

# Disruptive Tech

## Monthly AI Update

### UNLOCKING THE FUTURE USING BIG DATA AND AI/ML. HERE'S AN INTERESTING PLAYER TO WATCH.

#### Our Investment Thesis

The rapid advancements in Artificial Intelligence (AI) and Big Data have sparked a revolution across various sectors, with 42% of enterprise-scale businesses already integrating AI into their operations, as per IBM's recent survey. This shift, driven by innovations like generative AI and machine learning (ML), is reshaping industries and society at large. Moreover, the burgeoning big data market, projected to reach nearly \$400 billion by 2030, is experiencing a transformative change with the integration of advanced technologies like machine learning and data analytics. This fusion is empowering organizations worldwide to navigate the new deluge of data—currently five exabytes daily, set to surge to 463 exabytes per day by 2025, according to *Accenture*. Big data's complexity lies in its volume, velocity, variety, and veracity. However, with AI/ML algorithms, businesses can now tackle intricate datasets that were once insurmountable. We believe this paradigm shift will enable companies to derive actionable insights from structured and unstructured data, fostering more precise strategic initiatives and management decisions. This also ushers in a new era where data and AI/ML are increasingly being used in various sectors, from military and healthcare to business intelligence and transportation. **We believe that those players providing AI/ML and Data-as-a-Service (DaaS) solutions will emerge as clear winners.**

#### Our Investment Pick



#### Palantir Technologies, Inc. (NYSE: PLTR)

- Palantir Technologies has consistently delivered strong revenue and profit growth, driven by its ability to secure large government contracts, such as a recent \$99 million U.S. government deal in September 2024.
- Palantir is experiencing high demand for its products due to geopolitical factors and is expected to continue showing strong results in 3Q24, driven by government contracts, commercial growth, and AI expansion.
- PLTR has gained more than 150% in 2024 and has recently been added to the S&P 500, further solidifying its market position.

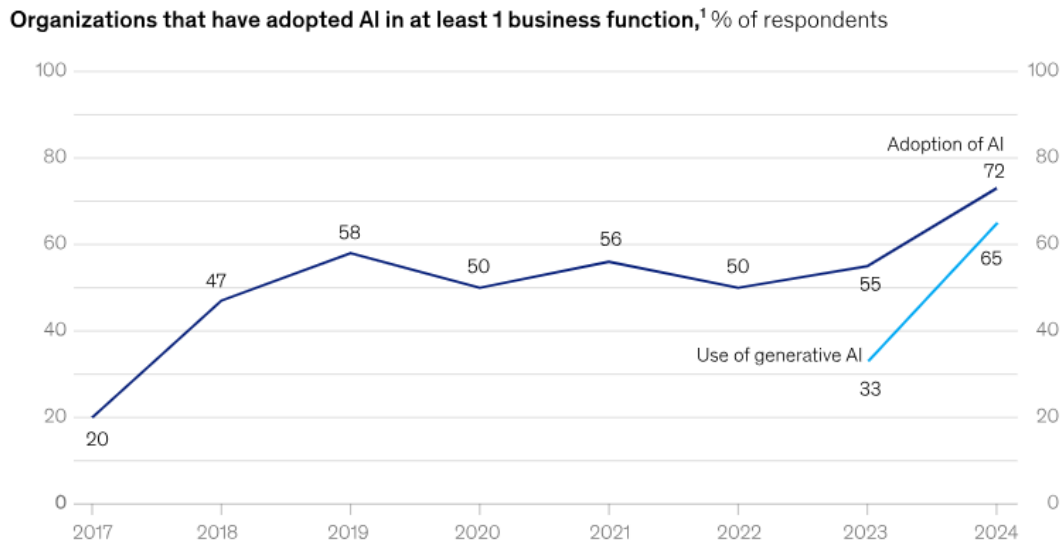
#### Rising AI Adoption: Revolutionizing The Way the World Looks at Itself

McKinsey's 2024 Global Survey on AI observed a significant increase in the adoption of generative AI (GenAI) by organizations worldwide. The survey revealed that 65% of respondents report regular use of GenAI, nearly doubling from the previous year, indicating a swift embrace of this revolutionary technology. This surge in GenAI usage is not isolated; it has sparked a broader interest in AI capabilities across various industries. The overall AI adoption by respondent organizations has jumped to 72%, up from the consistent 50% recorded over the past six years. This increased adoption is evident globally, with more than two-thirds of respondents in nearly every region reporting AI usage within their organizations. Notably, professional services have seen the most significant increase in AI adoption.

The benefits of GenAI are already being felt across industries. Organizations deploying this technology report both substantial cost decreases and revenue jumps in the business units utilizing it. However, as with any transformative technology, risks exist. The primary concern identified in McKinsey's survey is inaccuracy, highlighting

the need for robust validation processes and continuous improvement strategies. Top-performing organizations are already implementing emerging best practices to mitigate these challenges and capture value from GenAI. We think that those who proactively address these risks and foster a culture of innovation will be well-positioned to lead their industries into this new era of AI-driven transformation. This opens up an opportunity for players with cutting-edge technologies to carve out a niche for themselves, and capitalize on this emerging trend. We believe, **PLTR** is one such player.

**Chart 1: AI Adoption Worldwide has Increased Dramatically in the Past Year**



Source: Intro-act, McKinsey and Company

**The enthusiasm for AI is not confined to boardrooms alone. This optimism is reflected in the rapid adoption of AI; nearly three out of four businesses have started using AI for at least one business function, with half employing it for two or more functions.** This represents a substantial uptick from 2023, indicating that AI is no longer a niche technology but a mainstream tool for businesses. One such attractive area of application is data analysis. AI is not replacing human analysts but amplifying their potential by automating mundane tasks and enabling more strategic, insightful work. Another area where this shift is evident is data preparation. Traditionally, collecting, cleaning, and categorizing data were painstakingly slow processes. However, machine learning algorithms can automate much of this activity, handling vast amounts of data at a pace impossible for humans. AI's impact extends beyond data preparation to decision-making and forecasting. AI-powered insights enable enhanced decision-making by delivering accurate predictions in real-time, making it an indispensable tool. Furthermore, AI is transforming forecasting methods, adapting and learning from new data patterns to deliver more reliable predictions, even in volatile markets or unpredictable scenarios. **We believe that the impact of AI on data analysis is a shift in focus for analysts, moving away from tedious tasks toward delivering strategic insights that drive decision-making.** This shift is predicted to potentially increase analyst productivity by up to 45% by 2030.

### AI in Military: A Case Study

**AI has emerged as a transformative force in the military domain, much like it has in various other sectors.** This technology's ability to process vast amounts of data more effectively than traditional systems, coupled with its intrinsic computing and decision-making capabilities, has led to increased self-control, self-regulation, and self-actuation in combat systems. As such, AI is being increasingly integrated into military applications, with significant support from military research agencies for developing advanced AI technologies. It has also raised ethical concerns outside the military sphere.

**The applications of AI in the military are vast and varied, ranging from object detection and surveillance to military logistics and autonomous vehicles.** For instance, AI algorithms can enhance target recognition by analyzing vast amounts of data from various sensors, improving accuracy and efficiency significantly. In military logistics, AI can optimize supply chain management, reducing waste and enhancing operational readiness. Autonomous vehicles equipped with AI systems can operate independently in hazardous environments, reducing human casualties. Moreover, AI's potential in cybersecurity is immense, as it can help detect and mitigate cyberattacks more effectively than traditional methods. We believe that these applications will continue to evolve and expand, driving widespread demand for AI-driven systems in the military.

**The current and future potential for developing artificial intelligence algorithms in military applications is substantial.** The seven patterns of AI—data mining, machine learning, natural language processing, robotics, computer vision, expert systems, and neural networks—all have significant implications for military operations. For example, neural network technology is already prevalent in the cyber fight, enhancing intelligent transport systems and forecasting environmental phenomena. We think that the integration of these patterns will continue to grow, leading to more sophisticated AI algorithms capable of handling complex tasks autonomously. This could include predictive maintenance for equipment, real-time battle planning, and autonomous drone swarms for reconnaissance missions.

### Chart 2: AI in Military Tech

Patterns of AI	Modern-Day Innovative Equipment/Tech
Goal-driven Systems	Autonomous Drones (e.g., MQ-9 reaper)
Autonomous Systems	Self-driving military vehicles (e.g., KF51 panther)
Conversational/Human Interactions	Chatbots for military communication (e.g., US Army's Sgt. Star)
Predictive Analytics and Decisions	Predictive maintenance for military equipment (e.g., F-35)
Hyper personalization	GANs for personalized soldier training
Decision Support	AI-assisted decision-making in military operations (e.g. SAGE)
Pattern and Anomalies Recognition	Object detection in military surveillance (Raven Drone)

Source: Intro-act

**The increasing adoption of AI has sparked a global race among nations seeking to harness its power for strategic advantage, particularly in defense and military applications.** As a general-purpose enabling technology, AI can enhance intelligence gathering, improve decision-making processes, optimize resource allocation, and even automate certain tasks.

**The cognitive revolution brought about by AI could alter warfare in profound ways, like the Industrial Revolution's transformation of conflict dynamics.** To illustrate this point, consider the impact of the first and second Industrial Revolutions on warfare. Mechanization led to increased destructive capacity through weapons like machine guns, while communication advancements enabled coordinated long-distance operations. Similarly, AI could enable mass mobilization of data and information, leading to more informed decisions but also potentially increasing the scale and speed of conflict.

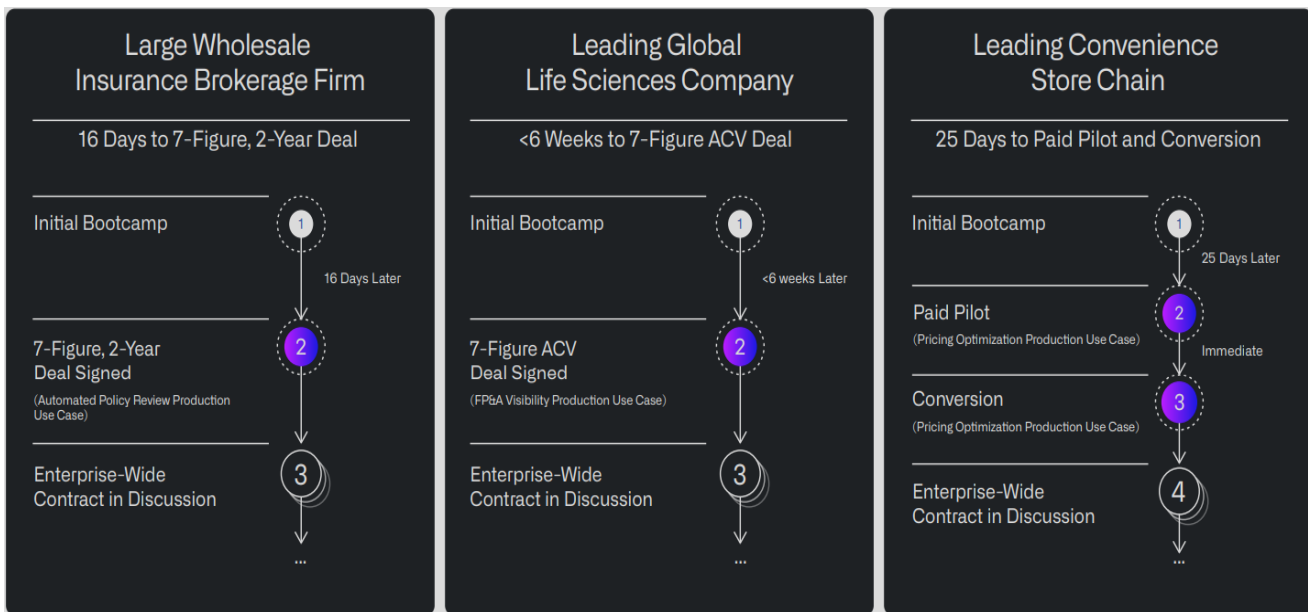
**However, as with any powerful tool, there are concerns about its misuse.** One significant risk is the development of lethal autonomous weapons (LAWs), which could lead to loss of human control over critical functions. Another concern is the potential for AI to exacerbate existing tensions or create new ones due to perceived advantages gained by one actor over another. Moreover, the rapid pace of AI advancements could outstrip our ability to anticipate and manage its effects on warfare, potentially leading to unintended consequences. Looming in the distance is the possibility of AI-enabled robot soldiers, once a science fiction fantasy, but increasingly realistic today.

Company Spotlight: Palantir Technologies, Inc. [NYSE: PLTR]

**PLTR (Founded: 2003, HQ: Denver, Colorado) has carved a niche for itself by developing software platforms that empower intelligence communities worldwide to combat terrorism more effectively.** The company's flagship products—Palantir Gotham and Palantir Foundry—enable users to identify hidden patterns within vast datasets and facilitate data-driven decision-making across various industries. We believe that Palantir's focus on transitioning customers from prototyping to production, coupled with its strategic partnerships and contracts, positions it well for continued growth in the AI/ML space. With a strong pipeline of opportunities and a proven track record, we think investors should closely monitor Palantir's progress as it continues to shape the future of AI/ML applications across industries.

**Palantir's Artificial Intelligence Platform (AIP) is a standout product, providing unified access to open-source, self-hosted, and commercial large language models (LLMs).** Since introducing its AIP in mid-2023, Palantir has engaged with over 1,025 organizations globally through AIP Bootcamps, demonstrating a commitment to customer success. AIP's ability to transform structured and unstructured data into LLM-understandable objects, thereby turning organizations' actions and processes into tools for humans and LLM-driven agents, sets it apart from other products. **Palantir Gotham is another signature platform, which allows analysts to integrate diverse data sources, ranging from signals intelligence to confidential informant reports.** It facilitates real-time collaboration between analysts and operational users, enabling swift responses to identified threats. **Palantir Foundry, on the other hand, serves as a central operating system for an organization's data, allowing individual users to integrate and analyze their required datasets in one place.** This platform's capability to transform how organizations operate has contributed significantly to Palantir's success across various sectors, including finance, government, healthcare, and manufacturing.

