



GLOBAL PERSPECTIVES

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BY WILLIAM P. STERLING, PH.D.

Global Strategist

PICKS AND SHOVELS FOR THE AI ERA

- ▶ The cloud giants are betting hundreds of billions that AI revenue will justify the spending.
- ▶ While most on Wall Street agree, one credible voice, Bain & Company, argues the numbers don't yet add up.
- ▶ Either way, the industrial firms supplying the buildout are paid as the work is done, not on AI's eventual returns.
- ▶ That asymmetric payoff may make picks-and-shovels suppliers a useful diversifier within investors' equity portfolios.

HIGHLIGHTS

LOOKING BACK TO LOOK AHEAD

In the 1849 California Gold Rush, most of the prospectors went broke. The people who consistently got rich were the ones selling them shovels, picks, denim trousers, and lodging. That bit of history could provide investors with some useful perspective on today's artificial-intelligence buildout.

The household names of the AI boom — the chipmakers and the cloud giants — are extraordinary businesses, and they may well keep thriving as the buildout continues. But

their fortunes hinge on whether AI revenue ultimately catches up to the construction. The chipmakers depend on continued spending by the cloud giants. The cloud giants in turn are spending hundreds of billions of dollars on a bet that AI revenue will eventually justify those outlays. One credible voice in the debate — Bain & Company — has flagged a substantial concern about whether the math will work, even as more optimistic forecasters expect AI services to scale rapidly enough to validate the spending.

Meanwhile, AI-related revenues are surging for an entirely different set of companies. They are not designing chips or writing AI software. They are pouring concrete, manufacturing turbines, building cooling systems, and supplying electricity. Their contracts have already been signed. They are paid as the work is done.

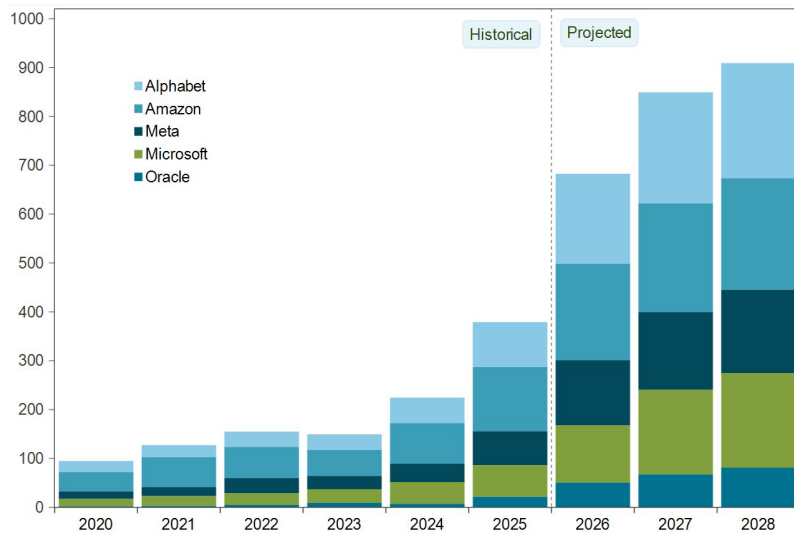
These are the picks-and-shovels businesses of the AI cycle — and their cash flow does not soon depend on which side of the AI revenue debate proves right.

THE MATH BEHIND THE INTELLIGENCE RUSH

The scale of the AI infrastructure buildout is astonishing. Recent reports suggest that just five companies — Amazon, Alphabet, Meta, Microsoft, and Oracle — are planning around \$700 billion in capital expenditures this year (Figure 1). That’s up around 80% from last year and represents a seven-fold expansion in their total capex since 2020. Further growth is expected to take the total above \$900 billion by 2028 according to Bloomberg’s survey of analysts’ forecasts.

FIGURE 1

Hyperscaler Capex Is Booming Reflecting the AI Infrastructure Buildout



Sources: GW&K Investment Management, Bloomberg, and Macrobond. Past performance is not indicative of future results.

The five major hyperscalers are expected to boost capex to around \$700 billion in 2026 — up 80% from last year. The annual total is projected to exceed \$900 billion in 2028.

