Socratic Al Fund

Drawing from the philosophical tradition, this fund implies a deep, questioning approach to investment, seeking a fundamental understanding of market dynamics powered by AI.

Investing Through Inquiry, Anchored in History

The Socratic AI Fund is not merely a financial vehicle, it is a strategic framework for navigating the most profound economic transformation of our time. As artificial intelligence reshapes industries, labor markets, and global infrastructure, this fund draws from two of the most instructive chapters in American economic history: the Great Depression (1929 – 1939) and the California Gold Rush (1848 – 1855). In addition to the socio-economic corollaries, when examined closely, each period offers timeless lessons on resilience, contrarian thinking, and the power of investing in what others overlook.

"History never repeats itself, but it does often rhyme."

Mark Twain

Unwilling to be swept up in the near frantic narrative of how the global adoption of AI will evolve, I have chosen to pursue a more fundamental understanding of what this transformation will mean, how it will come to be, and where the smart money should be. The Socratic AI Fund is my attempt to seize as much value from this historical transformation by interrogating similar periods in history, and their outcomes, rather than speculate on a future timeline that may deviate wildly from expectation. The Socratic AI Fund is built to thrive in volatility, capitalize on disruption, and invest with the clarity that only history, and hindsight can provide.

Lessons from High Unemployment and Investing in Resilience

Periods of mass unemployment have historically revealed the fault lines in economic systems and the opportunities for disciplined investors. The Great Depression (1930s), the early 1980s recession, and the COVID-19 shock each exposed the fragility of speculative assets and the enduring strength of essential services, diversified holdings, and debt-free operations.

As AI adoption accelerates, I anticipate a similar labor displacement: millions of jobs redefined, relocated, or eliminated. Therefore, The Socratic AI Fund positions itself not in fear of this transition, but in anticipation of its second-order effects. I invest in companies that mirror the survivors of past downturns:

- Consumer staples and utilities that maintain demand regardless of economic climate
- Healthcare providers that serve non-discretionary needs
- Education and reskilling platforms that enable workforce reintegration
- Affordable housing and payroll services that stabilize communities in flux

My strategy echoes the contrarian wisdom of the 1930s: buy when others panic, hold what others overlook, and build a portfolio that can weather the storm. I have prioritized strong balance sheets, low leverage, and recurring revenue which are trusted, fundamental hallmarks of resilience across every historical downturn.

The Gold Rush Analogy and Investing in the Infrastructure of AI

While the Great Depression teaches us how to survive economic collapse, the Gold Rush teaches us how to profit from speculative mania. In the mid-1800s, thousands rushed west in search of gold. Few struck it rich. But the suppliers, the insightful merchants who sold picks, shovels, tents, and boots, are the ones that built enduring fortunes.

A similar, and more recent example, is the dot-com bust at the turn of the century. The dot-com bubble in the United States (1995 – 2001) was caused by similar speculative corporate valuations and business models that are making a similar emergence in the age of AI.

The dot-com bust occurred between 2000 and 2002, when the speculative tech bubble burst and



the NASDAQ index plummeted. The crash started in March 2000 and continued, with the NASDAQ reaching its bottom in October 2002, by which point many dot-com companies had failed and billions of dollars in market value had been erased.

Today, the AI boom mirrors that frenzy. A handful of companies may dominate the model-building race, but the real opportunity lies in the infrastructure that supports them:

- Power systems and cooling technologies for high-density compute
- Fiber optics and networking hardware to move exabytes of data
- Data center construction and real estate to house the AI revolution
- Logistics, maintenance, and cybersecurity to keep it all running

The Socratic AI Fund invests in these suppliers and not the miners/speculators. I seek companies with long-term contracts, industrial scale, and exposure to the physical and operational buildout of AI. These are the modern equivalents of Levi Strauss, Leland Stanford and Samuel Brannan, the visionaries who sold the tools, rather than chase the gold.

A Dual Thesis for a Singular Vision

The Socratic AI Fund is a blend of lessons learned based on thorough analysis of the historical record and yields a complimentary investment thesis:

- 1. Al will trigger mass labor displacement, echoing the unemployment shocks of the 1930s and 1980s. I invest in the social infrastructure that absorbs and redeploys that labor.
- 2. Al will ignite a global infrastructure buildout, akin to the Gold Rush and dot-com boom. I invest in the suppliers, not the speculators.

This fund is anticipatory. It does not chase trends or rely on the overwrought emotional exuberance surrounding the global adoption of AI. In a time of noise, The Socratic AI Fund listens to the past to invest in the future.

Investing in the Infrastructure of AI & the Fourth Industrial Revolution

The mass adoption of AI is catalyzing a generational buildout of digital infrastructure, reminiscent of the "picks and shovels" providers during the US Gold Rush. Rather than focusing on AI compute technology or LLM model developers, this report identifies and analyzes the companies supplying the foundational tools, infrastructure, and services-spanning data center construction, power generation, cooling, networking, fiber optics, semiconductors, electrical distribution, and critical materials-that underpin the AI revolution. Drawing on official financial filings, investor presentations, and reputable business news, the report organizes leading public companies by infrastructure domain, details their roles, recent financial performance, and strategic moves, and provides a rationale for their inclusion as prime beneficiaries of AI-driven demand.

1. Data Center Operators and Developers

• Equinix (NASDAQ: EQIX)

Role: Global leader in co-location, interconnection, and hyperscale (xScale) data centers, serving as the backbone for Al and cloud workloads.

Rationale for Inclusion: Equinix is executing a "Build Bolder" strategy to double its capacity by 2029, with 58 major projects underway and 12 xScale builds targeting hyperscale AI demand. Its global footprint (over 240 data centers in 70+ metros) and 499,000+ interconnections make it indispensable for AI companies requiring low-latency, secure, and scalable infrastructure. The company's distributed AI infrastructure solution, AI-ready backbone, and partnerships with NVIDIA, Dell, HPE, and others further cement its role as a foundational enabler of AI adoption

Recent Financial Performance:

- Q3 2025 revenue: \$2.32B (+5% YoY)
- Adjusted EBITDA: \$1.15B (~50% margin, +8% YoY)
- AFFO: \$965M (+12% YoY)
- Annualized gross bookings: \$394M (+25% YoY)
- 7,100 net new interconnections in Q3
- Raised 2025 guidance for revenue, EBITDA, and AFFO

Strategic Moves:

- Land acquisitions in Amsterdam, Chicago, Johannesburg, London, Toronto (900+ MW
- o capacity)
- Entered Chennai, India (77th market) with \$69M investment
- Launched distributed AI infrastructure, AI Solutions Lab, and Fabric Intelligence
- o \$2.3B sustainability investment in 151 projects, 1.9M MWh renewable energy
- o Hosted Al Summit with NVIDIA, Grog, HPE, Adobe, Zayo, Zoom, WWT

Analysis: Equinix's robust financials, aggressive expansion, and strategic positioning as the "interconnection layer" for AI and hybrid cloud workloads make it a prime "picks and shovels" beneficiary. Its ability to pre-sell capacity, maintain firm pricing, and deliver high utilization rates (82% across 180 stabilized assets) provides strong downside protection and upside from AI-driven demand.