Chart 3: Prototype to Production: Accelerating the U.S. Commercial Customer Journey



Source: Intro-act, Palantir 2Q24 Earnings Update

The company has been recognized as a leader in the AI/ML services space, which is corroborated by a multitude of recent partnerships and contracts secured by the company.

- In September 2024, PLTR secured a multi-year, multi-million-dollar extension to its enterprise agreement with a leading oil and gas company, APA Corporation (NASDAQ: APA). This extension builds on their successful three-year partnership, demonstrating Palantir's ability to deliver tangible value in the energy sector.

Over the past three years, Palantir's AIP platform has been deployed across various use-cases within APA, including operational planning, supply chain management, maintenance planning, production optimization, and contract management. It has enabled APA to enhance production equipment reliability through real-time monitoring, optimize raw material logistics, and detect anomalies in contract and invoice documents against source systems.

- **In a significant contract win on September 20, 2024, Palantir secured a firm-fixed price deal worth up to \$99.8 million over five years with the DEVCOM (Development Command) Army Research Laboratory (ARL).** This expansion of Maven Smart System—an AI-powered platform enhancing situational awareness, decision-making, and efficiency for U.S. military operations—now encompasses all U.S. military services, including the Army, Air Force, Space Force, Navy, and Marine Corps. The contract simplifies and expedites service access to existing Maven Smart System capabilities, which are part of the National Geospatial-Intelligence Agency's (NGA) Maven AI infrastructure. We think this signals a shift toward more interoperable strategic and tactical operations across military departments, driven by demand for improved readiness and joint interoperability. Palantir's platform will support critical workflows such as AI-enabled battlespace awareness, global integration, force management, contested logistics, and joint fires targeting.
- **On September 20, 2024, Palantir strengthened its decade-long partnership with BP plc (NYSE: BP), inking an enterprise agreement that introduces advanced artificial intelligence capabilities via Palantir's AIP software.** Over the past eight years, Palantir's software has been deployed extensively across BP's global operations, from offshore platforms in the North Sea and Gulf of Mexico to Omani gas fields. It has supported BP's digital transformation by creating a model-based digital twin of its production activities, integrating real-time data from over two million sensors into a unified operating picture. Now, Palantir's AIP software will enable BP to safely harness large language models for improved decision-making, offering suggested courses of action based on automated data analysis.
- **On September 17, 2024, Palantir and Nebraska Medicine, a \$2.5 billion academic health system based in Omaha, announced a new multi-year contract for the former's AIP to help improve healthcare.** Nebraska Medicine has seen a remarkable +2,000% increase in Discharge Lounge utilization since adopting AIP, leading to an average one-hour reduction in time from discharge order to patient discharge, thereby expediting bed turnover and enhancing patient throughput. Moreover, Nebraska Medicine sent over 1,200 AI-powered appeal letters to payors in less than three months, demonstrating a proactive approach to claims denials management.
- **In May 2024, Palantir signed a five-year, \$480 million contract with the Chief Digital and Artificial Intelligence Office (CDAO) of the U.S. Department of Defense, aiming to scale AI/ML capabilities across the department.** The company's "Mission Manager," infrastructure for Big-Tent software integration, has been instrumental in this endeavor. It enables an ecosystem of commercial and government providers to deliver software at the speed of mission, as noted by Dr. Radha Plumb, Chief Digital and AI Officer, Department of Defense. Palantir was awarded a \$33 million contract for CDAO Open DAGIR (*Open Data and Applications Government-owned Interoperable Repositories*), enabling Defense Tech companies, traditional contractors, and government developers to leverage Palantir's Apollo and OSDK platforms via the Mission Manager, fostering innovation on top of Maven.

**For 2Q24, revenue surged by 27% YoY and 7% QoQ, reaching \$678 million, underpinned by strong performances from both U.S. commercial and government divisions.** The U.S. commercial segment grew at an even more accelerated pace, with revenue increasing 55% YoY and 6% QoQ to \$159 million. This was accompanied by a significant expansion in customer count, up 83% YoY and 13% QoQ to 295 customers. We think this rapid customer acquisition is indicative of Palantir's expanding market reach and product appeal. Meanwhile, the U.S. government segment also performed well, with revenue growing 24% YoY and 8% QoQ to \$278 million. This growth was supported by a substantial increase in remaining deal value (RDV), up 103% YoY and 11% QoQ, suggesting a healthy pipeline for future growth. The company's GAAP net income reached \$134 million, representing a 20% margin, while adjusted income from operations hit \$254 million, reflecting a robust 37% margin. In 2Q24, Palantir closed 27 deals over \$10 million, further bolstering its customer base and revenue streams. Also, the company's Rule of 40

score (Rule of 40 refers to the sum of PLTR's YoY revenue growth rate and the adjusted operating margin for a concerned period) stood at an impressive 64%, indicating a healthy balance between growth and profitability.

In 2024, PLTR has gained ~157%, garnering investors and analyst's attention. We think that Palantir Technologies has a strong business model in which its Software as a Service (SaaS) business focuses on government, military, and law enforcement clients. The company is witnessing a strong demand for its products and services considering the geo-political situation. After its powerful 2Q24 results, we believe the upcoming 3Q24 results will continue to be on a stronger note supported by robust growth from both government and commercial ventures, strategic AI expansion, and optimistic market forecasts.

Chart 4: PLTR vs S&P 500 (1-Year Return)



Source: Intro-act, Trading View, Data as of 10/21/2024

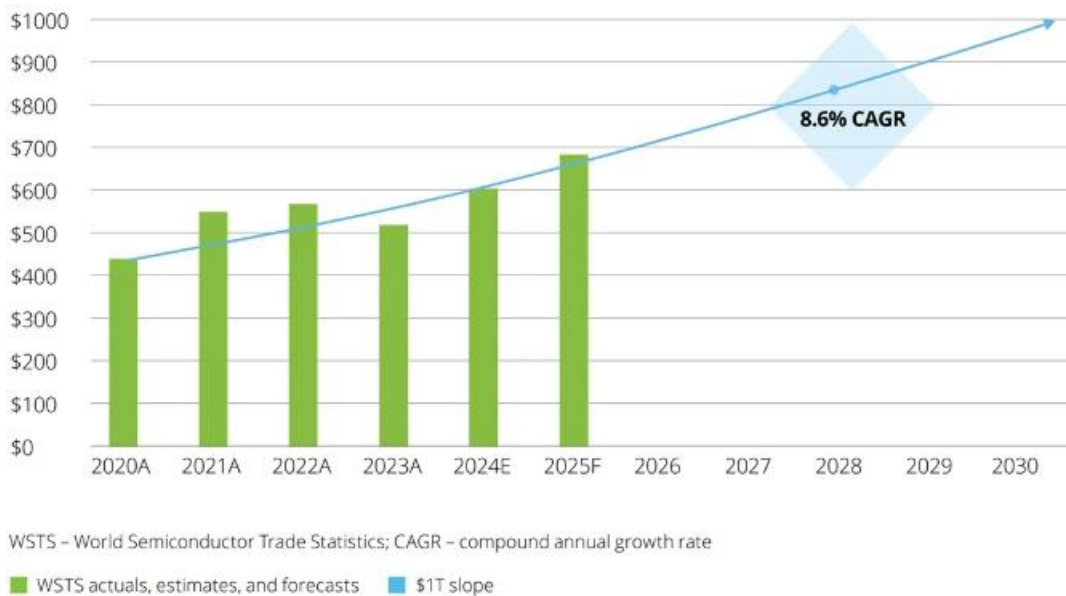
## INDUSTRY TRENDS

**Meta’s AI chief says world models are key to “human-level AI” — but it might be 10 years out.** Meta’s AI chief Yann LeCun says current AI systems are far from "human-level AI" and can't perform simple tasks like humans, despite claims by some labs that they're close. He believes world models, which understand the three-dimensional world, could be key to achieving human-level AI in a decade or so. World models can perceive and predict the physical world, unlike current LLMs and image/video models that only predict tokens or pixels. LeCun’s lab, FAIR, is working on building objective-driven AI and world models, but progress has been slow due to the complexity of the problems being faced. [Read more.](#) (Tech Crunch)

**White House considers expanding Nvidia’s and AMD’s AI chip export limits to additional countries.** The White House is considering expanding export limits on Nvidia’s and AMD’s advanced AI chips to additional countries, including Saudi Arabia and the United Arab Emirates, due to national security concerns. This move follows last year’s ban on sales to China and restrictions on 40 other countries. The US views American AI chips as a key advantage globally. The reported discussions suggest concern over the Persian Gulf’s growing influence in the AI industry, with Saudi Arabia planning a \$40 billion fund for AI investments and OpenAI discussing funding with a UAE-backed investment fund. [Read more.](#) (Tech Crunch)

**Chip industry faces talent shortage as revenues head to \$1 trillion.** The global semiconductor industry faces a significant talent shortage, with Deloitte forecasting a need for over 100,000 skilled workers annually by 2030. The industry’s aging workforce, low appeal compared to other tech sectors, and rapid technological advancements exacerbate the issue. Advanced skills driven by demand for GenAI further compound the challenge. To address this problem, semiconductor companies should prioritize workforce planning and access, develop viable talent pipelines, and invest in younger generations and underrepresented populations. [Read more.](#) (Venture Beat)

Chart 5: The Path to \$1 Trillion in Semiconductor Revenues



Source: Intro-act, Deloitte

**The AI-driven capabilities transforming the supply chain.** Supply chain professionals are eager to leverage GenAI to drive business results, with 73% planning to deploy GenAI, but only 7% having successfully implemented it. To overcome data quality, organizational readiness, and volatility barriers, companies must simplify integrating GenAI

into workflows. Accurate planning, efficient manufacturing, and predictive maintenance are key areas where AI can transform supply chains, enabling autonomous operations with minimal human intervention. Early adopters have seen meaningful revenue increases through AI, but scaling across organizations remains a challenge. [Read more.](#) (*Venture Beat*)

**SAP doubles down on AI to transform enterprise operations.** SAP is doubling down on AI to transform enterprise operations by automating workflows, gaining intelligent insights, and driving efficiency. Their generative AI copilot, Joule, integrates across SAP's business applications, enabling users to leverage time-saving assistance from AI. Joule can automate fiscal decisions, optimize inventories, and provide smart predictions for supply chain management teams. The power of AI lies in its ability to reach across disciplines and coordinate responses, unlocking synergies that weren't being tapped before. [Read more.](#) (*Venture Beat*)

**GenAI Revolution: Governments embrace disruptive tech.** GenAI is a disruptive tech that can generate new content, ideas, or data with human-like creativity. It's flexible and adaptable, but lacks human empathy, intuition, and complex decision-making skills. GenAI replaces repetitive tasks, traditional Google search, and enterprise environments by providing direct answers, personalized experiences, and integrating disparate data sets. Governments are embracing GenAI, creating AI policies, investing in R&D, and collaborating with private sector partners to develop and implement GenAI solutions. They're also focusing on key sectors like healthcare and education, establishing research centers, and promoting AI literacy among citizens. [Read more.](#) (*CXO Today*)

**U.S. to curb AI investment in China soon.** U.S. rules banning certain U.S. investments in artificial intelligence in China are under final review at the Office of Management and Budget, suggesting that restrictions are imminent. The rules stem from President Joe Biden's August 2023 executive order to prevent American investors' know-how from aiding China's military. They target outbound investment to China in AI, semiconductors, microelectronics, and quantum computing, with exceptions for publicly traded securities and certain limited partnership investments. Final rules are expected to clarify the scope of coverage over AI and notification thresholds. [Read more.](#) (*Reuters*)

### DEVELOPMENTS IN AI

**Mistral releases new AI models optimized for laptops and phones.** French AI startup Mistral has released its first generative AI models, "Les Ministraux," designed for laptops and phones. The two models, Ministral 3B and Ministral 8B, can be used or tuned for various applications, including text generation and on-device translation. They have a context window of 128,000 tokens and outperform comparable models from Llama and Gemma on AI benchmarks. Ministral 8B is available for research purposes, while Ministral 3B can be used through Mistral's cloud platform or other partnered clouds, with pricing starting at 4 cents per million output/input tokens. [Read more.](#) (*Tech Crunch*)

**Xscape is building multicolor lasers to connect chips within data centers.** Xscape Photonics is developing multicolor lasers using silicon photonics technology to connect chips within data centers, addressing the limited bandwidth of traditional interconnects. The startup's platform offers energy-efficient and cost-effective systems that can transmit terabytes of data over light, enabling higher AI training performance. Xscape has secured funding from Cisco and Nvidia, and is engaged with 10 customers for potential deployments, aiming to scale up its team and fabrication capabilities. [Read more.](#) (*Tech Crunch*)

**Concourse is building AI to automate financial tasks.** Finance teams often struggle with manual workflows, spending a quarter of their time reviewing invoices and using Excel for budgeting and forecasting. To address this time sink, Concourse is building an AI platform that automates financial tasks by connecting to a business's financial systems, generating charts, and answering ad hoc questions. The platform can execute complex operations, such as retrieving data from NetSuite and copying it to Excel. Concourse has raised \$4.7 million in capital and has several customers, with a focus on product development and hiring engineers to scale its go-to-market function. [Read more.](#) (*Tech Crunch*)

