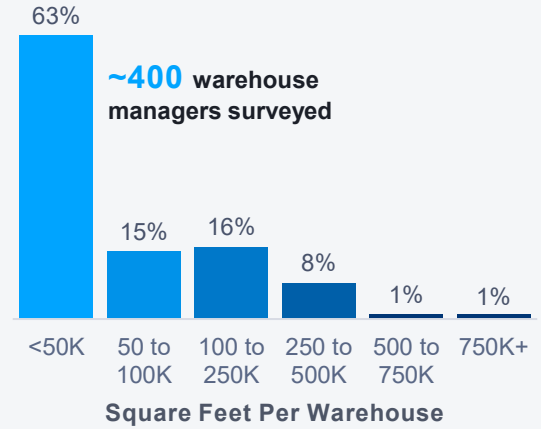
For founders and investors, the message is specific. The next wave of warehouse innovation will be defined by systems that make complex operating environments more programmable: flexible enough to handle variability, simple enough to deploy, reliable enough to earn trust, and economically viable enough to scale across real networks.



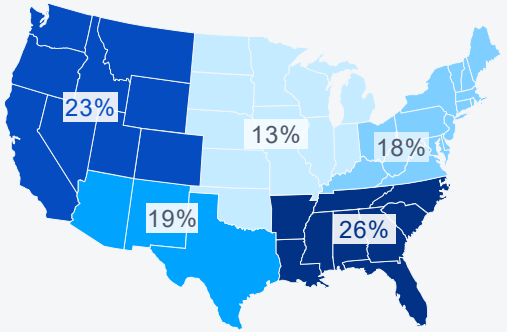
Todd Lewis
Senior Vice President
Prologis Ventures

PROLOGIS® VENTURES

Survey Responses by Facility Size



Survey Responses by Location



Prologis at a Glance:[1]

$235B total AUM for Prologis	**1.3B Sq Ft** of logistics space, the largest REIT in the world	**$3.2T** of goods flowing through Prologis facilities	**6,500** customers with >1M employees	**$300M+** invested in over 50 companies since 2016 by Prologis Ventures

1) Prologis data as of March 31, 2026.
Source: Prologis CTO Survey (2026), Prologis Survey of Warehouse Managers (2026) and SVB analysis.

Great Expectations, Long Integrations

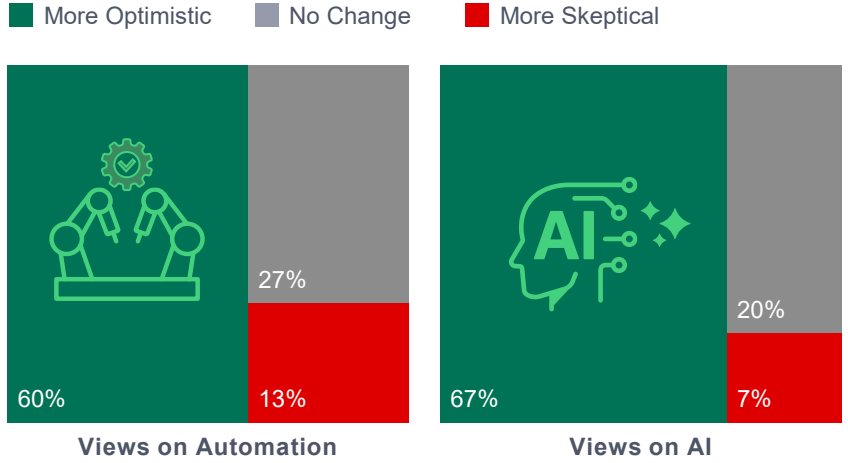
Over the past 12 months, large supply-chain operators have become meaningfully more constructive on automation and AI. **Roughly two-thirds of logistics executives surveyed report greater confidence in both automation and AI adoption, while just 1 in 10 has become more skeptical.** Executives see automation benefits in the form of safer operations, higher throughput, and as a counterweight to persistent labor-cost pressure.

But scaled adoption is still concentrated in proven categories. Conveyors and sortation are the most mature, followed by automated storage and retrieval systems (AS/RS), goods-to-person systems, and autonomous mobile robots (AMRs). Newer capabilities like robotic picking, palletizing, computer vision and AI-enabled scanning are largely still in an evaluation and pilot era and not yet broadly deployed.

Warehouse automation has historically taken decades to move from early innovation to scaled use. Systems need to match or support human workers on speed, reliability, exception handling and ease of operation. Once that threshold is reached, adoption can accelerate quickly from small pilots to network-wide rollouts with credible performance and, crucially, payback.

Supply Chain Executives Are Substantially More Optimistic for Automation and AI

How Executives of Select Large Supply Chain Companies Changed Their Views Over the Last 12 Months on Automation and AI



What CTOs Told Us:

"…automation drives safety, throughput and avoids huge inflationary labor costs."

"There are seconds to be found everywhere. Fulfillment is a *Formula 1* race!"