Digital Realty (NYSE: DLR)

Role: Global colocation and hyperscale data center operator, with 300+ facilities in 50+ metros across six continents.

Rationale for Inclusion: Digital Realty's PlatformDIGITAL and global reach the position as a key provider for AI companies seeking secure, interconnected, and scalable infrastructure. The company's focus on hybrid IT, AI-specific expansions, and partnerships with GPU cloud providers (e.g., CoreWeave) highlight its relevance to the AI infrastructure buildout

Performance Highlights:

- o 300+ data centers, 50+ metros, 25+ countries
- o PlatformDIGITAL enables secure data "meeting places" for Al workloads
- Hybrid IT and Al-specific expansions underway

Analysis: Digital Realty's scale, global presence, and focus on AI-ready infrastructure make it a critical enabler for both hyper-scalers and enterprises adopting AI at scale.

EdgeConneX (Private, EQT Infrastructure)

Role: Build-to-suit and build-to-density data center developer, specializing in high-density, Already infrastructure.

Rationale for Inclusion: EdgeConneX is building 30+ MW of high-density AI data center infrastructure in Chicago and Atlanta for Lambda, featuring hybrid cooling (liquid-to-chip and air) and support for rack densities exceeding 600 kW. Its Ingenuity platform is engineered for HPC, AI training, and inference, and the company's global expansion is tailored to the needs of AI hyper-scalers and cloud providers

Performance Highlights:

- o 23 MW single-tenant AI data center in Chicago (RFS 2026)
- Hybrid cooling, 600+ kW/rack densities
- o Global expansion, 2 GW+ vision for Lambda

Analysis: EdgeConneX's focus on high-density, AI-specific infrastructure and rapid deployment capabilities position it as a leading "picks and shovels" provider for next-generation AI workloads.

• CoreWeave (Private)

Role: Al-specialized GPU cloud and hyperscale data center operator.

Rationale for Inclusion: CoreWeave has raised over \$12 billion, operates 28+ data centers, and is positioning itself as an "AI hyper-scaler" focused exclusively on machine learning workloads. Its partnerships with Digital Realty and rapid expansion underscore its role as a key infrastructure provider for AI companies.

Performance Highlights:

- \$12B+ funding, 28+ data centers by end of 2024
- o Partnerships with Digital Realty, NVIDIA
- Focus on GPU-as-a-Service for AI workloads

Analysis: CoreWeave's specialization, scale, and funding make it a critical supplier of AI compute infrastructure.

2. Data Center Construction and Engineering Firms

Eaton Corporation (NYSE: ETN)

Role: Provider of modular power enclosures, liquid cooling, electrical distribution, and DCIM solutions for data centers.

Rationale for Inclusion: Eaton's strategic acquisitions (Boyd for liquid cooling, Fiberbond for modular pods, Resilient Power for solid-state transformers) and

comprehensive portfolio position it as a "chip-to-grid" supplier for Al-driven data center buildouts. The company's Q3 2025 data center orders rose 70% YoY, with sales up 40%, and its backlog reached a record \$12B. Eaton's content per megawatt is projected to approach \$3M post-Boyd acquisition, reflecting the increasing complexity and value-add in Al data centers[6].

Recent Financial Performance:

Q3 2025 sales: \$7.0B (+10% YoY)

Electrical Americas sales: \$3.4B (+15% YoY)

Operating margin: 30.3% (Electrical Americas)

Data center orders: +70% YoY; sales: +40% YoY

Book-to-bill ratio (data centers): 1.7

Boyd acquisition: \$1.7B 2026 sales, 25% EBITDA margin

Strategic Moves:

- Acquired Boyd (liquid cooling), Fiberbond (modular pods), Resilient Power (solid-state transformers), Exertherm (thermal monitoring)
- 12 facility expansions in North America
- Collaborations with NVIDIA, expansion of DCIM and white space offerings

Analysis: Eaton's end-to-end solutions, strong order growth, and strategic acquisitions make it a linchpin in the AI infrastructure supply chain, benefiting from every stage of the data center buildout

AECOM (NYSE: ACM)

Role: Global design, engineering, and construction management for hyperscale data centers, power, cooling, and fiber.

Rationale for Inclusion: With over 11 GW of data center capacity built across 45 countries, AECOM is a trusted partner for hyper-scalers and colocation leaders. The company's \$4.18B Q3 2025 revenue, \$24.6B backlog, and expertise in power, cooling, and fiber infrastructure make it a critical enabler of rapid AI data center expansion

Recent Financial Performance:

- \$4.18B Q3 2025 revenue, \$24.6B backlog (+5% YoY)
- o Full-service delivery: site selection, design, engineering, construction
- Advanced cooling, power, and fiber solutions for Al workloads

Analysis: AECOM's global reach, technical expertise, and ability to deliver complex, large-scale projects position it as a key "picks and shovels" provider for AI infrastructure.

• Clayco (Private)

Role: Turnkey data center construction, modular builds.

Rationale for Inclusion: Featured among 200+ companies in the \$371B global data center construction market, Clayco's focus on modular, energy-efficient, and rapid deployment aligns with the needs of AI-driven data center projects

Analysis: Clayco's prominence in large-scale, modular data center construction makes it a relevant player in the AI infrastructure ecosystem.

3. Power Generation, Utilities, and Energy Infrastructure

Dominion Energy (NYSE: D)

Role: Utility serving the world's largest data center cluster in Northern Virginia, expanding grid capacity for AI demand.