**Amazon's new AI-powered vision tech tells drivers which packages to deliver.** Amazon is introducing AI-powered Vision-Assisted Package Retrieval (VAPR) tech to its electric vehicle fleet, helping drivers prioritize packages with green circles or red lights. The system eliminates the need for handheld devices and audio cues alert drivers if they've selected the right packages. VAPR has been in development since 2020, considering factors like lighting and space constraints inside vans. It will be rolled out on 1,000 Rivian vans by early 2025, with testing already done in Boston where drivers reduced stop time from 2-5 minutes to under a minute. [Read more.](#) (*Tech Crunch*)

**IBM debuts open-source Granite 3.0 LLMs for enterprise AI.** IBM has launched Granite 3.0, its third-generation LLM for enterprise AI, with a focus on real open source and fine-tuning capabilities through InstructLab. The new models include general-purpose options and Mixture-of-Experts (MoE) models, as well as optimized guardrail and safety options. IBM expects the models to support various enterprise use cases, including customer service, IT automation, and cybersecurity. The company claims high performance benchmarks for Granite 3.0 and emphasizes its commitment to safety and trust through advanced "Guardian" models. [Read more.](#) (*Venture Beat*)

**Google launches NotebookLM Business to make enterprise AI audio, text.** Google is launching NotebookLM Business, a paid version of its AI research tool specifically designed for businesses and organizations. The new service will offer enhanced features such as higher usage limits, customization, and sharing notebooks with team members. It will also include Audio Overview, which allows users to create narrated study guides. Google promises robust data privacy and security, and the service is currently available through a pilot program. General availability and pricing for NotebookLM Business will be announced later this year. [Read more.](#) (*Venture Beat*)

### Chart 6: Google NotebookLM

The screenshot displays the Google NotebookLM interface. On the left, a sidebar lists various sources under the heading 'Sources', including 'Action and Reaction', 'Balanced and Unbalance...', 'Elemental Physics, Third...', 'Forces At Play', 'Friction Frenzy: Explor...', 'Gravity's Grip: The Force...', 'Inertia In Action...', 'Momentum Mania: Inves...', 'Newton's Three Laws...', 'Momentum Mania: Inves...', 'Simple Machines Make...', and 'Understanding Speed, Ve...'. The main content area is titled 'Science in motion' and features a 'Notebook guide' section with options like 'Table of contents', 'Study guide', 'FAQ', 'Briefing doc', and 'Timeline'. Below this is a 'Summary' section with text about fundamental principles of physics. To the right, there is an 'Audio Overview' section with a play button and a progress bar showing '1:41 / 3:01'. At the bottom, there is a 'Help me understand' section with three questions: 'How do Newton's three laws of motion explain how objects move and interact?', 'What are the different types of forces, and how do they affect objects?', and 'What is the relationship between speed, velocity, acceleration, and momentum?'. The interface also includes a 'View chat' button, a search bar with '12 sources' and 'Start typing...', and a 'Notebook guide' dropdown menu.

Source: Intro-act, Venture Beat

### PARTNERSHIP AND FUNDRAISING

**Perplexity is reportedly looking to fundraise at an \$8 billion valuation.** Perplexity, an AI search engine, is reportedly in fundraising talks aiming to raise \$500 million at a valuation of \$8 billion. This would more than double its current \$3 billion valuation from a recent SoftBank investment. The company receives 15 million daily queries and generates \$50 million in annual revenue. Despite plagiarism concerns with news publishers, CEO Aravind Srinivas seeks collaboration, not confrontation. The fundraising comes after OpenAI's significant funding round, as Perplexity expands into search capabilities with SearchGPT. [Read more.](#) *(Tech Crunch)*

**Investments in generative AI startups topped \$3.9 billion in 3Q24.** Investments in generative AI startups reached \$3.9 billion in 3Q24 across 206 deals, with \$2.9 billion going to US-based companies. Notable investments included Magic (\$320M), Glean (\$260M), and Hebbia (\$130M). Despite concerns over reliability and legality, VCs are betting on generative AI's growth potential. A Forrester report predicts 60% of skeptics will adopt the tech by 2026. However, massive computational requirements may hinder widespread adoption, potentially increasing greenhouse emissions and straining data center resources. [Read more.](#) *(Tech Crunch)*

**AI software firm Zip valued at \$2.2 billion in latest funding round.** AI software firm Zip was valued at \$2.2 billion in a funding round led by BOND, increasing from its 2023 valuation of \$1.5 billion. The \$190 million raised will be used for research and development, expanding AI solutions, and global expansion in Europe, the Middle East, and Africa. Investors' interest in broadening AI capabilities is growing, with participation from new investors DST Global, Adams Street, and Alkeon, alongside existing backers Y Combinator and CRV. Zip's platform streamlines procurement and mitigates risk for companies like Arm, Canva, and Lyft. [Read more.](#) *(Reuters)*

**Legal AI company EvenUp valued at over \$1 billion in latest funding round.** The company's total fundraise now stands at \$235 million, with Premji Invest and other firms participating. EvenUp claims to have over 1,000 law firm clients, with its platform powered by an AI model trained on personal injury cases and medical records. Revenue has doubled year-over-year, and the workforce has more than doubled in a year, with plans to hire more engineers, product professionals, and data scientists. [Read more.](#) *(Reuters)*

**Bain & Co, OpenAI expand partnership to sell AI tools to clients.** Bain & Co has expanded its partnership with OpenAI to sell AI tools, including ChatGPT, to clients. The companies had previously set up a global services alliance and made OpenAI platforms available to Bain employees globally. A Center of Excellence is being established, led by a team of consultants. Solutions will be co-designed for retail, healthcare life sciences, and other industries, with 50 Bain employees involved in the joint effort. Financial terms were not disclosed. [Read more.](#) *(Reuters)*

**With \$11.9 million in funding, Dottxt tells AI models how to answer.** Dottxt, a U.S.-based startup, aims to "make AI speak computer" by developing a powerful structured generation solution. Led by the team behind Outlines, an open-source project, Dottxt's approach guides LLMs in delivering valid JSON without requiring emotional blackmail or crude tactics. The company has raised \$11.9 million in funding and plans to hire more people to respond to rising demand for structured-response generation tools using AI. Dottxt's goal is to accelerate adoption and commercialization, with a focus on enterprise clients, and believes that structured generation will be the future of LLMs. [Read more.](#) *(Tech Crunch)*

### Chart 7: Photonic Data Centers



Source: Intro-act, Lightmatter

**Lightmatter’s \$400 million round has AI hyperscalers hyped for photonic data centers.** Lightmatter, a photonic computing startup, has raised \$400 million in funding to develop its optical interconnect layer, which enables hundreds of GPUs to work synchronously and streamlines AI model training. The company’s technology addresses the bottleneck in data centers by using fiber optics to transfer massive amounts of data at speeds of up to 30 terabits. This is faster than traditional switches and can support thousands of GPUs working together, making it a game-changer for hyperscalers like Microsoft and Amazon. [Read more.](#) (Tech Crunch)

**How customer service AI startup Neuron7 convinced Keith Block to invest.** Neuron7, a five-year-old AI customer service startup, has closed an oversubscribed \$44 million Series B round led by Keith Block and his venture firm Smith Point Capital. Neuron7 uses open-source language models to predict problem causes, provide repair steps, and manage support tickets for complex service operations. The company partners with major players like Salesforce and ServiceNow, and has raised over \$63 million to date, increasing its valuation 5x from the last round. [Read more.](#) (Tech Crunch)

**After selling his last AI startup to Meta, Beyond Presence’s founder nabs \$3.1 million to build lifelike avatars.** Beyond Presence, a Munich-based startup, has raised \$3.1 million in pre-seed funding led by HV Capital to develop lifelike avatars that can be used in real-time conversational situations. The company’s technology uses computer vision and AI to create hyper-realistic avatars that look and sound like their human counterparts. Founded by Awais Shafique, who previously sold his startup Presize to Meta for a significant sum, Beyond Presence aims to use its funding to continue developing its foundational models and release a public beta by the end of this month. [Read more.](#) (Tech Crunch)

**Here’s the full list of 39 U.S. AI startups that have raised \$100 million or more in 2024.** U.S. AI startups have raised significant funds in 2024, with \$18.9 billion invested in Q3, accounting for 28% of all venture funding. OpenAI secured the largest deal ever, a \$6.6 billion round, and six other AI companies received over \$1 billion each. A total of 39 US-based AI startups have raised \$100 million or more this year, including EvenUp (\$135M), KoBold Metals (\$491.5M), Poolside (\$500M), and many others, with valuations ranging from \$1 billion to \$157 billion. [Read more.](#) (Tech Crunch)

**Numeric grabs \$28M Series A to automate accounting using AI.** Numeric, an accounting software company co-founded by Parker Gilbert, has raised a \$28 million Series A led by Menlo Ventures. The funding will help automate certain parts of the book-closing process using AI, saving accountants time and reducing errors. Numeric’s product aggregates data from various systems, overlays it with an AI agent that identifies outliers, and provides explanations for changes in accounts. The company has seen fourfold revenue growth to single-digit millions over the last year and competes with BlackLine and FloQast. Investors see potential for expansion into financial planning and analysis capabilities. [Read more.](#) (Tech Crunch)

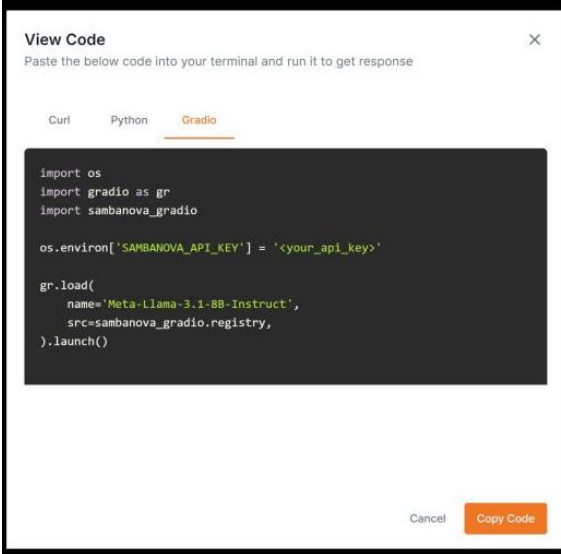
**Basecamp Research draws \$60 million to build a “GPT for biology.”** Basecamp Research has raised \$60 million to build an AI agent that answers biology-related questions and produces new insights. The startup is gathering primary data from around the world to train its models, which outperform AlphaFold 2 in predicting protein structures and small molecule interactions. With over 100 partnerships across 25 countries, Basecamp Research aims to create a “GPT for biology” that can have better insights than humans due to its breadth of data. The funding will be used to expand its database and models, with plans to help organizations with drug discovery and other challenges related to understanding the natural world. [Read more.](#) (Tech Crunch)

**Distributional raises \$19 million to automate AI model and app testing.** Distributional, an AI testing platform founded by Intel’s former GM of AI software Scott Clark, closed a \$19 million Series A funding round led by Two Sigma Ventures. The platform automates AI model and app testing, addressing operational risks in AI applications. Distributional was inspired by Clark’s experience with AI testing issues at Intel and Yelp, and aims to provide visibility into AI application testing and behavior. With the new funding, the company plans to expand its technical team and embark on enterprise deployments. [Read more.](#) (Tech Crunch)

**VESSEL AI secures \$12 million for its MLOps platform that aims to cut GPU costs by up to 80%.** VESSEL AI, a South Korean MLOps platform, has raised \$12 million in Series A funding to develop its infrastructure for optimizing GPU expenses using hybrid environments. The company aims to cut costs by up to 80% and streamline workflows for companies developing custom large language models and vertical AI agents. With 50 enterprise customers, including Hyundai and Uber, VESSEL AI has over 2,000 users and strategic partnerships with Oracle and Google Cloud. Its platform offers features like automated model training, real-time deployment, and GPU resource optimization. [Read more.](#) (Tech Crunch)

**SambaNova and Gradio are making high-speed AI accessible to everyone—here’s how it works.** SambaNova Systems and Gradio have partnered to make high-performance AI models more accessible. The integration allows developers to access SambaNova’s fast AI inference platform with just a few lines of code. This enables users to create web applications powered by SambaNova’s models using Gradio’s `gr.load()` function, making advanced AI systems easier to work with. The partnership aims to speed up AI adoption among developers and businesses, offering a frictionless entry point for experimenting with high-performance AI. [Read more.](#) (Venture Beat)

### Chart 8: A Snippet of Python Code Demonstrates the Simplicity of Integrating SambaNova’s AI Models with Gradio’s User Interface



```
import os
import gradio as gr
import sambanova_gradio

os.environ['SAMBANOVA_API_KEY'] = '<your_api_key>'

gr.load(
    name='Meta-Llama-3.1-8B-Instruct',
    src=sambanova_gradio.registry,
).launch()
```

Source: Intro-act, SambaNova Systems

**Magic Leap founder is back with \$20 million funding round for SynthBee.** Rony Abovitz, founder of Magic Leap, has raised \$20 million in funding for SynthBee, a company that aims to create a new kind of "computing intelligence." The funding will help expand the team and build out the proprietary platform. Crosspoint Capital Partners led the round, with managing director Andre Fuetsch stating that SynthBee is poised to revolutionize enterprise innovation. Abovitz's vision for SynthBee is to safely accelerate human innovation across industries using a novel computing intelligence platform, addressing current AI system challenges and promoting computational democracy. [Read more.](#) (*Venture Beat*)