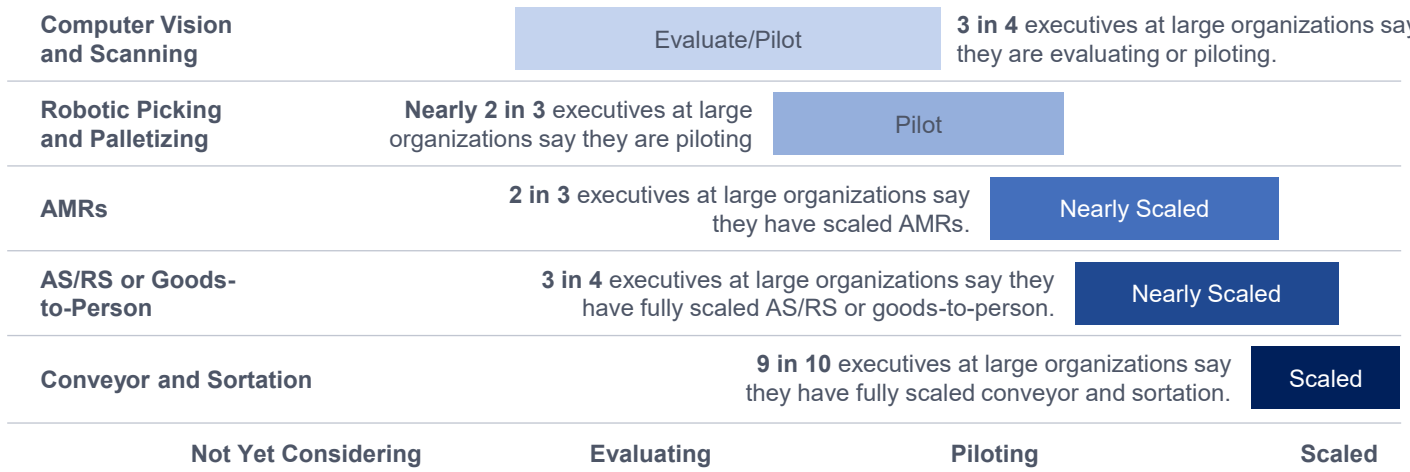
"When you move past the theoretical and into the factual, the performance-based — the sell does not match performance."

"The industry is starting to shift into tactical application."

"The pace of improvement/advancement is way clearer than it was a year ago."

Robotic Packing and Picking Is the Next Automation Wave To Achieve Scale

Select Technologies by Position in the Adoption According to Executives at Select Large Companies



Source: Prologis CTO Survey (2026), Prologis Survey of Warehouse Managers (2026) and SVB analysis

The Exception *Is* the Norm

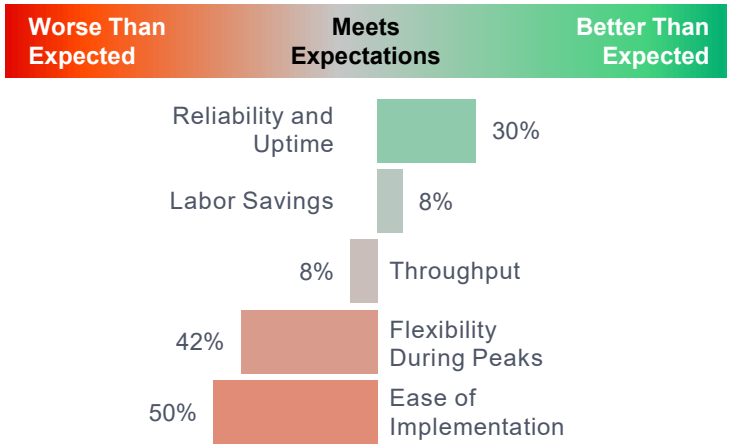
The constraint to adopting warehouse technologies is not interest — it's getting these systems to perform in real operations. Executives say many automation systems perform well once installed, particularly on reliability, uptime, labor savings and throughput. But the same systems often fall short on ease of implementation and flexibility during peak periods.

The result is spotty adoption across facilities. Even among large operators, automation is far from universal. **Among operators we surveyed, a median of 40% of facilities had deployed some level of automation, while one-third have automation in less than 25% of their warehouse network.**

Perhaps the biggest hurdle is around exceptions, or what to do when an item doesn't follow the normal path of systems for any number of reasons. In warehouses, exceptions consume a disproportionate share of operational attention. Automation that only works in clean and repeatable flows will hit a wall. To scale, systems need to handle variability well, navigating SKU changes, labor constraints, facility limitations, seasonal peaks and the constant surprises that make warehouses hard to automate in the first place.