Rationale for Inclusion: Dominion's data center power capacity under contract nearly doubled to 40 GW in 2024 (+88% YoY), with a \$50.1B capex plan through 2029. The company is connecting 15 new data centers per year and implementing new rate classes for high-energy users. Dominion's "all of the above" power generation strategy (80% carbon-free) and grid upgrades are critical to supporting Al's insatiable power needs.

Recent Financial Performance:

- o Q4 2024 operating profit: \$504M (80% from VA)
- 40 GW under contract, \$50.1B capex (2025-2029)
- o 15 new data centers connected in 2024, 15 more in 2025 Strategic Moves:
- New rate class for large data centers (25 MW+)
- \$7.6B for new transmission assets
- Coastal Virginia Offshore Wind (2.6 GW) by 2026

Analysis: Dominion's scale, grid expansion, and long-term contracts with hyperscalers make it a direct beneficiary of the AI infrastructure boom.

Constellation Energy (NASDAQ: CEG)

Role: Nuclear and renewable power provider for AI data centers.

Rationale for Inclusion: Constellation's deal to supply Microsoft's AI data centers with power from the Three Mile Island nuclear plant (enough for 800,000 homes) exemplifies the strategic partnerships forming between utilities and hyper-scalers to secure reliable, carbon-free energy for AI workloads.

Analysis: As AI data centers seek sustainable 24/7 power, Constellation's nuclear and renewable portfolio positions it as a key supplier.

• Brookfield Renewable Partners (NYSE: BEP)

Role: Renewable energy developer and PPA provider for hyper-scalers.

Rationale for Inclusion: Brookfield's multi-GW contracts with hyper-scalers and global expansion support the AI industry's push for sustainable power solutions.

Analysis: Brookfield's scale and renewable focus make it a preferred partner for Al data center operators.

Fluence Energy (NASDAQ: FLNC)

Role: Battery storage, microgrids, and grid resilience solutions.

Rationale for Inclusion: Fluence's \$2.7B FY24 revenue, \$5.1B backlog, and 2.2 GWh US projects (with Excelsior Energy) highlight its role in enabling reliable, flexible power for AI data centers. The company's domestic content strategy and AI-enabled optimization software further enhance its relevance.

Analysis: As grid constraints and renewable integration become critical, Fluence's storage solutions are essential for AI infrastructure.

Base Power (Private)

Role: Distributed grid storage, home battery leasing.

Rationale for Inclusion: \$1B Series C funding and partnerships with leading VCs position Base Power as an innovator in distributed energy storage for AI-driven grid demand.

4. Cooling Systems and Thermal Management

• Shell (NYSE: SHEL)

Role: Immersion cooling fluids, direct liquid cooling (DLC), and battery energy storage system (BESS) cooling.

Rationale for Inclusion: Shell's immersion cooling fluids are the first to be certified by Intel for use with 4th and 5th Gen Xeon processors, enabling up to 48% energy savings and 33% lower capex/opex. The company's expansion into BESS cooling and partnerships with NVIDIA, Supermicro, and Infosys demonstrate its commitment to AI data center thermal management

Recent Financial Performance:

- \$3.5B share buyback (Q3 2025), strategic investments in data center solutions
- Intel certification, global deployment in Shell's own data centers Strategic
 Moves:
- Partnerships with Penguin Solutions, NVIDIA, Intel, Infosys Launch of DLC fluid (June 2025), BESS cooling with QingAn Energy Storage

Analysis: Shell's innovation, certification, and global reach make it a leader in sustainable, high-performance cooling for AI infrastructure.

Boyd (Acquired by Eaton)

Role: Global leader in liquid cooling technologies (cold plates, CDUs, full-system solutions).

Rationale for Inclusion: Boyd's \$1.7B expected 2026 sales (80% from data centers), 25% EBITDA margin, and engineering partnerships with hyper-scalers and chipmakers (e.g., NVIDIA) position it as a critical supplier for managing the heat loads of high-performance AI chips.

Analysis: Boyd's expertise and integration with Eaton's portfolio enhance its impact on the Al infrastructure supply chain.

Johnson Controls (NYSE: JCI)

Role: Two-phase, direct-to-chip liquid cooling, coolant distribution units (CDUs), and advanced chillers.

Rationale for Inclusion: Johnson Controls' investment in Accelsius (two-phase D2C cooling), launch of Silent-Aire CDUs (500 kW-10 MW), and 9% YoY growth in data center cooling underscore its leadership in thermal management for AI data centers. Its \$14.9B backlog and scalable solutions address the needs of powerdense AI workloads

Analysis: Johnson Controls' innovation and scale make it a key "picks and shovels" provider for AI thermal management.

• Schneider Electric (EPA: SU)

Role: Prefabricated modular pods, rack liquid cooling, power distribution, and DCIM.

Rationale for Inclusion: Schneider's EcoStruxure Data Center Pods, OCP-inspired racks, and partnerships with NVIDIA enable rapid deployment of AI-ready infrastructure. The company's \$2.3B sustainability investment and AI-enabled DCIM suite further enhance its value proposition

Analysis: Schneider's integrated, scalable solutions address the unique power and cooling challenges of AI clusters.

5. Networking Hardware and Data Center Switching

Arista Networks (NYSE: ANET)

Role: High-speed switches, Al fabrics, SD-WAN, and campus networking.

Rationale for Inclusion: Arista's Q2 2025 revenue surged 30.4% YoY to \$2.2B, driven by demand for AI networking and data center infrastructure. The company's acquisition of VeloCloud SDWAN, expansion of AI-driven products, and 48.8% non-GAAP operating margin highlight its leadership in foundational networking for AI workloads

Recent Financial Performance:

- o Q2 2025 revenue: \$2.205B (+30.4% YoY)
- o Non-GAAP operating income: \$1.08B (48.8% margin)
- o Deferred revenue: \$2.788B (+61.4% YoY) Strategic Moves:
- VeloCloud SD-WAN acquisition, "Make in India" manufacturing
- Expansion of Al-driven switching, Wi-Fi 7, and WAN offerings

Analysis: Arista's innovation, financial strength, and strategic acquisitions make it a top "picks and shovels" play in AI networking.

Cisco Systems (NASDAQ: CSCO)

Role: Silicon One switching/routing, Nexus platforms, AI networking management.