**Live Aware Labs raises \$4.8 million for its AI-powered gamer feedback platform.** Live Aware Labs has raised \$4.8 million in seed funding led by Transcend, with participation from a16z Games Speedrun, Lifelike Capital, and angel investors. The company plans to use the funds to build out its AI-powered community feedback platform for game developers, which captures and analyzes player feedback at scale, providing actionable insights to improve game quality and engagement. Live Aware aims to empower developers to understand and act on player feedback, ultimately improving a game's chances of success by building with their audience, not in spite of them. [Read more.](#) (*Venture Beat*)

**Support automation firm Capacity grows with new cash and acquisitions.** Capacity, a support automation company, has secured \$26 million in Series D funding, with an additional \$21 million added to the planned \$5 million "bridge round." The company acquired three firms: Lucy, Linc, and Envision, expanding its product portfolio. Capacity connects to companies' tech stacks to answer queries and automate tasks, providing a knowledge base for chatbots and helpdesks. The funding will be used to grow headcount to 200 people by year-end and upgrade products through acquisitions, aiming to become a leading provider of AI-powered solutions for customer and employee experience. [Read more.](#) (*Tech Crunch*)

**Strella raises \$4 million to automate market research with AI-powered customer interviews.** Strella, a startup using AI to automate customer research, raised \$4 million in seed funding led by Decibel. The company's platform delivers human insights up to 10 times faster and at half the cost of traditional methods. Founded by Lydia Hylton and Priya Krishnan, Strella tackles the tradeoff between speed and depth of customer insights with AI-powered interviews that can be conducted, analyzed, and synthesized in real-time. The platform is designed to work alongside human researchers, allowing companies to blend AI-moderated and human-led interviews within the same system. [Read more.](#) (*Venture Beat*)

**Gladia raises \$16 million for AI transcription and analytics.** Gladia, an AI transcription and audio intelligence provider, has raised \$16 million in funding led by XAnge. The Paris-based company will use the funds to develop an end-to-end audio infrastructure, including a new real-time audio transcription and analytics engine. Gladia's technology enables voice-first platforms to deliver more value to users across borders with cutting-edge AI, and its multilingual engine can extract insights from calls in over 100 languages in under 300 milliseconds. [Read more.](#) (*Venture Beat*)

**PlayVS partners with Omnic to help gamers play smarter with AI feedback.** PlayVS has partnered with Omnic.AI to provide gamers with AI-driven feedback to improve their performance. The partnership allows players to receive analysis of their in-game performance, match with pro players, and access detailed match data. This aims to help students develop transferable skills like critical thinking and communication. PlayVS targets middle school and high school esports leagues, offering Omnic Forge's analytics tools at no cost to students. [Read more.](#) (*Venture Beat*)

**Lidwave raises \$10 million to improve machine vision with on-chip 4D LiDAR.** Lidwave has raised \$10 million to develop its 4D LiDAR technology, which integrates complex LiDAR sensors onto a single chip, simplifying production and reducing costs. The funding will be used to further develop the optical chip, launch the industry's first software-definable 4D LiDAR sensor, and expand market presence. Lidwave's technology enables machines to perceive their surroundings with greater clarity, leading to better-informed decisions, and has applications in self-driving cars, industrial automation, and smart cities. [Read more.](#) (*Venture Beat*)

**Third Dimension AI raises \$7 million to build game worlds with generative AI.** Third Dimension AI raised \$7 million in funding, led by Felicis, to develop generative AI technology for creating 3D game worlds. The capital will be used to expand the team and further train AI models that convert 2D images/videos to 3D environments. Founded by experts from autonomous vehicles and gaming, Third Dimension aims to simplify large-scale 3D environment creation, making it as easy as pressing a button. The technology can also be applied to autonomous vehicle testing, film, and other industries, aiming to accelerate workflows and reduce costs. [Read more.](#) (*Venture Beat*)

**Q-CTRL raises \$59 million for quantum computing software.** Q-CTRL has raised \$59 million in its latest funding round, bringing the total funding to \$133 million. The Series B-2 all-equity funding round was led by GP Bullhound and saw a significant increase in valuation. Q-CTRL will use the funds to expand its investment in quantum control R&D and product engineering. The company has achieved commercial success with Fortune 500 clients, government departments, and quantum platform providers. It aims to revolutionize industries like pharmaceuticals, finance, and resources through quantum technology, representing a \$1.2 trillion opportunity. [Read more.](#) (*Venture Beat*)

**Clout Kitchen raises \$4.45 million for AI gaming pal that mimics content creators.** Clout Kitchen raised \$4.45 million in seed funding to develop creator-powered products and experiences, including Backseat AI, an AI-powered buddy for League of Legends that mimics popular gaming content creators. The product guides players with helpful tips spoken by an AI voice twin of a content creator, launched for early access testing in June at \$4.99/month. Clout Kitchen plans to expand its team and build out its tech stack, aiming to create more apps like Backseat AI for other games and verticals, including non-gaming use cases. [Read more.](#) (*Venture Beat*)

**Avarra raises \$8 million for AI-based avatar sales training.** Avarra, an enterprise avatar and AI-simulation company, has raised \$8 million in funding led by Lightspeed Venture Partners. Avarra's first application uses large-language models (LLMs) and 3D-avatars to simulate customer sales meetings, enabling sales professionals to gain experience and coaching without sacrificing valuable prospects. The platform can be used to train new sales reps through ever-changing conversations, providing immediate feedback on performance. This technology aims to solve the decades-old problem of effectively training and ramping up sales professionals, reducing time and cost associated with new hires and product launches. [Read more.](#) (*Venture Beat*)

**Honeywell partners with Google to integrate data with generative AI.** Honeywell has partnered with Google to integrate AI technology with its industrial data. The collaboration will connect Google's Gemini AI with Honeywell's Forge platform to automate tasks, reduce project times, and address labor shortages in the industry. AI-powered tools will help engineers, warehouse workers, and technicians, with solutions reaching customers by 2025. The partnership aims to increase operational productivity, reduce maintenance costs, and upskill employees through automated processes and data analysis. [Read more.](#) (*Reuters*)

**Adyen co-founder's new firm Tebi raises \$22 million to expand.** Arnout Schuijff, co-founder of payments giant Adyen, has launched a new business software firm called Tebi, which helps businesses take orders and process payments with a smartphone app-like interface. Tebi secured a \$22 million investment from Index Ventures to expand its operations. The core idea is to provide easy-to-use accounting and payment processing for businesses, offering a daily view into profitability. Tebi plans to make money by handling large volumes of transactions efficiently, with pricing based on monthly revenue. [Read more.](#) (*Reuters*)

**Healthcare startup Suki raises \$70 million to build AI assistants for hospitals.** Suki, a healthcare startup that develops AI voice assistants, has raised \$70 million in a Series D round led by Hedosophia. This brings the company's total funding to \$165 million and values it at around \$500 million. Founded in 2017, Suki aims to reduce administrative workloads for healthcare providers through its products, Suki Assistant and Suki Platform. The company has established partnerships with over 300 health systems and integrates with major EHR systems, competing with Microsoft-owned Nuance and other startups like Abridge. [Read more.](#) (*Reuters*)

**Just Eat partners with Rokt for AI-enhanced advertising on its platforms.** Just Eat Takeaway is partnering with e-commerce firm Rokt to enhance post-purchase advertisements on its platforms, using AI technology. The

partnership will allow advertisers in the Rokt Ads network to offer tailored messages to Just Eat's 82 million customers, boosting revenue streams for meal delivery firms. Advertisers can show targeted messages while customers confirm or track orders on Just Eat's platforms, operating in 19 countries, including Britain, the U.S., and Germany. [Read more.](#) (Reuters)

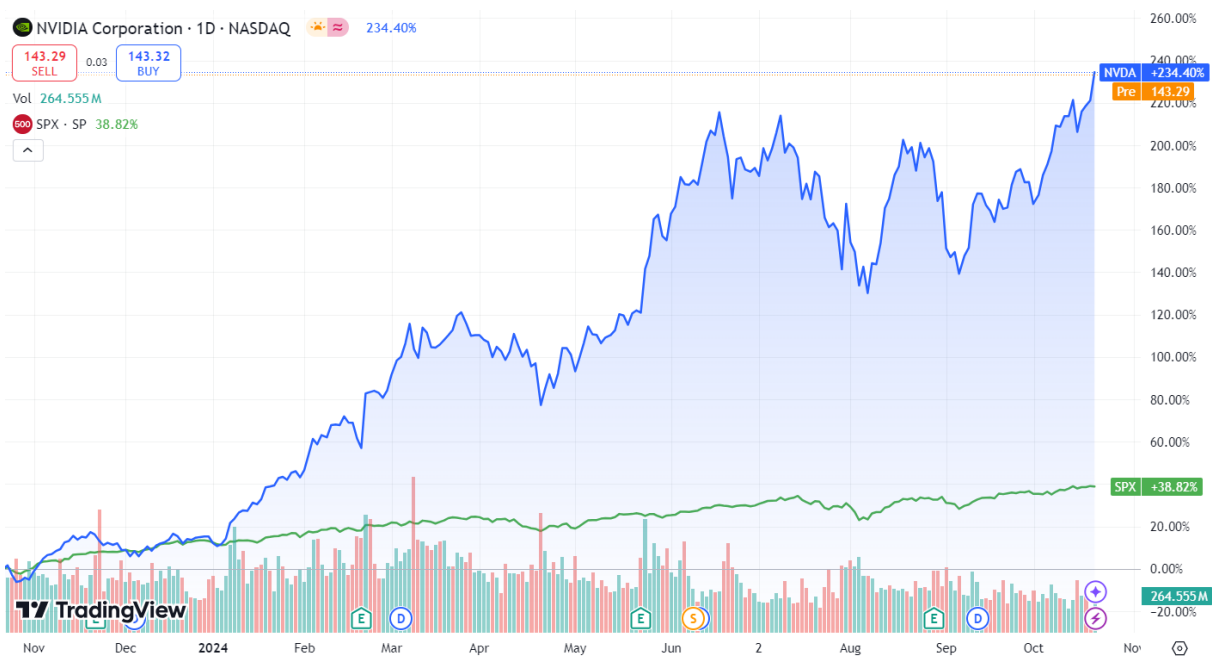
### COMPANY NEWS

**Cisco set to invest in Core Weave at \$23 billion valuation, Bloomberg News reports.** Cisco is set to invest in CoreWeave, a company reportedly valued at \$23 billion. This investment comes as demand for cloud-computing services surges due to increased use of artificial intelligence applications like ChatGPT and other large language models. Big tech firms have been heavily investing in infrastructure to support AI development, with CoreWeave's valuation reflecting the growing importance of cloud computing in this space. [Read more.](#) (Reuters)

**Eric Schmidt's SandboxAQ aims for \$5 billion valuation for its AI/quantum Google moonshot.** SandboxAQ, a spinout from Alphabet led by Jack Hidary and backed by Eric Schmidt as chairman, is seeking to raise another round that would value it at \$5 billion, following its previous \$500 million raise in February 2023. The startup aims to work at the intersection of quantum computing and AI, developing software based on quantum physics to model molecules and make predictions about their behavior. It has partnerships with Google and other companies, and is working on various projects, including extending lithium-ion battery life, magnetic navigation systems, and an AI-powered magnetocardiography system for medical imaging. [Read more.](#) (Tech Crunch)

**Nvidia, the AI chipmaker, just hit another record high.** Nvidia shares hit a record high of \$138.07, driven by Wall Street's anticipation of earnings updates from major tech companies' AI infrastructure spending. The stock has surged nearly 180% this year, reflecting Nvidia's dominance in the AI chip market, where it controls an estimated 70-95%. With a \$3.4 trillion market cap, Nvidia is now the second most valuable U.S. company, behind Apple. CEO Jensen Huang attributes demand to "insane" interest in next-generation Blackwell chips, which are sold out for the next 12 months and set to roll out in Q4. [Read more.](#) (Tech Crunch)

Chart 9: NVDA vs S&P 500 (1-Year Returns)



Source: Intro-act, Trading View, Price as on October 21, 2024

**TensorWave thinks it can break Nvidia's grip on AI compute with an AMD-powered cloud.** TensorWave, a cloud infrastructure startup founded late last year, is challenging Nvidia's dominance in AI compute with its AMD-powered cloud. The company aims to democratize AI access by offering a viable alternative to Nvidia's GPUs, which have become the chip of choice among AI players. TensorWave's CEO, Darrick Horton, claims that the company can solve the GPU supply problem and provide competitive pricing and performance. With \$3 million in annual recurring revenue and plans to reach \$25 million by year-end, TensorWave is generating interest from investors, including AMD Ventures, which led a \$43 million funding round valuing the startup at \$100 million post-money. [Read more.](#) (*Tech Crunch*)

**Nvidia makes Seven tech announcements in Washington D.C.** Nvidia made seven tech announcements at its AI Summit in Washington D.C., including collaborations with U.S. companies to create custom AI applications. Nvidia is teaming with Accenture, Deloitte, and others to help clients in various industries use AI agents and copilots. The company also announced new microservices for developers to easily curate data, customize models, and manage responses. Additionally, Nvidia is helping the SETI Institute search for extraterrestrial intelligence using AI, and launching joint technology centers with Carnegie Mellon University and the University of Pittsburgh to accelerate innovation in AI and robotics. [Read more.](#) (*Venture Beat*)

**Accenture forms Nvidia business group to scale enterprise AI adoption.** Accenture has formed an Nvidia business group with 30,000 professionals to receive training on AI adoption. The aim is to help clients reinvent processes and scale enterprise AI adoption using AI agents. Accenture's AI Refinery will integrate seamlessly with Nvidia's technology to accelerate AI across the SaaS and Cloud AI ecosystem. The new group will focus on scaling agentic AI systems, which can act on user intent and create new workflows, driving productivity and growth. This significant investment will be supported by over 30,000 professionals receiving training globally. [Read more.](#) (*Venture Beat*)