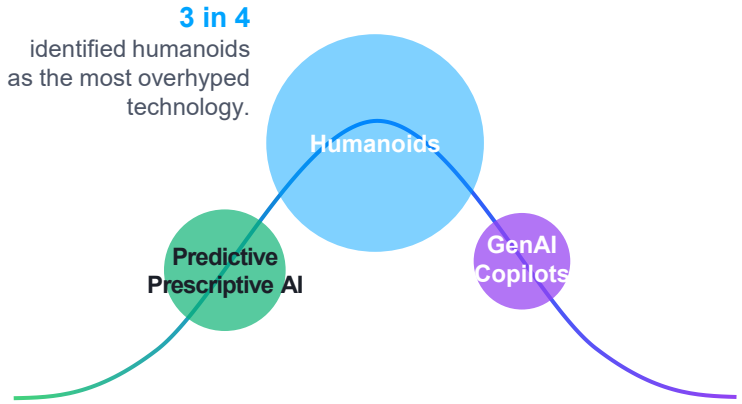
Reliability and Savings Often Exceed Expectations

Performance Expectations vs. Reality for Select Large Companies



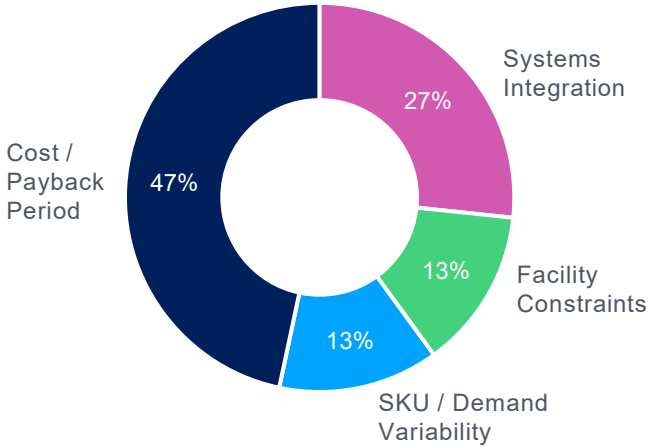
Humanoids Hype Exceeds Today's Reality

Most Overhyped Technologies for Supply Chain Automation Compared to Current Operational Value According to CTOs



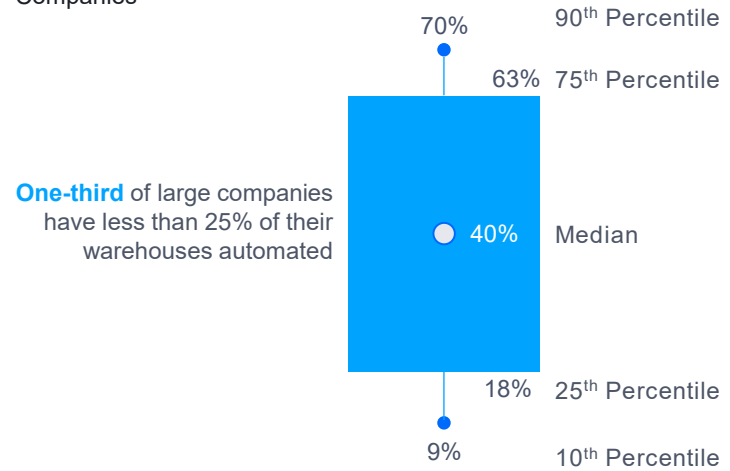
Cost and Payback Is the Biggest Hurdle

Barriers to Scaling Automation According to Executives at Large Companies



Automation Is Minimal for Many Facilities

Percentage of Warehouses With Any Automation for Large Companies



Source: Prologis CTO Survey (2026), Prologis Survey of Warehouse Managers (2026) and SVB analysis.

A Fixed Reality for Flexible Robots

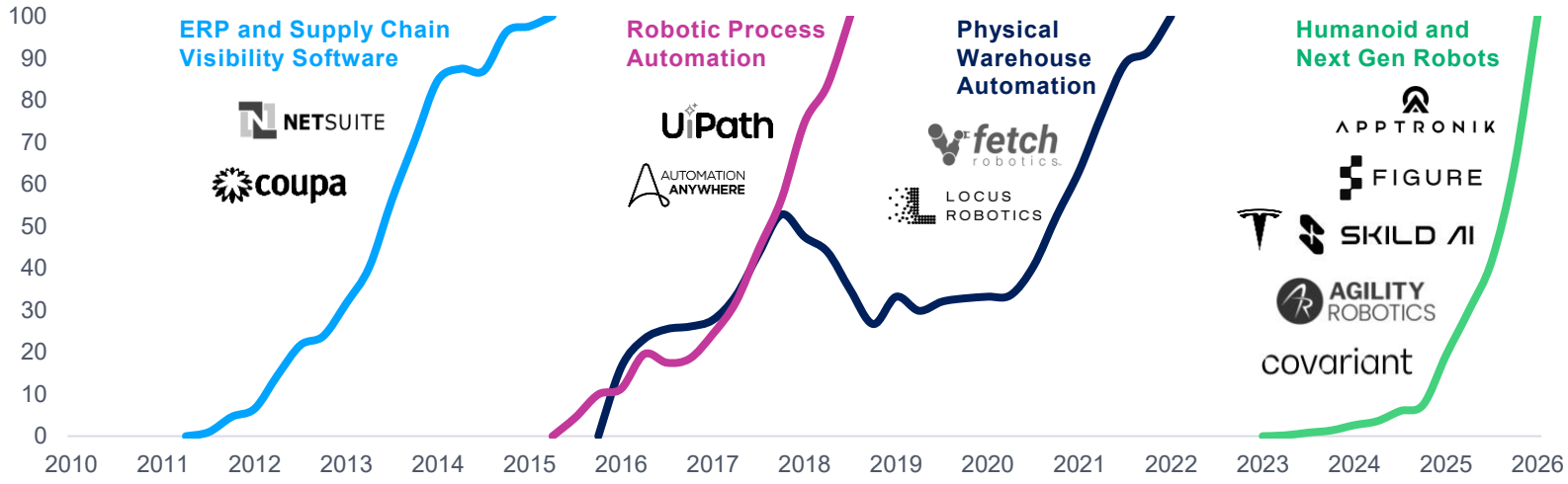
Conventional automation works best in modern, high-throughput facilities where workflows are standardized, and the building can support fixed infrastructure. Most warehouses don't look like that. Older buildings, smaller sites, variable SKUs, seasonal peaks and constant exceptions make many facilities untenable to automate with conventional rigid systems.