Rationale for Inclusion: Cisco received over \$2B in AI infrastructure orders in FY25, launched the 51.2 Tbps Silicon One P200 router, and is the exclusive partner silicon in NVIDIA's SpectrumX platform. Its Deep Network Model LLM and AI Canvas dashboard provide AI-native management for large-scale deployments.

Analysis: Cisco's scale, innovation, and integration with leading AI platforms position it as a foundational supplier for AI data center networking.

• Nvidia (NASDAQ: NVDA)

Role: Spectrum-X Ethernet, InfiniBand, NVLink, BlueField DPUs, AI networking silicon.

Rationale for Inclusion: Nvidia's Q1 FY26 networking revenue hit \$5B (+64% QoQ), with Spectrum-X annualizing at \$8B. The company's vertical integration, silicon photonics, and partnerships with hyper-scalers make it the dominant supplier of AI networking hardware.

Analysis: Nvidia's dominance in both compute and networking cements its role as the "picks and shovels" leader for Al infrastructure.

HPE/Juniper (NYSE: HPE, JNPR)

Role: QFX/PTX switches, Mist AI, Apstra DCIM.

Rationale for Inclusion: HPE's \$14B Juniper acquisition creates a \$7B networking powerhouse, with AI-native operations and intent-based networking for AI data centers.

Analysis: HPE/Juniper's innovation and scale make it a key player in AI networking.

6. Fiber Optic Infrastructure and Middle-Mile Providers

• Corning (NYSE: GLW)

Role: Fiber optic cable, connectivity solutions for AI data centers.

Rationale for Inclusion: Corning's Optical Communications segment is set for 39% growth in 2025 (\$6.5B sales), driven by AI data center demand. The company's \$5B supply agreement with Lumen, reservation of 10% global fiber capacity for AI, and 5x connectivity requirements for LLM facilities highlight its critical role[29].

Analysis: Corning's scale, innovation, and strategic partnerships make it the backbone of AI data center connectivity.

Lumen Technologies (NYSE: LUMN)

Role: Intercity fiber, Private Connectivity Fabric, network resilience.

Rationale for Inclusion: Lumen's \$5B Corning deal, doubling of intercity network miles, and Private Connectivity Fabric (≤5ms latency, 60% more capacity) position it as a leading provider for AI workloads.

Analysis: Lumen's scale and innovation make it a key enabler of AI data center interconnectivity.

Zayo Group (Private, EQT)

Role: Metro/long-haul fiber, Crown Castle Fiber acquisition.

Rationale for Inclusion: Zayo's \$4.25B acquisition of Crown Castle's Fiber Solutions adds 90,000 route miles, expanding its reach to 70,000+ on-net locations. The company closed \$1B+ in Alrelated contracts in 2024, with \$3B in the pipeline.

Analysis: Zayo's aggressive expansion and focus on Al corridors make it a critical infrastructure provider.

Adtran (NASDAQ: ADTN)

Role: Optical transport, 100ZR pluggables, SDN.

Rationale for Inclusion: Adtran's industry-first 100ZR plug, Mosaic One SDN suite, and open line systems support the generational optical-network build cycle driven by AI.

7. Semiconductor and Accelerator Supply Chain

Nvidia (NASDAQ: NVDA)

Role: GPUs (Blackwell), DPUs, networking, AI factories.

Rationale for Inclusion: Nvidia's Q1 FY26 data center revenue reached \$39.1B (+73% YoY), with Blackwell GPUs in "staggering" demand. The company's \$100B OpenAl deal, \$500B manufacturing partnership with TSMC, and 88% of total sales from data center segment underscore its dominance

Analysis: Nvidia is the "picks and shovels" king of AI compute and networking.

• Broadcom (NASDAQ: AVGO)

Role: Custom AI chips, switching silicon, Ethernet.

Rationale for Inclusion: Broadcom's 10 GW OpenAI chip deal and multi-year AI silicon contracts position it as a critical supplier for AI hardware.

• ASML Holding NV (NASDAQ: ASML)

Role: ASML is the sole global provider of extreme ultraviolet (EUV) lithography machines, the critical equipment used to manufacture the world's most advanced semiconductors. Its systems enable chipmakers like TSMC, Intel, and Samsung to etch nanometer-scale patterns onto silicon wafers, making ASML the indispensable backbone of the semiconductor supply chain.

Rationale for Inclusion: ASML's monopoly on EUV technology makes it a non-substitutable supplier for the AI revolution. Every advanced GPU, CPU, and AI accelerator depends on chips produced using ASML's lithography tools. As demand for smaller, denser, and more powerful chips accelerates, ASML is positioned to capture outsized growth. Goldman Sachs projects ASML's revenue could more than double by 2030 as EUV demand surges.

Recent Financial Performance

- Revenue grew 21% year-over-year to €23 billion in the first nine months of 2025.
- Net profit surged nearly 40% year-over-year, reflecting strong demand for EUV systems.
- ASML's EUV machines cost over \$200 million each, while its newer High-NA EUV systems (critical for 2nm and below nodes) are priced even higher.
- Shares have gained more than 43% year-to-date in 2025, reflecting investor confidence in its Al-driven growth trajectory.

Recent Strategic Moves

- Partnership with Mistral AI: ASML invested €1.3 billion in Mistral AI's Series C round, securing an 11% stake and a strategic committee seat. This collaboration applies AI models to optimize lithography systems, accelerating chip production cycles.
- Expansion in South Korea: Opened a new 16,000-square-meter Hwaseong campus to deepen collaboration with Samsung and SK hynix. The site supports joint R&D on next-generation under-2nm processes using High-NA EUV tools.
- Global Partnerships: Strengthened ties with TSMC, Intel, and Samsung, ensuring adoption of its High-NA EUV systems for cutting-edge AI chips.
- Geopolitical Strategy: While export restrictions to China loom, ASML has reaffirmed compliance with global trade laws and continues to diversify sales across Europe, South Korea, and the U.S..

Analysis: ASML is the unseen architect of the AI revolution. Without its EUV machines, advanced GPUs and AI accelerators cannot be manufactured. Its monopoly position, long-term service contracts, and deep integration with leading foundries make it a must-own pick-and-shovel supplier. Despite geopolitical risks, its technological dominance and expanding partnerships ensure resilience and growth.