**AMD sees next AI chip in mass production later this year.** AMD plans to start mass production of its AI chip, MI325X, in the fourth quarter, as it seeks to bolster its presence in a market dominated by Nvidia. The company also announced its next-generation MI350 series chips for 2025, with increased memory and improved performance. AMD's shares fell nearly 5% despite the announcements, attributed to the absence of new cloud-computing customers. The company aims to compete with Nvidia's Blackwell architecture and has forecast AI chip sales of \$4.5 billion this year. [Read more.](#) (*Reuters*)

**Microsoft could end up with substantial equity in the restructured, for-profit OpenAI.** Microsoft and OpenAI are racing to negotiate Microsoft's equity stake in the restructured, for-profit OpenAI ahead of a two-year deadline. The tech giant has invested nearly \$14 billion into OpenAI, making it the second-most valuable startup in the US. Negotiations involve resolving equity distribution among CEO Sam Altman and employees, as well as governance rights for Microsoft. Once OpenAI converts to a public-benefit corporation with a nonprofit component, Microsoft's stake will be substantial, but exact figures are yet to be determined. [Read more.](#) (*Tech Crunch*)

**Google supercharges Shopping tab with AI and personalized recommendation feed.** Google is supercharging its Shopping tab with AI and personalized recommendation feed, using technology to help users shop for products based on their specific needs. When searching for a product, results will include an AI brief with things to consider before purchasing, such as climate-specific recommendations. The feature also shows relevant products with brief descriptions of why they might be a good match. A scrollable feed surfaces products and videos based on user preferences, allowing users to browse content that Google thinks they're interested in. [Read more.](#) (*Tech Crunch*)

**OpenAI snatches up Microsoft generative AI research lead.** Microsoft's VP of generative AI research, Sebastien Bubeck, has left for OpenAI. Bubeck was a key author of Microsoft's Phi models, which aim to push AI applications to edge devices. His expertise in small language and vision models is increasingly important as centralized models give way to on-device ones that work quickly, privately, and offline. Bubeck's new role at OpenAI likely involves working on efficiency and small-model aspects, where OpenAI currently has less prominence. [Read more.](#) (*Tech Crunch*)

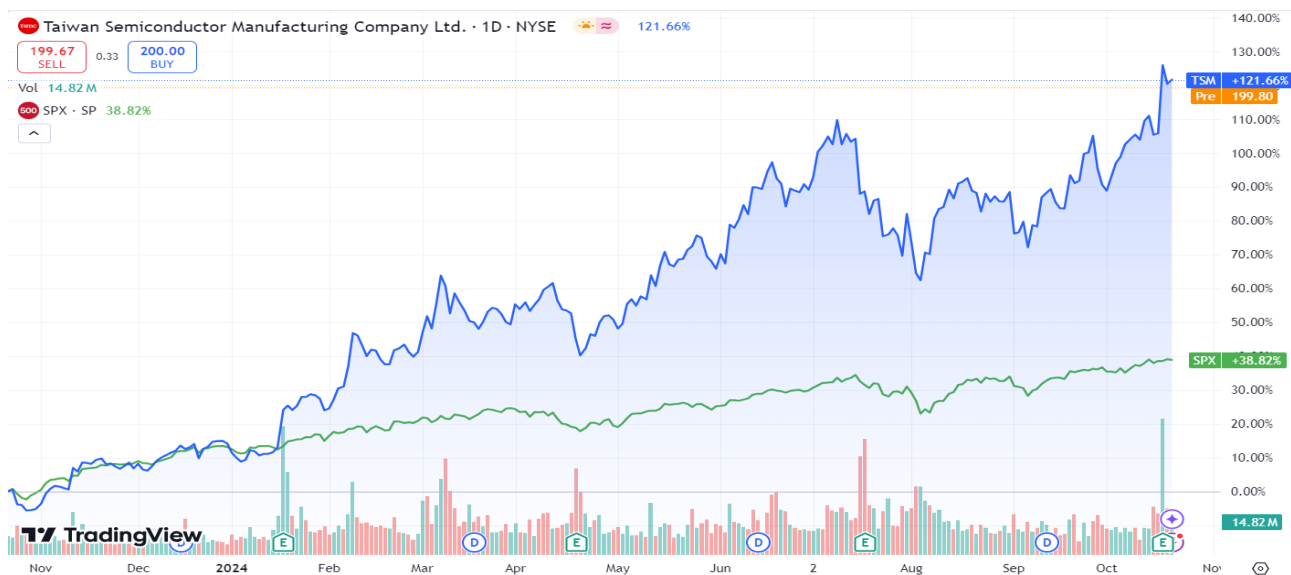
**Google signed a deal to power data centers with nuclear micro-reactors from Kairos — but the 2030 timeline is very optimistic.** Google has signed a deal with Kairos Power to build seven small reactors supplying electricity to its data centers. The agreement promises 500 megawatts of carbon-free electricity by the end of the decade, joining Microsoft and Amazon in using nuclear power. Kairos' molten salt design is untested commercially, but it aims to lower costs and speed construction with mass production techniques. Despite regulatory approval, the startup faces significant challenges, including public opposition, as 44% of Americans remain opposed to nuclear power. [Read more.](#) (Tech Crunch)

**Meta AI launches in six countries, including Brazil and the UK.** Meta AI is being launched in Brazil, the UK, the Philippines, Bolivia, Guatemala, and Paraguay, with plans to roll out in more countries, including the Middle East, making it available in 43 countries and over a dozen languages. The rollout includes regions like Algeria, Egypt, Indonesia, and Saudi Arabia, with support for Arabic, Indonesian, Thai, and Vietnamese languages. Meta AI has nearly 500 million users worldwide and is on track to become the most-used assistant by year-end, with India being its biggest market due to WhatsApp's large user base. [Read more.](#) (Tech Crunch)

**Uber to launch OpenAI-powered AI assistant to answer driver EV questions.** Uber will launch an AI assistant powered by OpenAI's GPT-4o in early 2025 for US drivers, answering electric vehicle (EV) questions like charging locations and purchase recommendations. The chatbot will be accessible from the Uber driver app home screen and continuously updated with new information. It will provide personalized answers based on drivers' needs and location, and eventually allow voice interactions. An EV mentorship program will also be introduced, offering cash rewards to experienced drivers who mentor others about EV ownership. [Read more.](#) (Tech Crunch)

**TSMC stock hits new high after forecast-beating earnings.** TSMC's shares hit a record high after the world's largest contract chipmaker reported forecast-beating third-quarter earnings and gave a rosy outlook for strong AI demand. The stock closed 4.8% higher at T\$1,085, surpassing its previous record of T\$1,080. TSMC also raised its revenue forecast for the year and predicted healthy growth over the next five years. However, the company faced uncertainty after a US investigation into whether it made chips for Huawei, and said it would comply with laws and regulations. [Read more.](#) (Reuters)

Chart 10: TSM vs S&P 500 (1-Year Returns)



Source: Intro-act, Trading View, Price as on October 21, 2024

**Anthropic challenges OpenAI with affordable batch processing.** Anthropic launched its Message Batches API, allowing businesses to process large volumes of data at half the cost of standard API calls. The new offering handles up to 10,000 queries asynchronously within a 24-hour window and offers a 50% discount on input and output tokens compared to real-time processing. This move positions Anthropic to compete with OpenAI and could lead to increased AI adoption among mid-sized businesses. The implications extend beyond cost savings, potentially altering how businesses approach data analysis and leading to more comprehensive large-scale analyses. [Read more.](#) (*Venture Beat*)

**Foxconn to build Taiwan's fastest AI supercomputer with Nvidia Blackwell.** Foxconn is building Taiwan's fastest AI supercomputer with Nvidia Blackwell chips. The Hon Hai Kaohsiung Super Computing Center will feature 4,608 Tensor Core GPUs and have an expected performance of over 90 exaflops, making it the fastest in Taiwan. The project aims to support breakthroughs in cancer research, large language model development, and smart city innovations, positioning Taiwan as a global leader in AI-driven industries. Construction has started with the first phase operational by mid-2025 and full deployment targeted for 2026, integrating Nvidia technologies like Omniverse and Isaac robotics platforms. [Read more.](#) (*Venture Beat*)

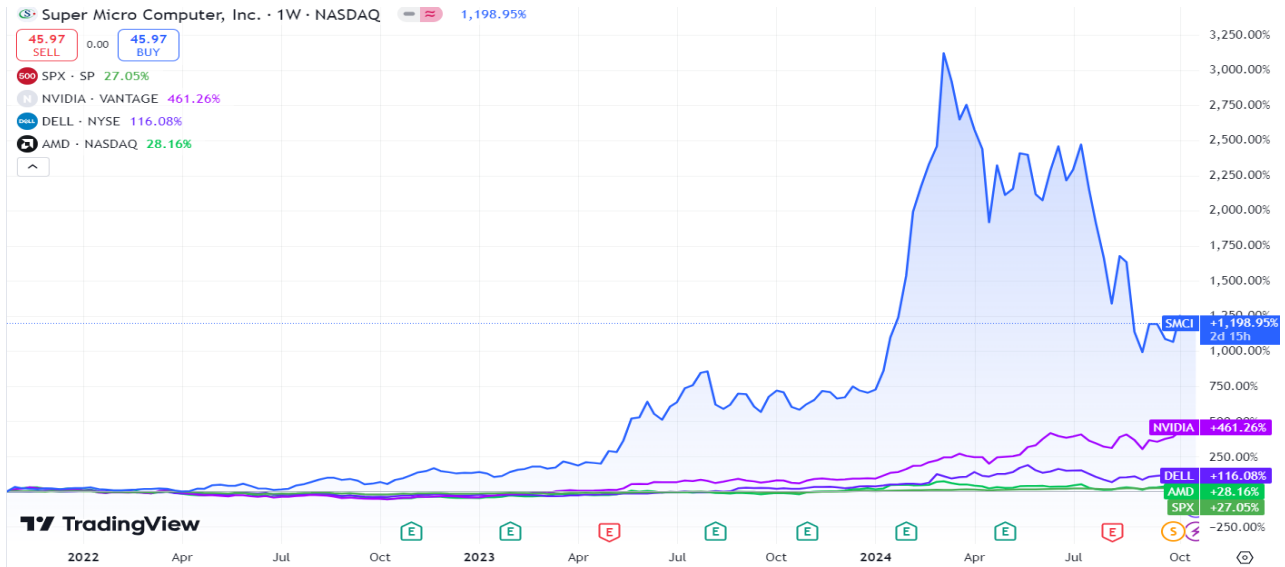
**Italian tech company Bending Spoons has eye on U.S. for potential IPO.** Italian tech company Bending Spoons, valued at \$2.55 billion after a February funding round, is considering a US listing for its potential IPO. CEO Luca Ferrari says there are no firm plans but they're working to be ready and looking beyond Europe. A U.S. listing would be a setback for the Milan Stock Exchange, which faces limited access to capital and excess regulation. Bending Spoons has acquired services like WeTransfer and Remini, with 200 million monthly users, and is open to further deals this year, having added 5,000 companies to its acquisition pipeline in the past 12 months. [Read more.](#) (*Reuters*)

**Netflix hits record high as strong subscriber additions ease growth worries.** Netflix shares hit an all-time high after strong subscriber additions eased growth worries. The company added 5.1 million users in the third quarter, beating estimates by over a million. Profit and revenue also exceeded expectations, with analysts citing price increases and a robust content lineup as key drivers of growth. Despite a slowdown in subscriber growth, Netflix's stock rose nearly 10% and its market value increased by \$28 billion, with at least 20 analysts raising their price targets. [Read more.](#) (*Reuters*)

**Apple's new iPhone sales in China jump 20% in first three weeks, Counterpoint says.** Apple's new iPhones saw a 20% rise in sales in China over their first three weeks compared to last year's model. The iPhone 16 Pro and Pro Max models performed particularly well, with combined sales up 44%. However, overall iPhone sales dropped 2% due to decreased sales of older models and increased competition from Huawei's Mate and Pura series. This marks a strong start for Apple in China, where it has been losing market share to domestic rivals like Huawei in recent quarters. [Read more.](#) (*Reuters*)

**Super Micro shares surge as AI boom drives 100,000 quarterly GPU shipments.** Super Micro Computer's shares surged about 14% after the company announced it is shipping over 100,000 graphics processors per quarter, driven by a boom in generative artificial intelligence technology. The demand for hardware to process large data amounts used in GenAI has increased, benefiting Super Micro, which makes servers featuring leading AI chips, including Nvidia's. The company also unveiled new liquid cooling products, enabling up to 96 of Nvidia's B200 chips per rack with up to 40% energy savings and 80% space savings. [Read more.](#) (*Reuters*)

## Chart 11: Super Micro's Shares Outperform S&P 500 (3-Year Comparison)



Source: Intro-act, Trading View, Price as on October 22, 2024

## DISRUPTIVE TECH EVENTS CALENDAR

Chart 12: Disruptive Tech Industry Events Calendar

S. no.	Event Name	Place	Date	Registration Link
1	Deep Learning Summit London	London, UK	November 04, 2024	<a href="#">Link</a>
2	TECHSPO Dallas 2024	Dallas, TX	November 04, 2024	<a href="#">Link</a>
3	API World 2024	Santa Clara, CA	November 05, 2024	<a href="#">Link</a>
4	CloudX 2024	Santa Clara, CA	November 05, 2024	<a href="#">Link</a>
5	Dev Innovation Summit 2024	Santa Clara, CA	November 05, 2024	<a href="#">Link</a>
6	Reuters Events: Service and Experience 2024	Miami, FL	November 12, 2024	<a href="#">Link</a>
7	Devops Barcelona 2024	Barcelona, Spain	November 14, 2024	<a href="#">Link</a>
8	React Summit US	New York, NY	November 19, 2024	<a href="#">Link</a>
9	FutureIT New York	New York, NY	November 21, 2024	<a href="#">Link</a>