Flexible robots could change that equation. **Systems that can operate in human-designed environments would expand the addressable market for automation and make it easier for logistics networks to scale without rebuilding every facility around machines.** Over time, that could support more network capacity, higher throughput and new operational roles in robot management, maintenance, systems integration, safety and process optimization.

For now, the market is still searching for the right form factor. Humanoids are the most visible expression of flexible robotics, but bipedal systems are complex, expensive and commercially immature. The winning design may be humanoid, wheeled or something simpler altogether. The important test is whether the system can deliver enough reliability and payback in warehouse environments. Such a system will unlock a much larger automation market than fixed systems reach today.

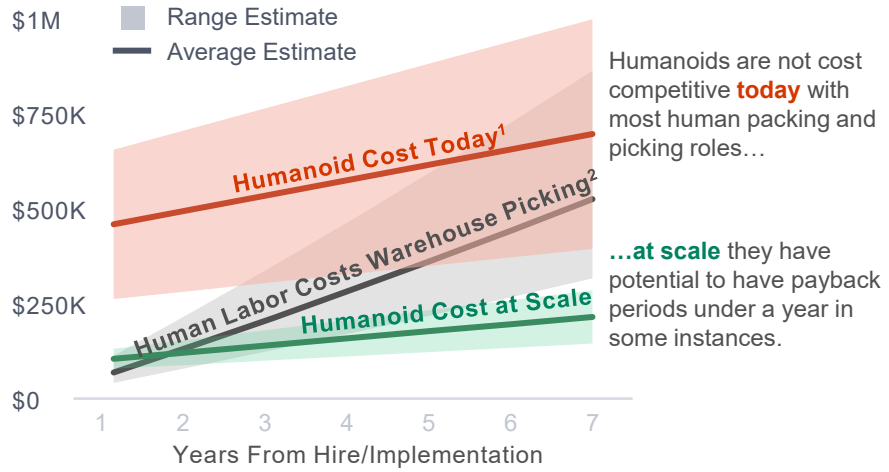
Supply Chain Automation Waves

Earnings Call Mentions of Each Technology Indexed to Zero at Start and 100 at Maximum Mention Frequency



Humanoid Robots: Costly Today, but Not at Scale

Cumulative Total Cost Estimates per Human and Humanoid Robot[1]

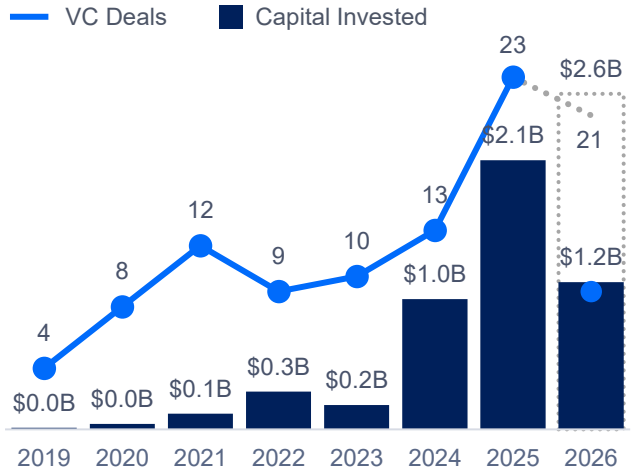


Humanoids are not cost competitive **today** with most human packing and picking roles…

…at scale they have potential to have payback periods under a year in some instances.

VC Investment Into Humanoids

VC Investment in US Humanoid Robotic Companies



Notes: 1) Including cost of maintenance, software, power, compute and first-year integration costs assumed at 3x that actual machine costs. 2) Includes 3% inflation, benefits, payroll taxes, workers comp and assumes a range of industry norm turn overrates and backfill costs.

Source: PitchBook Data, Inc., CB Insights, Company press releases, Glassdoor, Indeed and SVB analysis.

Paperwork Before Pickstations

The robots are coming, but AI adoption in the warehouse is starting with administrative workflows. Whilst most operators we surveyed are not yet using AI in day-to-day operations, adoption does rise with facility size. Larger warehouses show meaningfully more traction.