• TSMC (NYSE: TSM)

Role: TSMC is the world's largest and most advanced contract semiconductor foundry, producing chips for nearly every major fabless designer, including Nvidia, Apple, AMD, and Qualcomm. It is the critical link between design and deployment, manufacturing the GPUs, CPUs, and AI accelerators that power hyperscale data centers and enterprise AI infrastructure.

Rationale for Inclusion: TSMC is the linchpin of the AI semiconductor supply chain. Its leadership in advanced nodes (3nm, 2nm, and upcoming 1.6nm) ensures that the most powerful AI chips can be produced at scale. With over 60% of global foundry market share, TSMC is uniquely positioned to capture the explosive demand for AI processors, high-bandwidth memory, and advanced packaging solutions. Its CoWoS (Chip-on-Wafer-on-Substrate) packaging technology is essential for stacking GPUs and accelerators efficiently, a bottleneck in AI cluster deployment.

Recent Financial Performance

- Q2 2025 revenue rose 38.6% year-over-year to \$31.7 billion, with 59% of sales from HPC/AI chips.
- Gross margins remain strong at ~58%, despite higher costs from overseas fabs.
- Analysts project 24% CAGR revenue growth through 2027, with EPS growth at 27% CAGR.
- Stock performance has been resilient, trading at ~19x forward earnings below sector averages, offering relative value.

Recent Strategic Moves

- \$42 billion investment in 2025 to build nine new fabs across Taiwan, the U.S. (Arizona), Japan, and Germany, focused on AI and 5G chips.
- Expanded CoWoS packaging capacity, which is fully booked through 2026 due to Al demand.
- Adoption of ASML's High-NA EUV lithography systems to maintain leadership at 2nm and below.

- Diversified global manufacturing footprint to reduce geopolitical risk, with new fabs in Kumamoto (Japan) and Dresden (Germany).
- Strengthened partnerships with Nvidia and Apple, both pouring billions into Al chip development and data center expansion.

Analysis: TSMC is the indispensable manufacturer of the AI era. Every major AI chip designer relies on its advanced nodes and packaging technologies. Its aggressive capital expenditure program, global expansion, and adoption of next-generation lithography ensure it remains ahead of rivals. While geopolitical risks around Taiwan persist, TSMC's diversification strategy and unmatched scale make it a key player and must own.

8. Power Distribution, Transformers, and Electrical Infrastructure

• Eaton (NYSE: ETN)

Role: Transformers, switchgear, modular power, DCIM.

Rationale for Inclusion: Eaton's \$7B Q3 2025 sales (+10% YoY), \$12B backlog, and 30.3% margin reflect its leadership in electrical infrastructure for Al data centers. The company's acquisitions and software integration further enhance its value

• Schneider Electric (EPA: SU)

Role: Power distribution, busways, modular pods.

Rationale for Inclusion: Schneider's EcoStruxure AI pods, \$2.3B sustainability investment, and partnerships with NVIDIA and others position it as a leader in power infrastructure for AI workloads[21].

ABB (NYSE: ABB)

Role: Switchgear, power electronics, DC distribution.

Rationale for Inclusion: ABB's global reach and inclusion in the \$371B data center construction market make it a key supplier for AI infrastructure

9. Cooling Infrastructure Components

Boyd (Eaton)

Role: Cold plates, CDUs, full-system liquid cooling.

Rationale for Inclusion: Boyd's \$1.7B 2026 sales, 80% data center exposure, and 25% EBITDA margin make it a leader in cooling components for AI data centers

Johnson Controls (NYSE: JCI)

Role: Silent-Aire CDUs, YORK chillers, Accelsius D2C.

Rationale for Inclusion: Johnson Controls' scalable cooling solutions, 9% DC cooling growth, and \$14.9B backlog position it as a top provider for AI thermal management.

• Shell (NYSE: SHEL)

Role: Immersion/DLC fluids, BESS cooling.

Rationale for Inclusion: Shell's innovation, Intel certification, and global deployment make it a leader in sustainable cooling for AI infrastructure[16].

10. Fiber and Network Services Providers

• AT&T (NYSE: T)

Role: Converged mobile/fiber, AI network integration.

Rationale for Inclusion: AT&T's strategic integration and AI-driven network upgrades position them as a key provider for AI data center connectivity.

GFiber (Alphabet)

Role: Ultra-high-speed fiber, edge connectivity.

Rationale for Inclusion: GFiber's 2/5/8 Gig rollout and focus on quality of experience make it an AI-ready edge provider.

11. Metals and Materials Suppliers

• Freeport-McMoRan (NYSE: FCX)

Role: Copper mining, US supply, electrification metals.

Rationale for Inclusion: FCX's Q2 2025 revenue was \$7.58B (+14.5% YoY), with 70% of US refined copper production. The 50% US tariff on copper imports and Aldriven demand are expected to exacerbate supply shortages, benefiting domestic producers

Analysis: Copper is a critical bottleneck for AI data centers (30,000-40,000 tons per hyperscale site), and FCX's scale and US focus make it a prime beneficiary.

Southern Copper (NYSE: SCCO), Rio Tinto (NYSE: RIO)

Role: Global copper/aluminum mining.

Rationale for Inclusion: Both companies are major suppliers of metals essential for AI infrastructure, with exposure to global demand and supply constraints[34].

12. Industrial Automation and DCIM Software

• Schneider Electric (EPA: SU)

Role: EcoStruxure DCIM, Al-enabled automation.

Rationale for Inclusion: Schneider's DCIM suite delivers 20-40% energy savings, AI-driven predictive analytics, and hybrid/edge readiness, making it a critical enabler of efficient AI data center operations[22].

• Eaton (NYSE: ETN)

Role: Power/thermal monitoring, DCIM, Exertherm.

Rationale for Inclusion: Eaton's integrated DCIM and monitoring solutions support the complex needs of AI data centers[6].

• Calix (NYSE: CALX)

Role: Operations Cloud, predictive analytics, AI agents.

Rationale for Inclusion: Calix's Al-enabled operations cloud improves customer satisfaction, reduces truck rolls, and enhances network reliability for Al-driven networks.

13. Edge Data Center and On-Prem Infrastructure Providers

Fastly (NYSE: FSLY)

Role: Edge cloud, Al caching, semantic acceleration.

Rationale for Inclusion: Fastly's 353 Tbps capacity, AI Accelerator, and 56% hybrid AI adoption position it as a leader in edge infrastructure for AI workloads

• Lambda Labs (Private)

Role: Al cloud, on-prem GPU clusters, high-density data centers.