Source: Intro-act, Multiple Web Sources

## AI - FUNDING

Chart 13: Top Seed /Angel Deals in Q2'24

Company Name	Security Type	Investment Date	Amount (\$ million)	Select Investors
EvolutionaryScale	Seed VC	June 25, 2024	102	Daniel Gross, Lux Capital, Nat Friedman, Amazon Web Services, NVentures
MainFunc	Seed VC	June 18, 2024	60	Lanchi Ventures
CuspAI	Seed VC	June 18, 2024	30	Hoxton Ventures, Lightspeed Venture Partners, Basis Set, FJ Labs, Giant Ventures
Seven AI	Seed VC	June 7, 2024	36	Greylock Partners, Spark Capital, CRV
Orange	Seed VC	May 6, 2024	19	ANRI, Chiba Dojo, GFR Fund, Globis Capital Partners, JIC Venture Growth Investments
H	Seed VC	April 29, 2024	100	Accel, Aglae Ventures, Amazon, Creandum, Elaia Partners
FlexAI	Seed VC	April 24, 2024	30	Alpha Intelligence Capital, Elaia Partners, Heartcore Capital, Frst Capital, Motier Ventures
Turing	Seed VC	April 23, 2024	19	ANRI, DIMENSION, Global Brain, Digital Hearts Holdings, KDDI Open Innovation Fund
NeuBird	Seed VC	April 17, 2024	22	Mayfield
Lumana	Seed VC	April 2, 2024	24	Norwest Venture Partners, S Capital VC

Source: Intro-act, CB-Insights

**Chart 14: Top Unicorns by Valuation in Q2'24**

S. No.	Company Name	Amount (\$ Billion)	Country
1	ByteDance	225	China
2	OpenAI	80	United States
3	Databricks	43	United States
4	Canva	25	Australia
5	xAI	24	United States
6	CoreWeave	19	United States
7	Anthropic	18.4	United States
8	Scale	13.8	United States
9	Grammarly	13	United States
10	Faire	12.6	United States

Source: Intro-act, CB-Insights

**Chart 15: M&A Transactions in Disruptive Tech Companies in the Past One Month**

Target	Acquirer	Announcement Date	Transaction Status	Target Country
Embedded A.I. Systems Pte. Ltd.	Nanoveu Ltd.	15-Oct-24	Pending	Singapore
LangCore, Inc.	AVILEN, Inc.	11-Oct-24	Pending	Japan
Inventory Onlineplattform GmbH	HighCastle Technologies Ltd.	3-Oct-24	Complete	Austria
Aipuyang Technology (Shenzhen) Co., Ltd.	Jiangsu Eazytec Co., Ltd.	14-Sep-24	Pending	China (People's Republic)
ExaWizards Inc.	KH Co. Ltd.; ExaWizards, Inc. /Private Group/; RH Co., Ltd.	10-Sep-24	Complete	Japan
GreenFox Marine AS	Blue Future Holding AS	10-Sep-24	Complete	Norway
Iron Eaglex, Inc.	General Dynamics Information Technology, Inc.	9-Sep-24	Complete	United States
EDGE Technology, Inc.	The Chiba Bank, Ltd.	6-Sep-24	Pending	Japan
Beeline Financial Holdings, Inc.	Eastside Distilling, Inc.	4-Sep-24	Complete	United States
Igerencia	Nimble Gravity LLC	4-Sep-24	Complete	Colombia
The Digital Box SpA	Vection Technologies Ltd.	29-Aug-24	Pending	Italy
BackOffice Associates LLC	Capgemini SE	27-Aug-24	Pending	United States
Philomaxcap AG	H2E Americas LLC	23-Aug-24	Pending	Germany
10XME Technology, Inc.	Yield Guild Games Association	15-Aug-24	Complete	Philippines
Nullable, Inc.	Mimecast Services Ltd.	14-Aug-24	Complete	United States

## Disruptive Tech – Monthly AI Update

Esker SA	Bridgepoint Group Plc	12-Aug-24	Pending	France
Amelia US LLC	SoundHound AI, Inc.	8-Aug-24	Pending	United States
Exscientia Plc	Recursion Pharmaceuticals, Inc.	8-Aug-24	Pending	United Kingdom
Prospector LLC	Tarachi Gold Corp.	6-Aug-24	Pending	United States
Thoughtworks Holding, Inc.	Apax Partners (UK) Ltd.	5-Aug-24	Pending	United States
SupplyPike, Inc.	SPS Commerce, Inc.	1-Aug-24	Complete	United States
Qingdao Wendatong Artificial Intelligence Technology Co., Ltd.	Shanghai Zesheng Investment Co, Ltd.	30-Jul-24	Pending	China (People's Republic)
Planck Resolution Ltd.	Applied Systems, Inc.; JMI Management, Inc.; Hellman & Friedman LLC; Stone Point Capital LLC; CapitalG Management Company LLC	23-Jul-24	Complete	Israel
Super Telecom Co., Ltd.	Shanghai Ever Bright Investment Management Co. Ltd.	21-Jul-24	Pending	China (People's Republic)

Source: Intro-act, FactSet

## AI ETFs

### Global X Robotics & Artificial Intelligence ETF (BOTZ)

<b>Closing Price (10/21/24)</b>	<b>\$ 32.05</b>	<b>1 Week NAV Change</b>	<b>1.48%</b>	<b>NAV Change (YTD)</b>	<b>12.5%</b>
<b>AUM (as of 10/21/24)</b>	<b>\$ 2.65B</b>	<b>Fund Inception</b>	<b>09/12/2016</b>	<b>Expense Ratio</b>	<b>0.68%</b>

The Global X Robotics & Artificial Intelligence ETF invests in an index of companies that stand to benefit from the increased adoption of automation, robotics, and artificial intelligence. Part of the Global X suite of niche thematic ETFs, BOTZ's top holdings include NVIDIA, Keyence Corp, and Mitsubishi Electric. At 68 basis points, the BOTZ management fee is high for passive funds, but niche products aren't designed to be core portfolio products for set-it-and-forget-it investors. Micro-sector funds are geared for medium-term tactical wagers of weeks or months.

### Monthly Market Performance (As on 10/18/2024)

One Month	Three Months	Six Months	YTD	One Year	Inception
5.4%	4.02%	9.61%	12.5%	39.09	109.41%

### Quarterly Market Performance (Quarter Ending 09/30/2024)

One Month	Three Months	Six Months	YTD	One Year	Inception
2.48%	4.92%	1.06 %	13.39%	34%	127.04%

### Top 10 Holdings (Updated as of 10/21/24)

Company	Ticker	% Of Funds	Market Value (\$ M)
Nvidia Corp	NVDA	14.01	360,703,764.82
Intuitive Surgical Inc	ISRG	10.38	267,126,250.38
Abb Ltd-Reg	ABBN SW	9.47	243,793,444.64
Keyence Corp	6861 JP	7.35	189,084,845.22
SMC Corp	6273 JP	5.48	141,131,478.58
Dynatrace Inc	DT	4.76	122,543,752.98
Fanuc Corp	6954 JP	3.92	100,804,908.29
Omron Corp	6645 JP	3.79	97,451,762.72
Daifuku Co Ltd	6383 JP	3.1	79,900,280.93
Yaskawa Electric Corp	6506 JP	3.1	79,757,589.13

For more information on BOTZ visit: <https://www.globalxetfs.com/funds/botz/>

## AI ETFs

### Trueshares Technology, AI & Deep Learning ETF (LRNZ)

Closing Price (10/21/24)	\$ 39.38	1 Week NAV Change	-1.15%	NAV Change (YTD)	-3.0%
AUM (as of 10/21/24)	\$ 35.43 Mn	Fund Inception	02/28/2020	Expense Ratio	0.69%

LRNZ is actively managed and invests in global equities focused on Artificial Intelligence and deep learning. LRNZ is one of TrueMark's first ETFs. The fund is an actively managed, concentrated portfolio of global stocks focused on the development and utilization of artificial intelligence, machine learning, or other deep learning technologies. The fund will hold 20-30 mostly large-cap stocks that derive at least half of their revenue or are determined to have a competitive advantage, in such technologies. Stocks are classified as either secular growth, a cyclical growth business, or IPO. The fund advisor selects the portfolio based on individual value and growth prospects. Secular growth stocks are expected to have the greatest number of holdings, to which the advisor anticipates utilizing a buy-and-hold strategy. Cyclical growth businesses are screened using fundamental analysis, to potentially buy shares at the bottom of a cycle and sell at the peak. Positions in selected IPOs are built over four to six months following the IPO. LRNZ caps industry exposure at 25%. Prior to May 18, 2020, the fund name was TrueMark Technology, AI & Deep Learning.

### Monthly Market Performance (Month Ending 10/18/2024)

One Month	Three Months	Six Months	YTD	One Year	Inception
6.68%	3.14%	10.52%	-3.0%	35.5%	55.28%

### Quarterly Market Performance (Quarter Ending 09/30/2024)

One Month	Three Months	Six Months	YTD	One Year	Inception
1.12%	-5.56%	-2.98%	2.22%	26.59%	49.18%

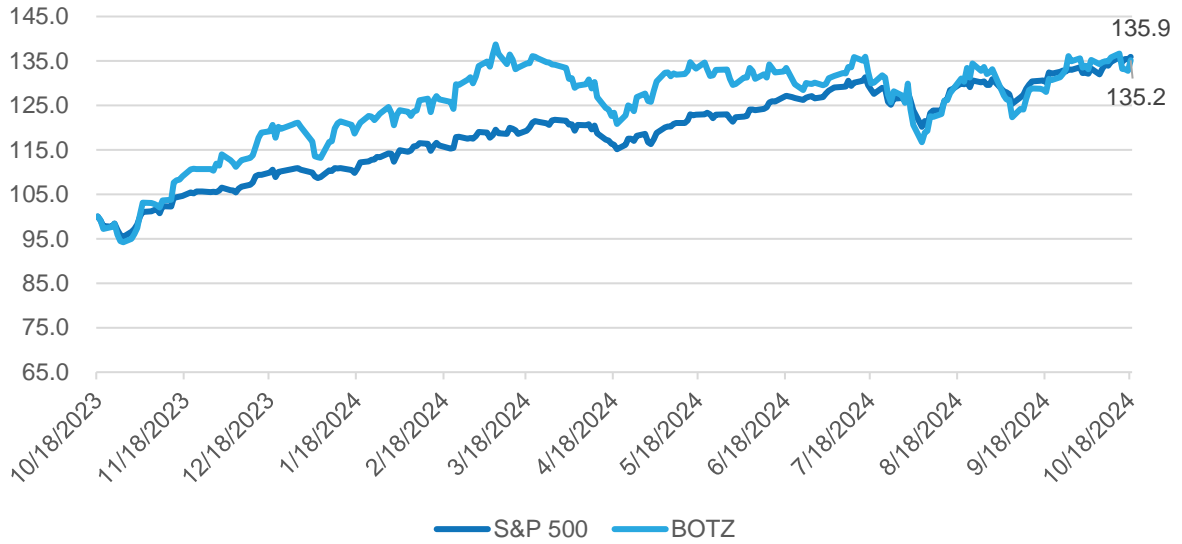
### Top 10 Holdings (Updated as of 10/22/24)

Company	Ticker	% Of Funds	Market Value
NVIDIA Corp	NVDA	11.72%	4.15M
Samsara Inc	IOT	8.91%	3.16M
CrowdStrike Holdings Inc	CRWD	8.20%	2.91M
Cloudflare Inc	NET	6.27%	2.22M
Advanced Micro Devices Inc	AMD	5.92%	2.10M
SentinelOne Inc	S	4.93%	1.75M
Amazon.com Inc	AMZN	4.78%	1.69M
Structure Therapeutics Inc	GPCR	4.78%	1.69M
Elastic NV	ESTC	4.76%	1.69M
Datadog Inc	DDOG	4.72%	1.67M