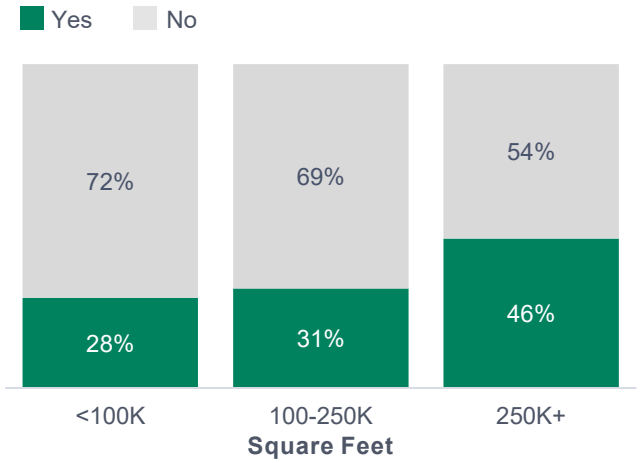
The early use cases include reporting and analytics copilots, document and admin workflow automation, safety and quality monitoring, labor planning, and exception management. These are lower-friction entry points for AI adoption, improving visibility and decision-making without requiring a major physical retrofit.

The pattern is especially clear in larger facilities, where labor planning and forecasting become more valuable. The bigger the operation, the higher the variability to manage driven by demand swings, staffing needs, throughput targets, safety requirements and service-level pressure.

That is likely how adoption scales: first through operational intelligence, then through deeper integration with automated systems. The near-term opportunity is not just embodied AI, but AI that helps warehouses run with more visibility, flexibility and control.

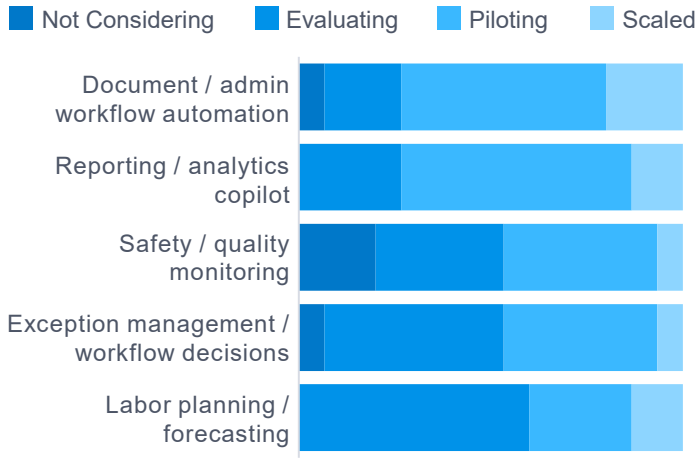
Most Warehouses Don't Leverage AI…

Warehouse Managers Using AI Segmented Total Warehouse Size



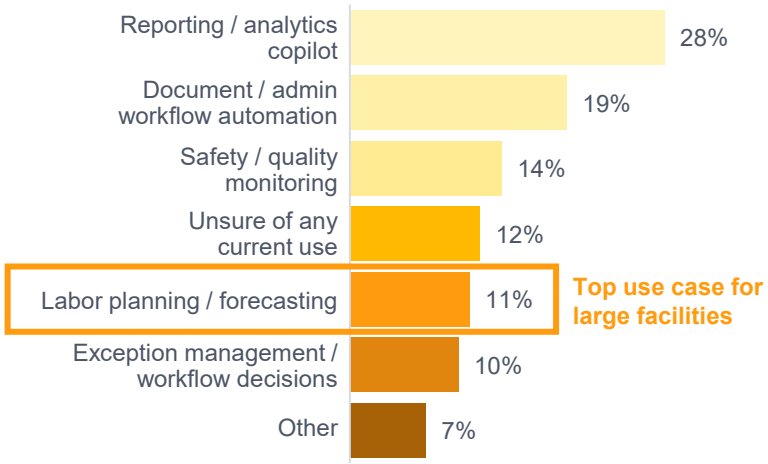
…But Large Companies Are Working on It

Among Those Considering, Most Are Early Innings



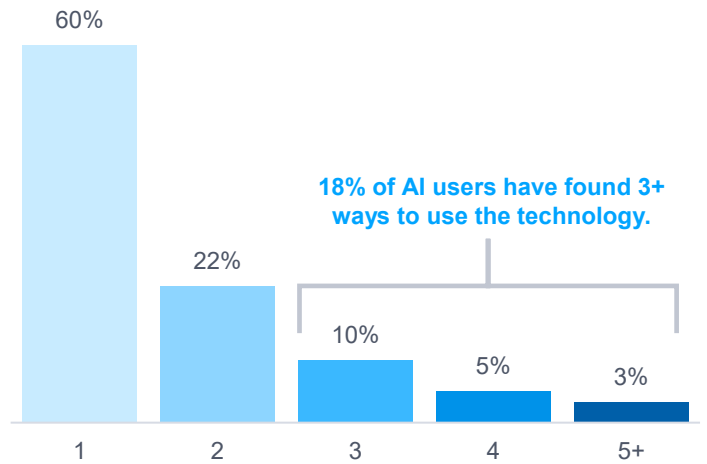
Reporting/Analytics Copilots Are Most Used

Percentage of Companies That Report Using AI for the Following:



AI Users Narrowly Implemented Solutions

Companies That Use AI by Number of Use Cases



Source: Prologis CTO Survey (2026), Prologis Survey of Warehouse Managers (2026) and SVB analysis