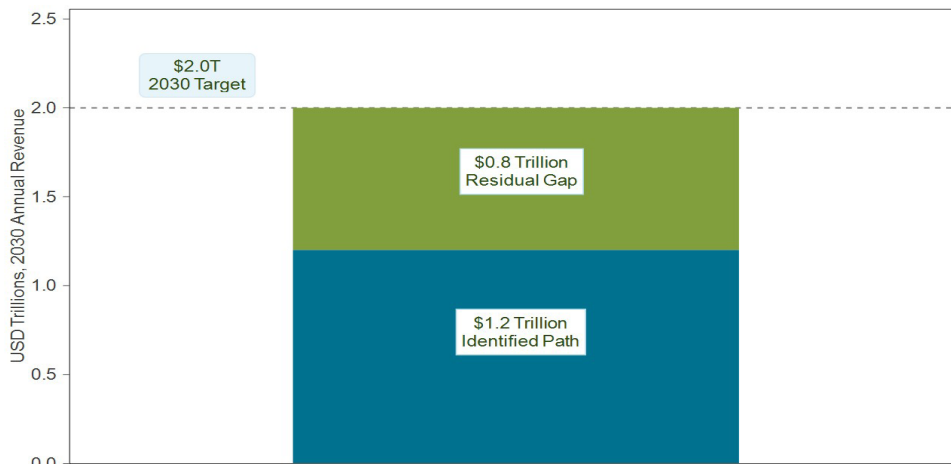
In 2025, the consultancy Bain & Company published a careful analysis of how much computing capacity the world’s cloud giants have committed to build by 2030. Bain concluded that the AI industry would need roughly \$2 trillion in annual revenue by then to justify the scale of capital being committed. Today’s AI revenue is only a small fraction of that. Even if every business in America aggressively reallocated its existing software-and-IT spending toward AI, Bain calculated the industry would still come up about \$800 billion a year short (Figure 2).¹

¹ Bain & Company, Technology Report 2025: How Can We Meet AI’s Insatiable Demand for Compute Power?

FIGURE 2

Bain's Math: AI Industry \$800 Billion Short of 2030 Revenue Requirements

Even after aggressive reinvestment of corporate IT – budget savings into AI



Source: Bain & Company, Technology Report 2025

Bain & Company estimates the AI industry will be roughly \$800 billion a year short of the revenue required to support its planned 2030 capital spending, even after aggressive reinvestment of corporate IT-budget savings into AI.

Bain's view is more cautious than the consensus on Wall Street, where many analysts forecast that AI services revenue will scale fast enough to validate the buildout. But Bain's conclusion is grounded in a careful bottom-up estimate of compute capacity, and it deserves to be taken seriously as a scenario rather than dismissed as an outlier. Whether the eventual outcome lands closer to Bain's view or to the more optimistic forecasts is, for now, genuinely uncertain.

What is not uncertain is that such concerns have periodically rattled the buyers' equity multiples. The chipmakers are vulnerable to the same arithmetic, because their order books eventually depend on the cloud giants' continued conviction that the construction will pay off.

It is not, however, an immediate problem for the suppliers. A factory currently building a transformer for a data center typically signs a contract up front. It collects payment as the transformer is manufactured, tested, and shipped. Whether the data center it eventually feeds turns into a profitable AI service — or, ultimately, into a money-losing one — does not affect the invoice.

WHERE THE MONEY ACTUALLY GOES

For every dollar a cloud company spends on AI-related capex, roughly 56 cents go to imports of high-tech equipment from overseas suppliers, while about 30 cents goes to domestic structures (Figure 3).² That means a substantial share of the surging AI-related capex goes to old-economy industrial businesses that have nothing whatsoever to do with computers.

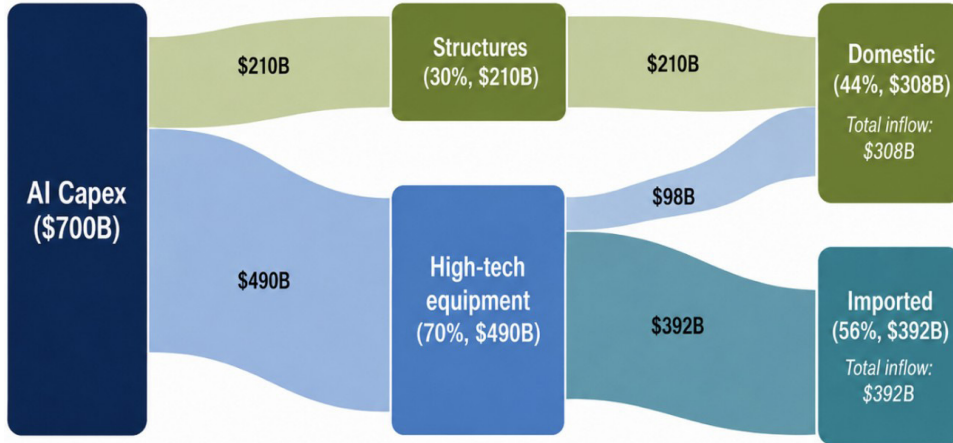
Picture a typical 200-acre AI data-center campus under construction in West Texas, central Ohio, or northern Virginia. First come the dirt-movers and structural engineers. Then the concrete pourers and steel erectors. Then the electrical contractors, mechanical fitters, and pipe fitters. Then the heavy electrical equipment: gas turbines, transformers, switchgear, miles of high-voltage cable. Then the cooling systems — increasingly, sophisticated liquid-cooling rigs because the latest AI chips simply run too hot for traditional air conditioning. Only at the very end do the racks of servers, networking equipment, and AI accelerators get installed.