Rationale for Inclusion: Lambda's 30+ MW Chicago AI factory, 2 GW+ vision, and million GPU target by 2030 highlight its role as a specialized AI infrastructure provider.

14. Computer Hardware & Al Server Platform

• Dell Technologies (NYSE: DELL)

Role: Global enterprise hardware leader supplying GPU-optimized servers, storage, and networking for hyperscale and enterprise AI deployments. Dell's PowerEdge line is widely adopted for AI workloads.

Rationale for Inclusion: Dell has positioned itself as a top partner with NVIDIA through the "Dell AI Factory," offering turnkey racks with Blackwell and Hopper GPUs. Its scale, enterprise relationships, and ability to deliver validated AI blueprints make it a leader in the AI server market.

Recent Financial Performance

- Dell reported strong infrastructure solutions revenue growth in 2025, driven by demand for AI-optimized servers.
- Margins improved due to higher-value GPU systems and integrated storage offerings.
- Analysts note Dell's Al infrastructure sales are outpacing traditional server growth.

Recent Strategic Moves

- Launched PowerEdge XE8712 server supporting up to 144 Blackwell GPUs per rack.
- Expanded AMD Instinct and Intel Xeon-based AI servers to diversify silicon options.
- Integrated Dell ObjectScale and PowerScale storage with NVIDIA's Dynamo inference framework to reduce GPU memory bottlenecks.
- Rolled out **Dell Automation Platform** to simplify AI workload deployment across enterprise environments.

Analysis: Dell combines scale, validated partnerships, and enterprise credibility. Its ability to deliver complete AI racks with integrated cooling, monitoring, and automation makes it a cornerstone supplier for hyperscale and enterprise AI adoption.

Hewlett Packard Enterprise (NYSE: HPE)

Role

Provider of high-performance computing and AI servers, including the Cray supercomputing portfolio and enterprise AI infrastructure solutions.

Rationale for Inclusion

HPE is a **recognized leader in supercomputing** and won a landmark **\$1 billion AI server contract with X (formerly Twitter)** in 2025, beating Dell and Supermicro. This validates its technology and positions HPE as a trusted supplier for hyperscale AI.

Recent Financial Performance

HPE's HPC & AI segment has grown significantly, with revenue boosted by large government and enterprise contracts. The \$1B X deal provided a major uplift, and HPE's Cray GX5000 platform is gaining traction in Europe's top supercomputing centers.

Recent Strategic Moves

- Introduced **next-generation HPE Cray GX5000 supercomputing platform** with industry-leading compute density and liquid cooling.
- Secured contracts with University of Stuttgart and Leibniz Supercomputing Centre for flagship AI supercomputers.
- Expanded Al-optimized storage systems with embedded DAOS software for faster training throughput.
- Leveraged advanced cooling technology to win hyperscale AI deployments.

Analysis

HPE's credibility in supercomputing and its billion-dollar hyperscale AI win demonstrate its ability to compete head-to-head with Dell and Supermicro. Its Cray portfolio ensures leadership in dense, liquid-cooled AI clusters.

Supermicro Computer (NASDAQ: SMCI)

Role; High-density server manufacturer specializing in GPU-optimized systems for AI, HPC, and cloud workloads. Known for rapid time-to-market with new NVIDIA architectures.

Rationale for Inclusion: Supermicro is a first-to-market supplier of NVIDIA GPU servers, offering turnkey AI factory clusters validated with NVIDIA Enterprise Reference Architectures. Its modular "building block" approach allows hyperscalers to deploy AI racks quickly.

Recent Financial Performance

- Supermicro has reported rapid revenue growth from AI server sales, though margins remain competitive.
- Despite past accounting concerns, demand for its GPU systems has driven strong share price appreciation in 2025.

Recent Strategic Moves

- Announced Al Factory cluster solutions based on NVIDIA Blackwell GPUs, available in configurations up to 256 GPUs per cluster.
- Expanded AMD EPYC-powered MicroBlade systems for dense, power-efficient Al inference workloads.
- Introduced new air-cooled AI servers with AMD Instinct GPUs for customers not ready for liquid cooling.
- Integrated NVIDIA Spectrum-X Ethernet networking and full software stack for plug-and-play AI deployment.

Analysis: Supermicro's agility and close alignment with NVIDIA make it a critical supplier for hyperscale AI clusters. Its ability to deliver validated, rack-scale solutions positions it as a growth leader in the AI hardware sector.

Strategic Takeaways and Investment Implications

The AI infrastructure buildout is a generational investment opportunity, with the infrastructure providers poised to capture outsized value as demand for data centers, power, cooling, networking, and fiber connectivity accelerates. I feel strongly, backed by the historical socio-economic record, that the companies profiled in this space are strategically positioned to benefit from the growth in global AI adoption.

The Socratic AI Fund will create a diversified investment exposure profile to the AI infrastructure boom, allocating across these domains to capture the full spectrum of growth.

As AI adoption accelerates and infrastructure constraints become more acute, the companies supplying the "picks and shovels" will remain at the epicenter of value creation and the very foundation of this next generation digital economy.

Investing in the Infrastructure of AI - Buy-In Cost Table

Sector	Company	Ticker	Price	Shares	Total Cost		
1. Data Center Operators & Developers							
	Equinix	EQIX	786.54	3	2,359.62		
	Digital Realty	DLR	168.43	15	2,526.45		
	Vertiv Holdings	VRT	170.66	10	1,706.60		
2. Data	Center Construction & Engine	ering Firr	ns				
	Eaton Corp	ETN	254.88	10	2,548.80		
	AECOM	ACM	62.00	40	2,480.00		
3. Powe	3. Power Generation, Utilities & Energy Infrastructure						
	Dominion Energy	D	47.00	40	1,880.00		
	Constellation Energy	CEG	120.00	15	1,800.00		
	Brookfield Renewable Partners	BEP	28.00	50	1,400.00		
	Fluence Energy	FLNC	22.00	60	1,320.00		
4. Cooling Systems & Thermal Management							
	Shell	SHEL	65.00	20	1,300.00		
	Johnson Controls	JCI	52.00	25	1,300.00		
	Schneider Electric	SU.PA	180.00	7	1,260.00		
5. Networking Hardware & Data Center Switching							
	Arista Networks	ANET	278.66	10	2,786.60		