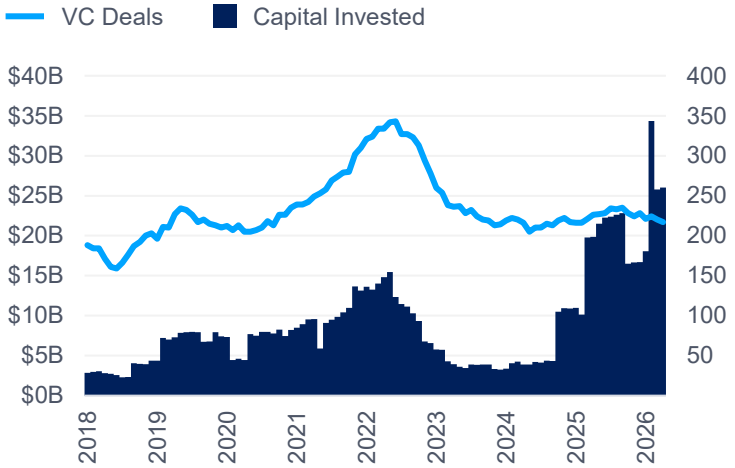
Capital at the Loading Dock

Investors are trying to solve the same problem that operators face: how to make automation work in the physical world. **Venture investment supply chain hardware and the AI models that power them have hit record levels of $25B.** Much of this is coming from the largest deals. VC deals larger than $500M account for 84% of venture investment in 2026. These deals are primarily in the AI space such as Waymo, Figure, Skild AI, Physical Intelligence, Zipline and Applied Intuition. These companies have the potential to reshape the economics of physical labor, automating tasks that, until now, required a human to perform.

Large retailers are taking a proactive stance to automate their supply chains. No strategic investor is doing more in robotics than Amazon. The company has invested or acquired 10 VC-backed hardware companies in the past 12 months and at least 32 companies in the last five years. Recent investments run the spectrum from more whimsical companions (like those from Fauna Robotics, which Amazon acquired in March) to industrial humanoid robots (like those from Neura, which received a Series C investment from Amazon in March). These investments signify a conviction that physical AI is transitioning into a more commercial phase. The breadth of these bets suggests that Amazon is supporting the full stack of what robots might become.

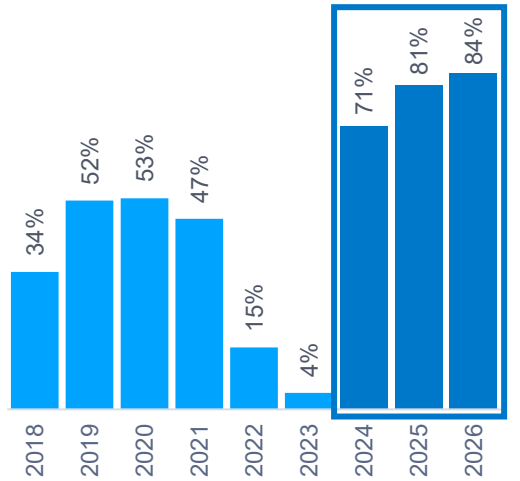
A Few Outsized Deals Capture VC Attention

US VC Investment into Supply Chain AI and Hardware (TTM)[2]



More Capital Is Flowing to the Top

Share of Capital in Deals >$500M for Supply Chain AI and Hardware[1]

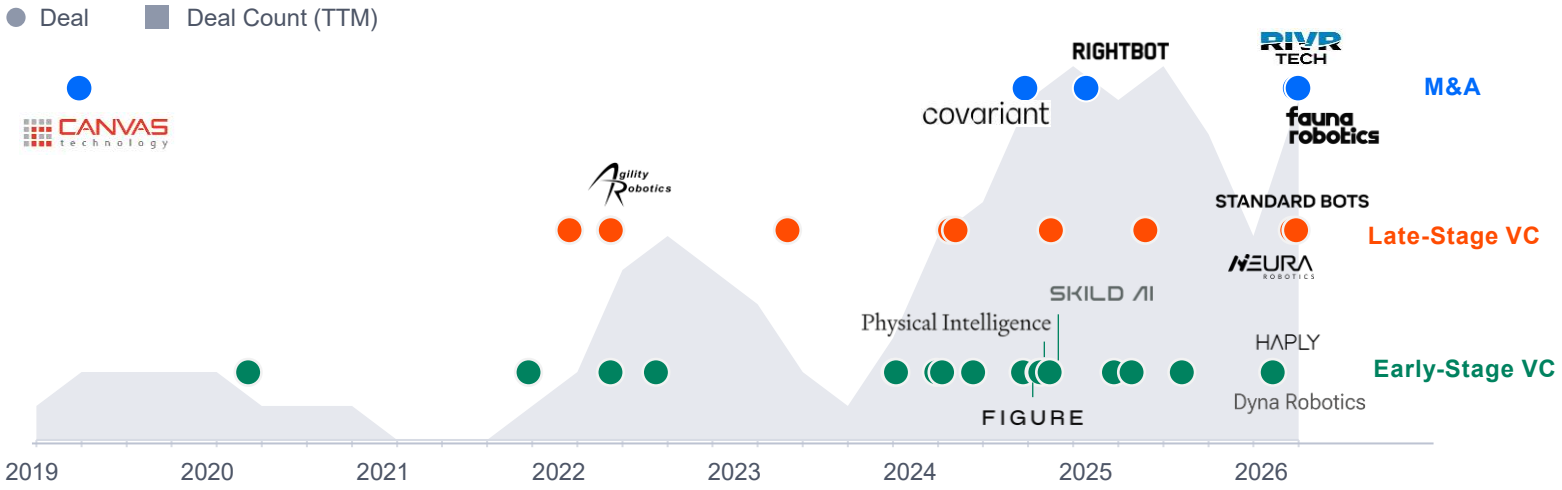


The post-ChatGPT era is driven by physical AI and autonomy deals.