² Brandsaas, Eirik Eylands, Daniel Garcia, Robert Kurtzman, Joseph Nichols, and Adelia Zylek (2025). "Estimating Aggregate Data Center Investment with Project-level Data." Finance and Economics Discussion Series 2025-109. Washington: Board of Governors of the Federal Reserve System, <https://doi.org/10.17016/FEDS.2025.109>. This paper estimates that 80% of high-tech equipment for data centers is imported, but without specifying the content. For more detail on the content see Michael E. Waugh, "Trade in AI-Related Products," Federal Reserve Bank of Minneapolis, April 2026. According to that paper, "The classification identifies the obvious computer hardware inputs such as data processing units and storage devices. These products account for about half of all AI-related trade and imports of them have grown by triple digits since 2023. But the classification also identifies a broader set of products tied to electrical infrastructure, networking, cooling and HVAC, and specialty materials. These ancillary products account for the other half of AI-related trade and have also experienced strong import growth."

FIGURE 3

Where Will the AI Capex Dollars Go?

Where the AI Capex Dollars Go: \$700B of FY2026 Hyperscaler Capex, Domestic vs. Imported



Notes: Illustrative decomposition: 30% structures, 70% high-tech equipment; most high-tech equipment is imported, implying ~56% imported and ~44% domestic overall
 Sources: GW&K Investment Management, Bloomberg consensus estimates, and Federal Reserve FEDS 2025-109.

About \$210 billion of this year's \$700 billion AI-related capex can be expected to go to domestic construction, even when much of the high-tech equipment is imported from overseas.

Roughly six categories of suppliers participate in the layers underneath the racks (**Figure 4**). They are mostly familiar industrial businesses that have been around for decades and have, until very recently, been considered unfashionable. They include manufacturers of heavy electrical equipment, specialists in transformers and grid components, large specialty construction-and-engineering firms, makers of industrial cooling systems, owners of data-center real estate, and independent power producers.

FIGURE 4

Six Industries Selling the Picks and Shovels

Categories of suppliers benefiting from the AI buildout

What they make	Examples	Why their order books are protected
Heavy electrical equipment	Gas turbines, large generators	Order backlogs stretch years out; new capacity takes years to build
Transformers & grid components	Transformers, switchgear, high-voltage cable	Global manufacturing capacity is constrained; lead times are 1-2 years
Specialty construction firms	Data-center electrical & mechanical contractors	Skilled-trade labor is in short supply across the country
Industrial cooling makers	Liquid-cooling rigs, immersion-cooling systems	Latest AI chips run too hot for traditional air conditioning
Data-center real estate	Colocation buildings, infrastructure leases	Long-term lease contracts stretch beyond a decade
Independent power producers	Existing power plants, behind-the-meter generation	Long-term power-purchase agreements lock in revenue