	Cisco Systems	csco	48.00	40	1,920.00		
	Nvidia	NVDA	490.00	5	2,450.00		
6. Fiber	6. Fiber Optic Infrastructure & Middle-Mile Providers						
	Corning	GLW	87.93	20 1,758.60			
	Lumen Technologies	LUMN	2.50	400	1,000.00		
7. Semi	conductor & Accelerator Supp	ly Chain					
	Broadcom AVGO 1,05			4	4,200.00		
	ASML Holding NV	ASML	994.15	3	2,982.45		
	TSMC	TSM	110.00	20	2,200.00		
8. Power Distribution, Transformers & Electrical Infrastructure							
	ABB	ABB	42.77	30	1,283.10		
9. Fiber & Network Services Providers							
	AT&T	Т	16.00	60	960.00		
10. Metals & Materials Suppliers							
	Freeport-McMoRan	FCX	37.00	30	1,110.00		
	Southern Copper	scco	80.00	15	1,200.00		
	Rio Tinto	RIO	65.00	20	1,300.00		
11. Industrial Automation & DCIM Software							
	Calix	CALX	33.00	40	1,320.00		
12. Edge Data Center & On-Prem Infrastructure Providers							
	Fastly	FSLY	18.00	70	1,260.00		

13. Cooling Infrastructure Components							
	Johnson Controls	JCI	52.00		already included		
	Shell	SHEL	65.00		already included		
14. Computer Hardware & Al Server Platforms							
	Dell Technologies	DELL	85.00	20	1,700.00		
	Hewlett Packard Enterprise	HPE	17.00	100	1,700.00		
	Supermicro Computer	SMCI	280.00	6	1,680.00		

Total Portfolio Cost ≈ \$25,000

Sector Allocation Summary (% of Portfolio)

Sector	% of Portfolio	Companies	
1. Data Center Operators & Developers	33%	Equinix, Digital Realty, Vertiv	
2. Data Center Construction & Engineering Firms	20%	Eaton, AECOM	
3. Power Generation, Utilities & Energy Infrastructure	20%	Dominion, Constellation, Brookfield Renewable, Fluence	
4. Cooling Systems & Thermal Management	12%	Shell, Johnson Controls, Schneider Electric	
5. Networking Hardware & Data Center Switching	20%	Arista, Cisco, Nvidia	

6. Fiber Optic Infrastructure & Middle-Mile Providers	11%	Corning, Lumen, Adtran		
7. Semiconductor & Accelerator Supply Chain	38%	Broadcom, ASML, TSMC ABB		
8. Power Distribution, Transformers & Electrical Infrastructure	5%	ABB		
9. Fiber & Network Services Providers	4%	AT&T Streeport McMoRan		
10. Metals & Materials Suppliers	10%	Freeport-McMoRan, Southern Copper, Rio Tinto		
11. Industrial Automation & DCIM Software	5%	Calix		
12. Edge Data Center & On-Prem Infrastructure Providers	5%	Fastly		
13. Cooling Infrastructure Components	(captured in Sector 4)	Johnson Controls, Shell		
14. Computer Hardware & Al Server Platforms	15%	Dell, HPE, Supermicro		

Investing in Resilience

Technological revolutions displace jobs while creating different kinds of economic opportunities. Key historical analogs: the Great Depression (structural unemployment; migration to new industries), mechanization and electrification (early 20th century), post-WWII automation (manufacturing productivity gains), and the internet era (1990s–2000s). These are repeating and common patterns that should inform an Al-age investment playbook:

- Capital owners of enabling infrastructure and services capture outsized, durable returns (the "picks and shovels" principle).
- Reallocation of labor raises demand for retraining, staffing, and mental/physical health services.
- Public and private investment flows into housing, utilities, and local infrastructure where displaced populations concentrate.
- Regulatory, social-safety, and healthcare spending typically expands following large structural labor shifts.

Therefore, a reasonable investment thesis for the AI age: overweight companies and sectors that supply the physical, operational, social, and institutional infrastructure needed to deploy, maintain, and then re-employ labor during rapid AI adoption. These are not the LLM or pure GPU plays but the systems, services, and social structures that must be scaled to meet the anticipated demand.

This report identifies companies and sectors that will capture economic value from the social and institutional consequences of large-scale AI adoption. It intentionally excludes data-center, power, networking, construction, hardware, and the companies previously recommended in your "picks & shovels" reports. Rather, the focus is on the social infrastructure that absorbs displacement shocks, facilitates labor transition, and preserves consumption — the modern equivalents of schools, hospitals, retailers, housing, payroll services, and local finance during past structural shifts.

Dimensions of the Investment Thesis

Rationale: Major labor displacement historically transfers value to institutions that support people (education/reskilling, healthcare, housing, payroll and benefits, logistics for essentials, and regional finance). These sectors experience persistent demand irrespective of where AI compute is located.

Objective: Build a complementary portfolio of "societal infrastructure" companies with recurring revenue, resilient cash flows, and direct exposure to increased demand driven by workforce transition.

Time horizon: multi-year (3–10 years). Focus on companies with durable contracts, high retention, and secular tailwinds from reskilling, healthcare utilization, affordable housing demand, and consumer staples consumption.

Outcome: A diversified universe mapped to clear triggers and monitoring metrics.

Specific Strategic themes

- 1. Education & reskilling platforms that capture corporate L&D budgets and lifelong learners.
- 2. Childcare, eldercare, and family services enabling workforce participation and retraining.
- 3. Healthcare services and behavioral/mental health providers addressing increased care needs.
- 4. Affordable and workforce housing providers that absorb relocation and concentration effects.
- 5. Payroll, benefits, and local banking that manage churn, unemployment transitions, and small-business recovery.
- 6. Essential retail and grocery that maintain consumption during transition shocks.
- 7. Logistics and last-mile fulfillment for redistributed supply needs in transition corridors.

Sector recommendations

1 — Education & reskilling

- Bright Horizons Family Solutions Inc. (BFAM)
 - Rationale for Inclusion: Largest provider of employer-sponsored childcare, early education, and backup care; corporate retraining programs and employer benefits expand as firms restructure workforces and invest in retention during transitions.
 - Financial Signals: contract wins with large employers, utilization rates at employer sites, expansion of corporate partnerships, improving revenue per client and higher occupancy rates.
- Pearson PLC (PSO) (U.S. ADR)
 - Rationale for Inclusion: Large footprint in corporate learning content,
 credentials, and assessments globally; positioned to capture corporate

- reskilling budgets and government education initiatives that fund mass retraining.
- Financial Signals: growth in corporate learning revenues, multi-year contract signings, increases in paid enrollments and certification purchases.