WAYMO
FIGURE
SKILD AI
Physical Intelligence (π)
Applied Intuition

Warehouse Giants Are Leaning Into Automation Through VC and M&A

Notable VC Investments Acquisitions From Amazon in Robotics and Drones



Notes: 1) Numerator is investors with at least 10% of VC deals in US hardware companies; denominator is investors with at least 10% of VC deals in US companies. 2) Trailing twelve months.

Source: PitchBook Data, Inc., CB Insights, and SVB analysis.

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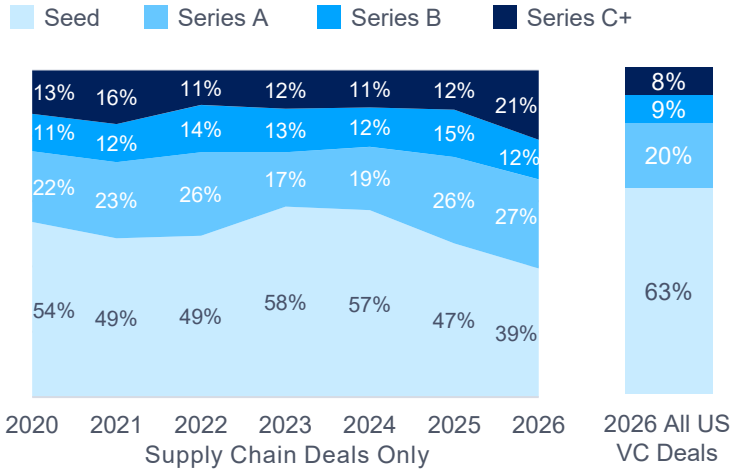
Should I M&A or Should I Grow?

Supply chain innovation is maturing. Historically, supply chains skewed later-stage than the overall US VC ecosystem given the high penetration of hardware, which requires multiple funding rounds to achieve meaningful scale. But since 2024, the percentage of investment going to seed has slipped from 57% to just 39%, while the percentage going to Series C and beyond has nearly doubled from 11% to 21%. The ecosystem for late-stage venture investment has improved for hardware companies contributing to the increase in late-stage investment. This shift may improve the prospects for supply chain companies seeking to achieve larger scale than the historically early-stage exits they have faced since 2020.

Exits tell a more nuanced story. Nearly half of supply chain exits have occurred by Series A, and less than 10% happened beyond Series D. **Many of these companies solve strategic pain points for large acquirers, but often around a narrow workflow, customer segment, or operational use case. That can make them valuable acquisition targets before they become venture-scale standalone businesses.** The difference between getting bought and growing independently often comes down to generalizability. Companies that solve a discrete problem in one environment may struggle to scale across varied facilities. The companies with the strongest path to scale are likely those that can move beyond point solutions.

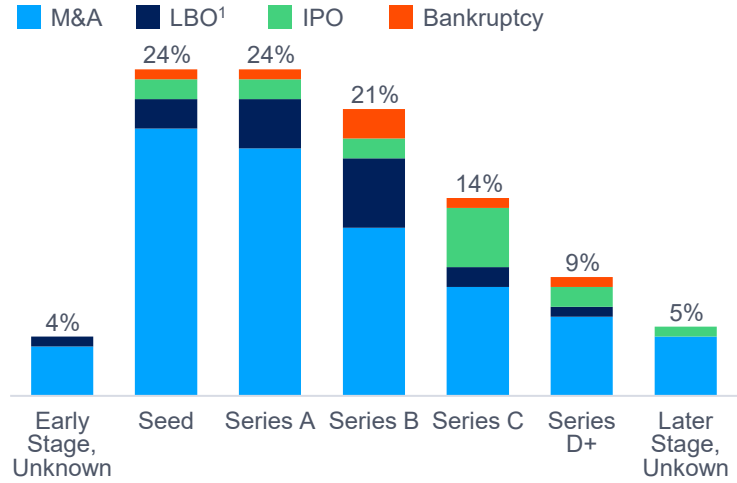
Seed Activity Declines, Late-Stage Picks Up