For more information on LRNZ visit: <https://www.true-shares.com/lrnz/>

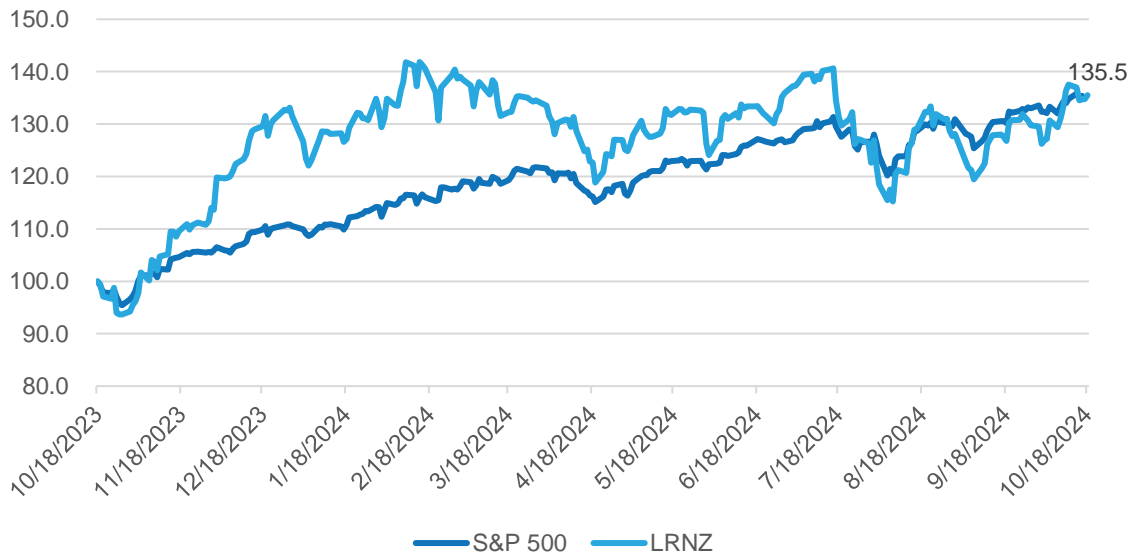
## AI ETFs

Chart 16: BOTZ vs. S&P 500



Source: Intro-act, Yahoo! Finance

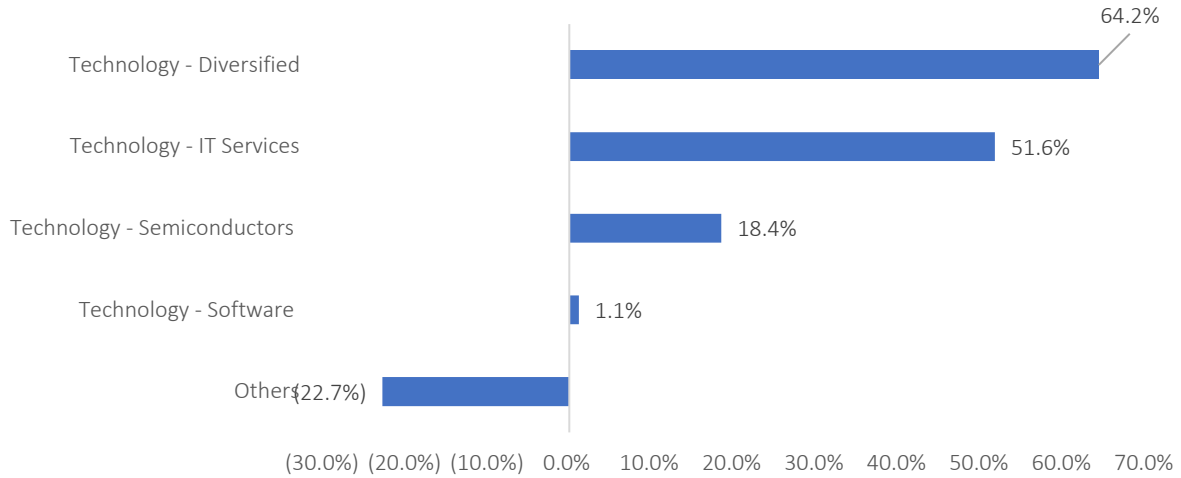
Chart 17: LRNZ vs. S&P 500



Source: Intro-act, Yahoo! Finance

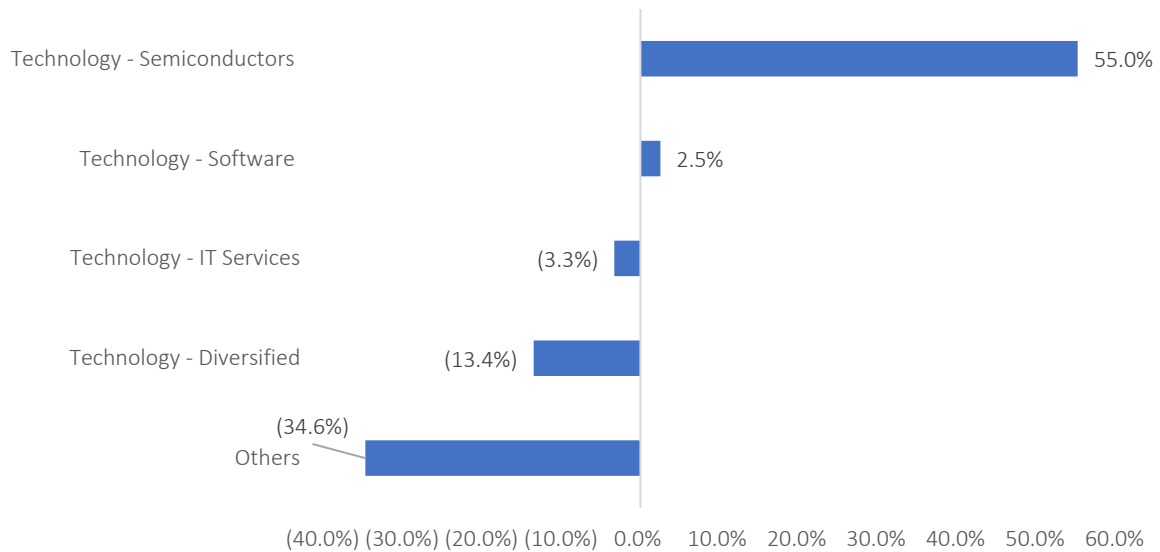
## LEADERS AND LAGGARDS – DISRUPTIVE TECH SEGMENTS

Chart 18: M/M Returns by DT Segments



Source: Intro-act, FactSet. Data as of October 18, 2024

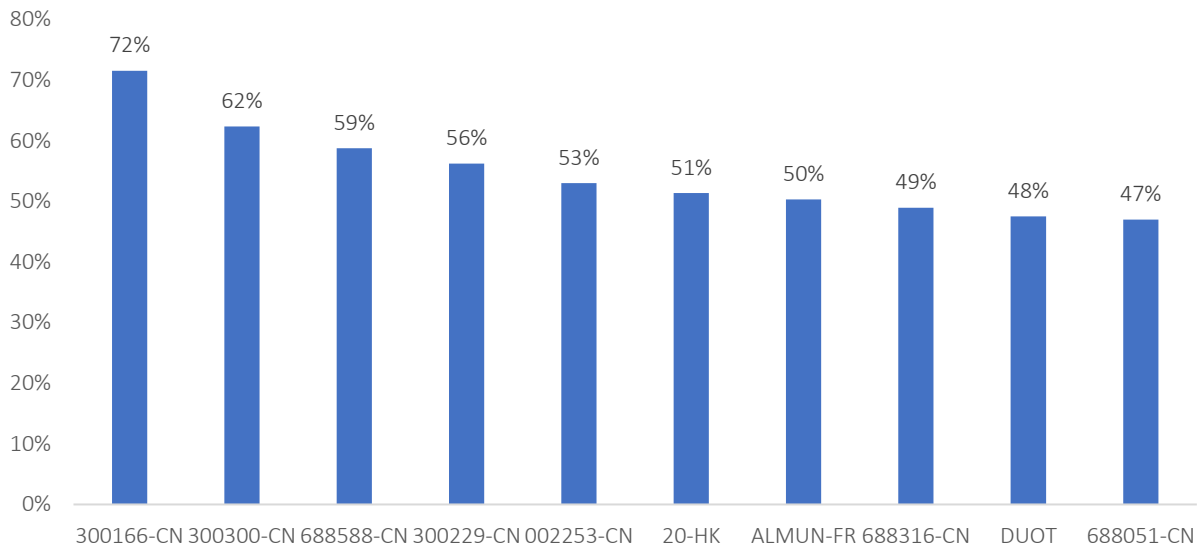
Chart 19: YTD Returns by DT Segments



Source: Intro-act, FactSet, Data as of October 18, 2024

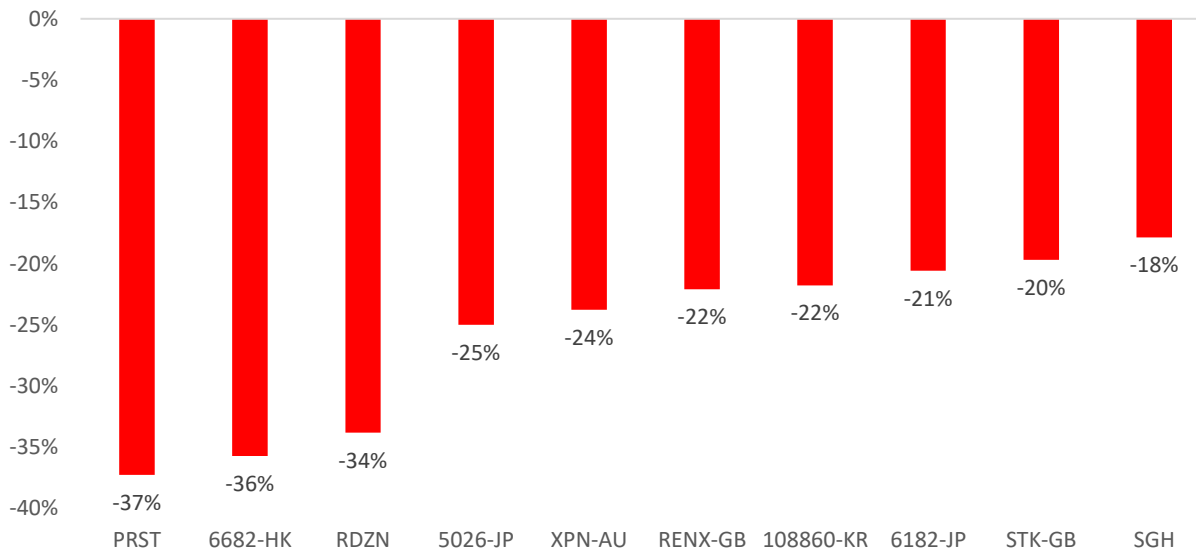
## LEADERS AND LAGGARDS – DISRUPTIVE TECH STOCKS

Chart 20: M/M Top 10 Disruptive Tech Gainers



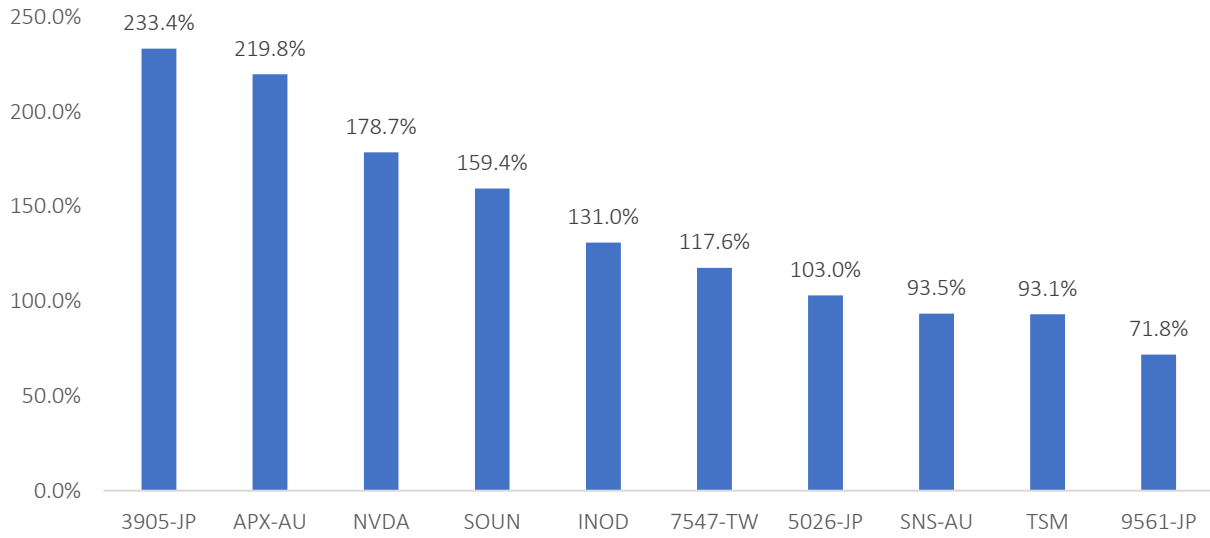
Source: Intro-act, FactSet. Data as of October 18, 2024

Chart 21: M/M Top 10 Disruptive Tech Losers



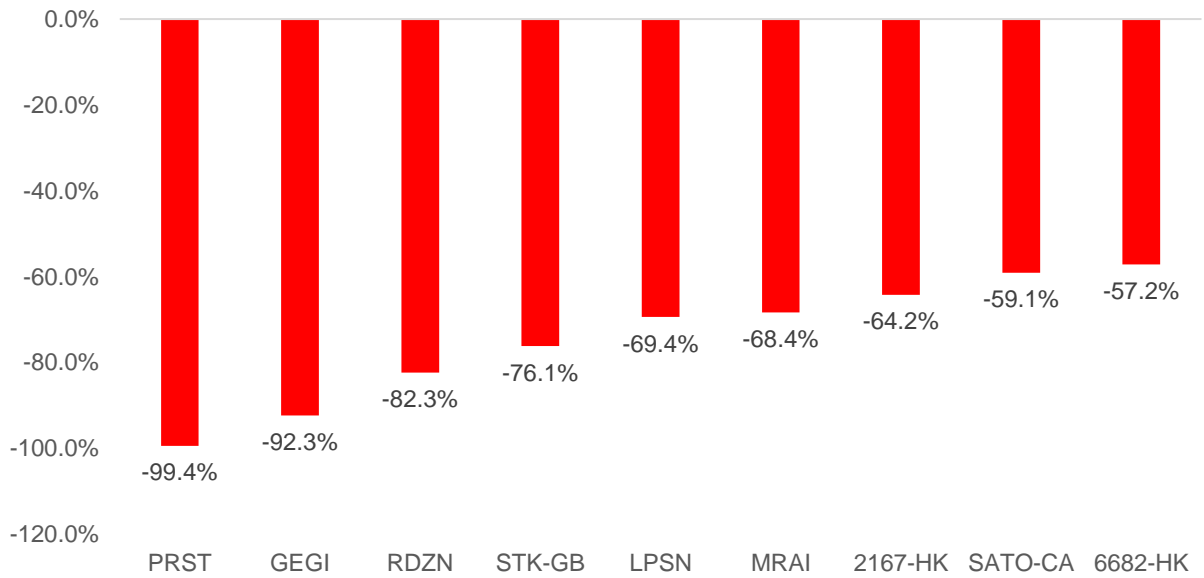
Source: Intro-act, FactSet. Data as of October 18, 2024