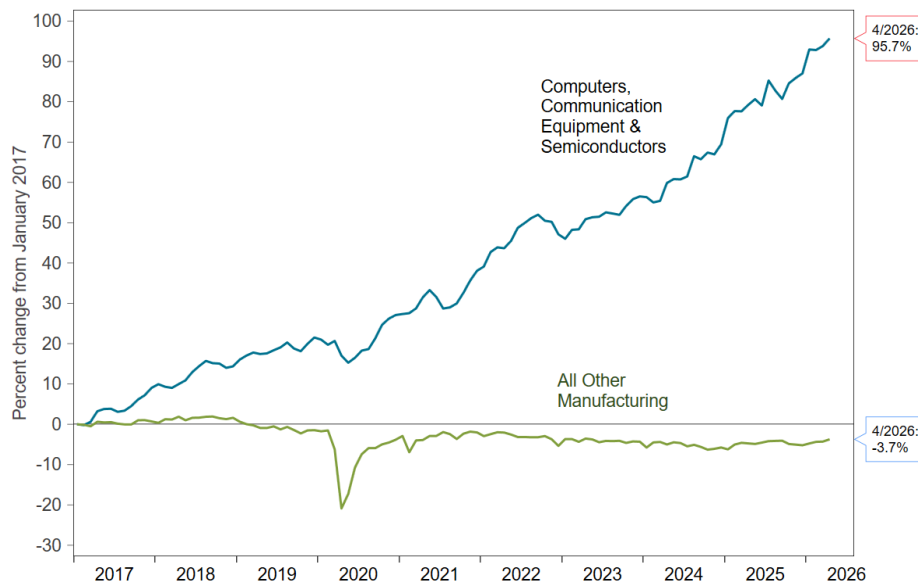
Source: GW&K Investment Management

Six categories of suppliers benefiting from the AI buildout – each protected from the AI revenue question by the structure of their order books and contracts.

None of them was born of the AI era — these are old-line industrial businesses now finding themselves swept into it, or in some cases astute enough to get in front of it. Several have been so out of fashion for so long that the recent surge of orders qualifies as an industrial renaissance. This comes against the backdrop of essentially all the growth in US industrial production since 2017 having come from computers, communications equipment, and semiconductors while all other sectors, on balance, have contracted (**Figure 5**).

FIGURE 5

Tech Spending Has Driven Manufacturing: Industrial Production, Monthly, Seasoning Adjusted



Sources: GW&K Investment Management, Federal Reserve, and Macrobond.

Since 2017, manufacturing has been driven largely by production of computers, communications equipment, and semiconductors — which rose 96%. On balance, all other manufacturing has stagnated since then.

EVIDENCE THE SURGE IS REAL

Two pieces of public data make the case that this is more than a temporary anomaly.

The first is factory order books. The US Census Bureau tracks unfilled orders at American manufacturers. In categories that supply the AI buildout — such as electrical equipment and turbines — those backlogs are at or near multi-year highs (**Figure 6**).³ A factory operating with a multi-year order book has substantial pricing power and revenue visibility that simply does not depend on what happens in any given quarter of the AI cycle.

The second is wholesale electricity prices. PJM Interconnection, the grid operator covering 65 million Americans from Illinois through Virginia, runs an annual auction in which power generators and large customers transact for capacity three years out. In its most recent auction, the clearing price reached \$329 per megawatt-day — the cap that federal regulators have approved on how high the auction can settle (**Figure 7**).

Two years earlier, that same price was \$29. PJM’s independent market monitor attributes the bulk of the increase directly to data-center demand.⁴

When wholesale power prices increase more than tenfold in two years and stay there, somebody is making a great deal of money. Mostly that somebody is the operator of an existing unregulated power plant or the manufacturer of new generating equipment⁵ — in either case, a picks-and-shovels supplier rather than an AI buyer.

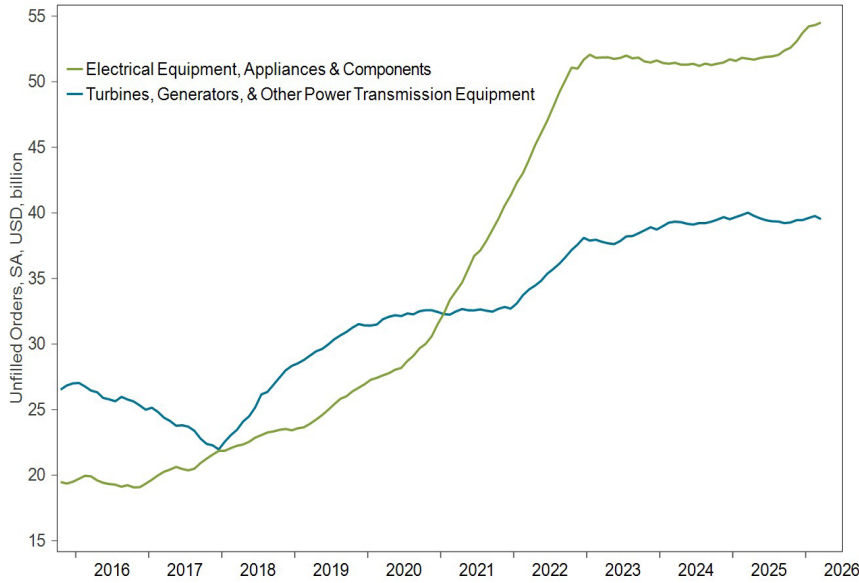
³ For example, Eaton Corporation’s CEO recently observed: “The demand in data center and distributed IT market continues to grow even faster than we estimated three months ago. We now estimate 32 gigawatts of total data center capacity under-construction in the US, of which 70% is AI. Total data center backlog has grown to 228 gigawatts or 12 years of backlog at 2025 build rates, up from the 11 years in our last update.”