Percentage of Supply Chain Deals by Series and Year



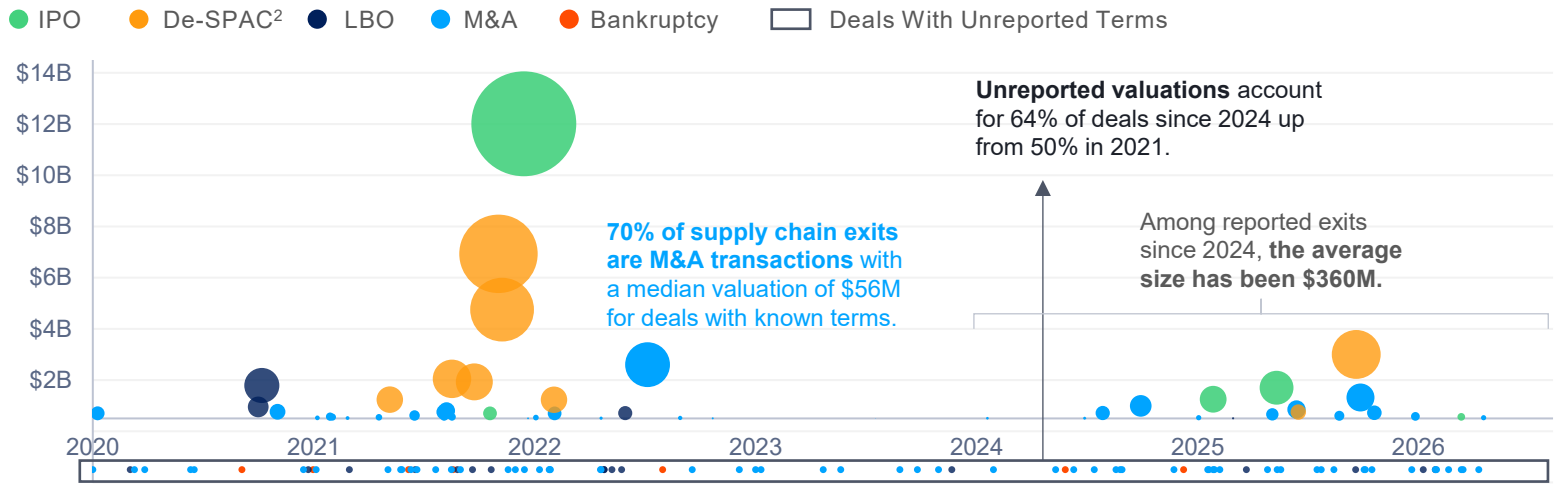
Nearly Half of Companies Exit by Series A

Supply Chain Exits by VC-Stage Prior to Exit and Exit Type



Small Exits Dot the Landscape, But Few Big Landings

US Supply Chain Exits by Type Valuation



1) Leveraged buyout.2) Special purpose acquisition company.
Source: PitchBook Data, Inc., CB Insights and SVB analysis.

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Mark is the Head of Frontier and Climate Technology, leading the bank's efforts in NorCal to deliver banking solutions, financing and strategic advice to help clients scale.

Over his 25 years with SVB, Mark has held a number of leadership roles, including running the Software and Services practice, and has partnered with companies across all stages from seed to IPO. He earned a business degree from Pepperdine University and an MBA from Santa Clara University.

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The world runs on logistics. At Prologis, we don't just lead the industry—we define it. We create the intelligent infrastructure that powers global commerce, seamlessly connecting the digital and physical worlds. From agile supply chains to energy solutions, our ecosystems help your business move faster, operate smarter and grow sustainably. With unmatched scale, innovation and expertise, Prologis is a category of one — not just shaping the future of logistics but building what comes next.

Real Estate	Essentials	Energy	Data Centers
Modern logistics facilities in the world's leading consumption and trade markets.	Products, services and operational solutions that help customers equip and run their facilities.	Solar, storage, charging and power solutions supporting more resilient and sustainable operations.	Unlocking innovative opportunities with unparalleled global scale and comprehensive power solutions

About Prologis Ventures

Powered by deep industry expertise and an unmatched global network, Prologis Ventures invests in bold ideas—transforming our supply chain future. From Seed through Growth stages, we partner with companies that are redefining the logistics landscape, solving critical challenges and shaping the future of commerce. Areas of strategic investment include:

Supply Chain & Transportation	PropTech & Construction	Energy & Sustainability
Technology that enhances resiliency, efficiency and visibility strengthens logistics operations and keeps supply chains moving.	Cutting-edge solutions drive continuous improvement, advancing how industrial spaces are designed, built and operated.	Future-forward infrastructure advances smarter operations, optimizes energy use and supports high-demand environments.

Scaling What's Possible

$300M+
invested in seed to growth stage companies

50+
companies in our portfolio

2016
founded to invest in strategic innovation

4+
continents with portfolio companies

https://www.linkedin.com/company/prologis
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https://www.prologisventures.com



Our name has changed. The experience has not.

Our commitment to the innovation economy is as strong as ever.

Silicon Valley Bank's tech and healthcare business is now **First Citizens Innovation Banking**.

Although our name has changed, we continue to serve our clients with the same dedicated teams, responsive service, and sector specialization you know and trust. We've unified our business lines under one corporate brand and will retain the experience you rely on.

This is a name change only and not a change in how we operate or what we do. We will continue to produce our signature market insights reports and serve our clients with the same dedicated teams, responsive service and sector specialization our clients have relied on for more than 40 years.

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