2 — Childcare, eldercare, and workforce enablement

Brookdale Senior Living (BKD)

- Rationale for Inclusion: Major operator of senior housing and care services;
 demographic tailwinds and increased demand for assisted living and
 home-based care rise with economic stress and aging workforce.
- Financial Signals: occupancy rate improvement, contract conversion for higher-acuity services, steadying or rising rental/fee per occupant, strengthened operating cashflow.

Encompass Health Corporation (EHC)

- Rationale for Inclusion: Post-acute care and rehabilitation services; higher demand for transitional care and rehab as workforce transitions and as mental/physical health needs change.
- Financial Signals: admissions and average length-of-stay trends,
 reimbursement stability, margin improvements in home health services.

3 — Healthcare and behavioral health

Teladoc Health, Inc. (TDOC)

- Rationale for Inclusion: Virtual care and behavioral health platforms scale rapidly during periods of stress and when traditional care capacity is constrained; telehealth accelerates access to mental health and primary care for displaced workers.
- Financial Signals: monthly active users growth, revenue per member,
 expansion of employer contracts and behavioral health suites, improving unit
 economics.

Centene Corporation (CNC)

 Rationale for Inclusion: Managed Medicaid and public program expertise positions Centene to grow as public safety nets expand and low-income populations increase reliance on government-sponsored coverage. Financial Signals: membership growth in Medicaid lines, margin stability via managed care efficiencies, contract additions with states and local governments.

4 — Affordable and workforce housing

- Invitation Homes Inc. (INVH)
 - Rationale for Inclusion: Single-family rental REIT focused on workforce housing; economic dislocation increases demand for flexible rental housing near employment hubs and retraining centers.
 - Financial Signals: rent growth in target markets, occupancy rates, lease renewal rates, NOI growth.
- American Campus Communities, Inc. (ACC)
 - Rationale for Inclusion: Student and workforce-adjacent housing; as more people pursue retraining and higher education during career shifts, purpose-built student and training-adjacent housing demand rises.
 - Financial Signals: bed lease rates, occupancy, growth in university or corporate housing partnerships, multi-year lease commitments.

5 — Payroll, benefits, and local finance

- Paychex, Inc. (PAYX)
 - Rationale for Inclusion: Payroll and small-business HR solutions; serves
 SMBs that will face churn and need payroll/benefits continuity during layoffs and rehires—strong recurring revenue and platform stickiness.
 - Financial Signals: new client adds, revenue per client, deposit balances, and rising transaction volumes from payroll services.
- M&T Bank Corporation (MTB)
 - Rationale for Inclusion: Regional bank with deep SME and community ties; during transitions, community banks can capture deposit inflows, manage local business re-financings, and provide credit to small firms pivoting to new models.
 - o **Financial Signals:** loan originations in small business, deposit inflows, net interest margin stability, nonperforming asset trends.

6 — Essential retail and grocery (defensive consumption)

• Kroger Co. (KR)

- Rationale for Inclusion: Large grocery footprint with expanding omnichannel capabilities and private-label penetration; staples demand remains stable during income shock and Kroger benefits from scale and margin control.
- Financial Signals: same-store sales resilience, e-commerce penetration, private-label mix increases, margin stability.

Dollar General Corporation (DG)

- Rationale for Inclusion: Discount retail performs well when households tighten budgets; broad rural and suburban reach makes it a channel for essential goods during transition periods.
- Financial Signals: comp store sales, basket size, store productivity, and new store ROI.

7 — Logistics and community supply chains

- Ryder System, Inc. (R) (fleet, logistics & last-mile)
 - Rationale for Inclusion: Fleet management, warehousing, and last-mile solutions for local distribution during relocation and supply reconfiguration; provides flexibility as regions industrialize around new jobs and retraining centers.
 - Financial Signals: utilization of fleet and warehouses, contract wins for last-mile, revenue per vehicle/warehouse, margin improvement in contract logistics.

Expeditors International of Washington (EXPD)

- Rationale for Inclusion: Trade and logistics specialist focused on reliability and customs clearance; critical for parts replacement and supply continuity during fast infrastructure rollouts.
- Financial Signals: volume growth, yields per container, and contract renewals with hardware and consumer goods firms.

Investing in Resilience Buy-in Cost Table

Sector	Company	Ticker	Price	Shares	Total Cost		
Education & Reskilling							
	Bright Horizons Family Solutions	BFAM	60.00	31	1,860.00		
	Pearson plc (ADR)	PSO	10.00	187	1,870.00		
Childca	Childcare & Eldercare						
	Brookdale Senior Living	BKD	8.50	220	1,870.00		
	Encompass Health	EHC	55.00	34	1,870.00		
Healtho	Healthcare & Behavioral Health						
	Teladoc Health	TDOC	18.00	138	2,484.00		
	Centene Corp	CNC	120.00	20	2,400.00		
Housing	Housing						
	Invitation Homes	INVH	35.00	53	1,855.00		
	American Campus Communities	ACC	18.00	104	1,872.00		
Payroll	Payroll & Local Finance						
	Paychex, Inc.	PAYX	95.00	19	1,805.00		
	M&T Bank Corp	МТВ	160.00	11	1,760.00		
Retail & Logistics							
	Kroger Co.	KR	55.00	22	1,210.00		
	Dollar General	DG	240.00	5	1,200.00		
	Ryder System	R	90.00	13	1,170.00		
	Expeditors Intl	EXPD	135.00	9	1,215.00		

Total Portfolio Cost: ≈ \$24,941.00

Sector Allocation Summary (% of Portfolio)

- Education & Reskilling: 15.0%
 - o Bright Horizons, Pearson
- Childcare & Eldercare: 15.0%
 - o Brookdale, Encompass Health
- Healthcare & Behavioral Health: 19.5%
 - o Teladoc, Centene
- **Housing**: 14.9%
 - o Invitation Homes, American Campus Communities
- Payroll & Local Finance: 14.3%
 - o Paychex, M&T Bank
- Retail & Logistics: 21.3%
 - o Kroger, Dollar General, Ryder, Expeditors