⁴ PJM Monitoring Analytics LLC, State of the Market Report for PJM, annual filings. PJM Interconnection is the largest US regional transmission organization, serving 65 million customers across 13 states and the District of Columbia.

⁵ For further reading see GW&K’s recent *Credit Perspectives*, “Data Centers in Muniland: Watts at Stake,” by Jeff Devine, May 2026.

FIGURE 6

AI-Related Order Books Have Surged: Unfilled Orders for Electrical Equipment and Turbines

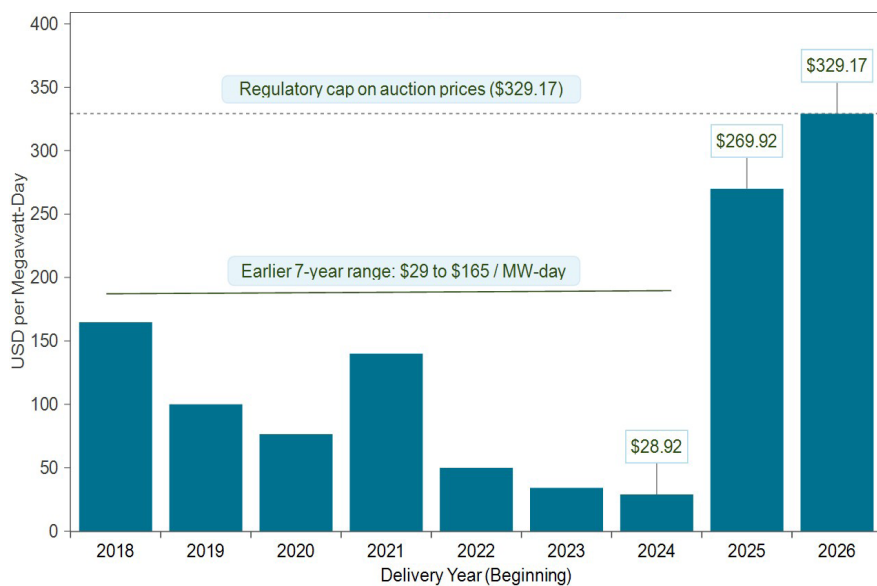


Sources: GW&K Investment Management, US Census Bureau, and Macrobond.

Manufacturers' order backlogs have surged to at or near record highs, as "old economy" firms play a major role in the AI buildout.

FIGURE 7

Wholesale Prices Have Surged in America's Largest Electricity Grid



■ PJM Interconnection Capacity Auction Price, Three-Year Forward Clearing Price, USD per Megawatt-Day

Sources: GW&K Investment Management, PJM Monitoring Analytics, State of the Market Reports, and Macrobond.

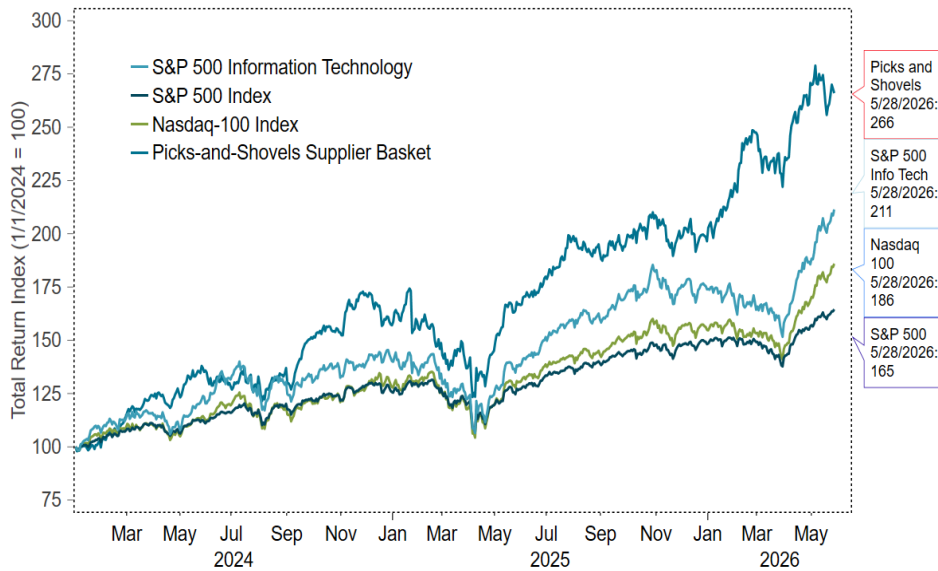
Data center demand growth has caused an eleven-fold surge in wholesale power prices over the past two years in America's largest electricity grid.

THE PROOF IS IN THE PUDDING

As further confirmation that picks-and-shovels suppliers are emerging as major winners from the AI infrastructure buildout, look at a basket of 18 stocks in related industries (**Figure 8**). These firms are not cloud giants or AI-service providers, yet they have gained 166% since the end of 2023. That return easily beats the broader S&P 500 (+65%) and even tech-heavy benchmarks such as the Nasdaq 100 (+86%) and the S&P 500 Technology Index (+111%).

FIGURE 8

The Picks-and-Shovels Basket Has Outperformed



Note: The equal-weighted supplier basket includes 18 constituents across the following industries. Heavy Electrical Equipment: GE Vernova (GEV); Electrical Components & Equipment: AMETEK (AME), Emerson Electric (EMR), Eaton (ETN), Generac (GNRC), Hubbell (HUBB), Rockwell Automation (ROK), Vertiv (VRT); Construction & Engineering: EMCOR Group (EME), Comfort Systems USA (FIX), Quanta Services (PWR); Data Center REITS: Digital Realty (DLR), Equinix (EQIX); Independent Power Producers: AES Corp (AES), Vistra (VST); HVAC Building Products: Johnson Controls (JCI), Trane (TT), Carrier (CARR). Sources: GW&K Investment Management, Bloomberg, and Macrobond.

A basket of “picks and shovels” suppliers in industries related to the data center buildout has returned 166% since 2023, outdistancing the broader market and high-flying tech indexes.

The cloud giants, leading chipmakers, and AI-software vendors are exceptional businesses and have a clear place in diversified portfolios alongside the suppliers. But because they are financing the capex boom, scenarios like Bain’s continue to weigh on their valuation multiples. If AI-service revenue arrives more slowly than optimistic CEOs expect, they face near-term risks of multiple compression and margin pressure. The picks-and-shovels suppliers, by contrast, can keep working through multi-year order books and collecting on long-term contracts. The two exposures are complementary, not competing.

There are also genuine risks on the supplier side. Big projects do get cancelled. Construction labor is increasingly expensive and in shorter supply. A meaningful slice of the most attractive piece of the AI supply chain, particularly advanced semiconductor packaging, is concentrated in Asia rather than the United States, although the US is trying to diminish this through onshoring these facilities. And the supplier-cohort returns of the past two years reflect both the underlying earnings story and a healthy dose of investor enthusiasm that could yet reverse. The reliability case for suppliers is therefore one of degree, not absolute insulation. Their cash flows are tied to construction in progress rather than to AI revenue yet to materialize — which is meaningful, although nothing is ever guaranteed.

WHY THIS TREND HAS LEGS

This thesis works for a simple reason that every general contractor understands: in any building boom, suppliers get paid before the project generates revenue. The AI buildout is fundamentally a construction cycle — by some measures, the largest in modern US history outside wartime. The case for the suppliers is not that AI fails to live up to today's hype; it is that their cash flow does not depend on whether AI does. Whatever the economics of the AI services inside those facilities, the construction itself can drive years of work for the companies that supply it.

Investors building exposure to artificial intelligence should therefore think carefully about which links in the chain offer the most reliable cash flows. The picks-and-shovels suppliers — paid from booked contracts rather than from AI revenue yet to materialize — make a strong case for a meaningful place in any investment allocation, alongside the cloud giants, chipmakers, and AI-software vendors that are financing the buildout. In gold rushes past, the most reliable bet has usually been the shovel.



William P. Sterling, Ph.D.,
Global Strategist

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