Chart 22: YTD Top 10 Disruptive Tech Gainers



Source: Intro-act, FactSet. Data as of October 18, 2024

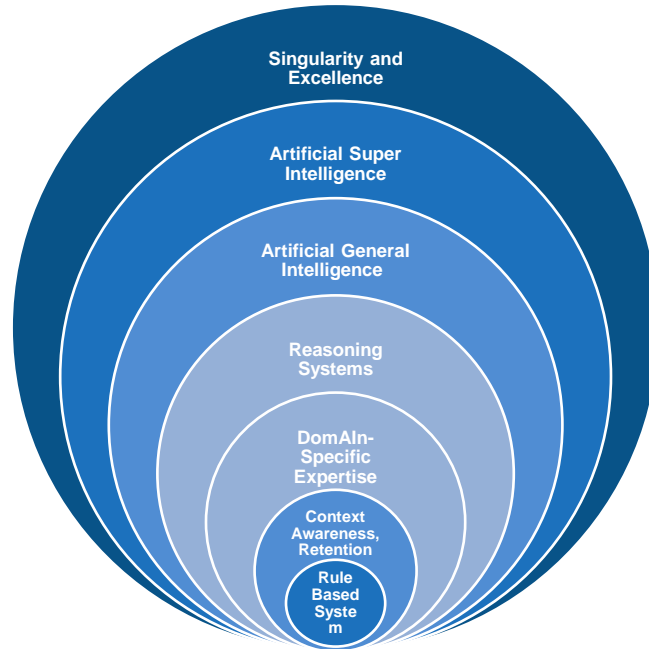
Chart 23: YTD Top 10 Disruptive Tech Losers



Source: Intro-act, FactSet. Data as of October 18, 2024

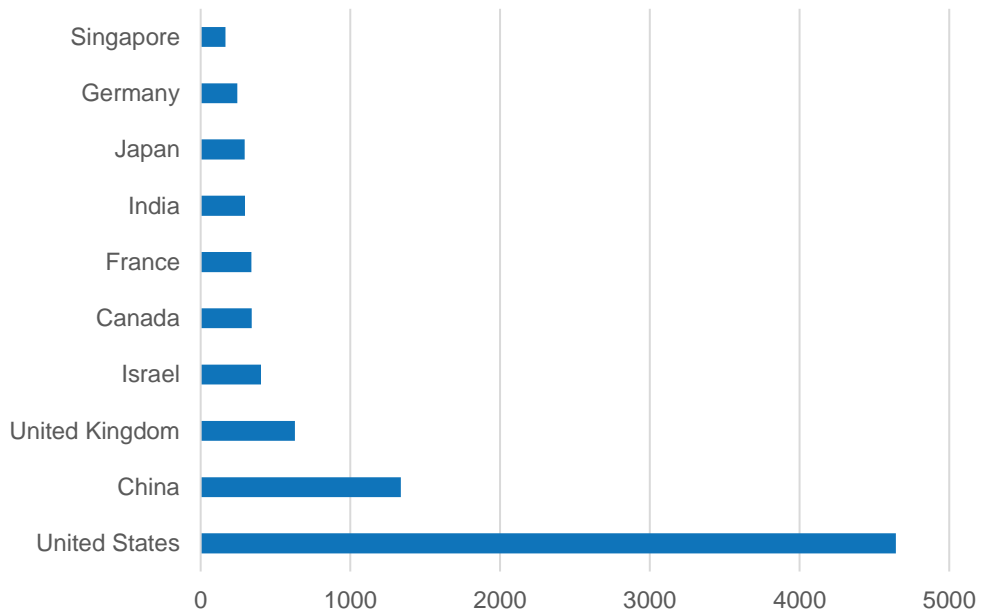
## AI – BACKGROUND

Chart 24: The Stages of AI



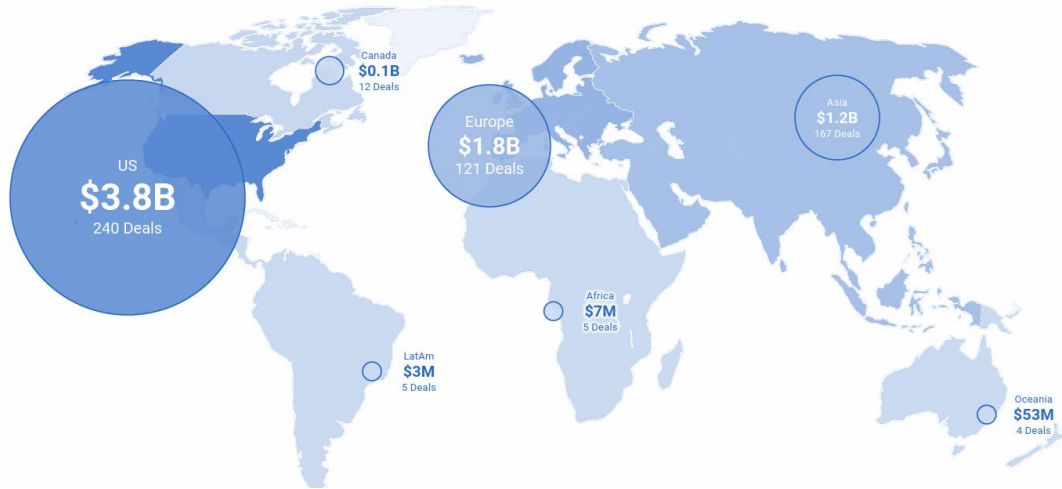
Source: *Intro-act, Record*

Chart 25: Countries with the Highest Number of Startups in AI



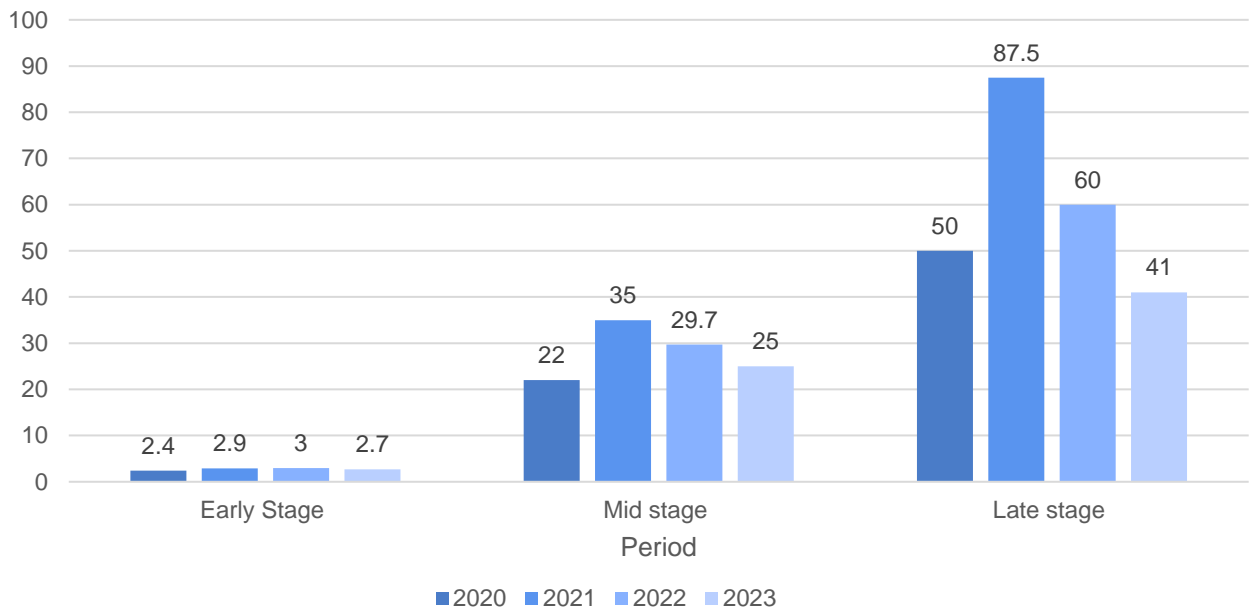
Source: *Intro-act, Capital Group*

Chart 26: Private Investments in AI (in Billion)



Source: Intro-act, CB Insights

Chart 27: Deal Size Across Stages (In \$ Million)



Source: Intro-act, CB-Insights

## Chart 28: Disruptive Tech Institutional Owners League (Current)

Rank	Investor Name	Invested in Disruptive Tech (\$)	Q/Q Change (\$)	Change in Positions (#)	Disruptive Tech as % of AUM
1	The Vanguard Group, Inc.	3,001,449,438,751	453,962,335,582	-4	11.9%
2	BlackRock Fund Advisors	1,685,029,284,285	249,522,367,464	-4	6.7%
3	SSgA Funds Management, Inc.	1,379,932,394,503	197,935,794,371	0	5.5%
4	Fidelity Management & Research Co. LLC	1,080,087,768,811	139,299,363,208	0	4.3%
5	Geode Capital Management LLC	745,071,876,916	122,233,320,956	-4	2.9%
6	T. Rowe Price Associates, Inc. (Investment Management)	566,711,043,035	62,943,878,672	0	2.2%
7	JPMorgan Investment Management, Inc.	358,675,405,279	61,603,184,985	2	1.4%
8	Northern Trust Investments, Inc.(Investment Management)	322,456,127,067	34,294,137,921	0	1.3%
9	Capital Research & Management Co. (Global Investors)	287,690,494,250	50,880,536,563	0	1.1%
10	BlackRock Advisors (UK) Ltd.	267,043,327,131	45,779,069,802	0	1.1%
11	Capital Research & Management Co. (World Investors)	264,716,242,572	38,435,085,943	0	1.0%
12	Capital Research & Management Co. (International Investors)	262,280,095,297	39,865,963,463	-2	1.0%
13	Wellington Management Co. LLP	254,593,288,893	33,611,547,920	4	1.0%
14	BlackRock Investment Management (UK) Ltd.	236,338,122,725	38,226,955,160	-2	0.9%
15	Charles Schwab Investment Management, Inc.	230,042,371,897	34,469,989,518	0	0.9%
16	Morgan Stanley Smith Barney LLC (Investment Management)	198,589,654,246	29,253,968,068	-4	0.8%
17	Goldman Sachs Asset Management LP	183,357,571,194	21,825,863,337	-2	0.7%
18	Legal & General Investment Management Ltd.	179,217,992,631	23,399,567,068	-2	0.7%
19	AllianceBernstein LP	178,446,861,187	29,944,982,592	0	0.7%
20	Parametric Portfolio Associates LLC	160,493,513,633	25,560,882,950	-2	0.6%
21	Berkshire Hathaway, Inc. (Investment Management)	158,054,707,679	(2,071,019,921)	0	0.6%
22	Massachusetts Financial Services Co.	157,351,661,260	20,755,601,393	0	0.6%
23	TIAA-CREF Investment Management LLC	143,453,816,648	16,619,443,811	0	0.6%
24	Amundi Asset Management US, Inc.	142,284,196,556	25,269,549,437	-2	0.6%
25	Jennison Associates LLC	141,126,534,287	16,213,589,741	0	0.6%
	Others	12,699,374,114,830	1,822,525,012,445	3,262	50.2%
	<b>TOTAL</b>	<b>25,283,867,905,563</b>	<b>3,632,360,972,449</b>	<b>3,240</b>	<b>100%</b>

Source: Intro-act, 13F Filings

Chart 29: Top 25 Disruptive Tech Buyers (Q/Q)

Rank	Investor Name	Invested in Disruptive Tech (\$)	Q/Q Change (\$)	Change in Positions (#)	Disruptive Tech as % of AUM
1	Russell Investments Canada Ltd.	628,731,887	628,731,887	43	26.9%
2	Kron AS	329,452,076	329,452,076	39	54.9%
3	Desjardins Securities, Inc.	2,740,891,217	2,740,891,217	37	28.6%
4	Shinhan Asset Management Co., Ltd.	198,712,208	198,712,208	37	13.7%
5	BOCI-Prudential Asset Management Ltd.	3,036,641,985	2,392,275,587	33	48.6%
6	SpiderRock Advisors LLC	2,550,567,764	2,550,567,764	31	81.2%
7	Crewe Advisors LLC	159,326,507	159,280,460	29	18.6%
8	Triad Advisors LLC	130,075,140	129,668,293	28	27.0%
9	The Putnam Advisory Co. LLC	11,481,107,817	11,354,319,139	25	54.3%
10	West Yorkshire Pension Fund	3,119,931,230	3,119,931,230	25	21.4%
11	Central Pacific Bank (Investment Management)	306,072,838	306,072,838	25	38.2%
12	Brooklyn Investment Group LLC	196,201,163	196,201,163	25	84.2%
13	Hilltop National Bank (Investment Management)	125,771,311	125,771,311	25	42.7%
14	Gen-Wealth Partners, Inc.	41,779,256	41,779,256	25	20.7%
15	Swedbank Robur Fonder AB	59,503,583,000	55,612,075,701	23	41.9%
16	Diversify Advisory Services LLC	671,939,785	671,939,785	23	39.5%
17	SpirePoint Private Client LLC	256,390,513	256,390,513	23	39.1%
18	WestEnd Capital Management LLC	239,167,772	239,167,772	23	92.7%
19	LRI Investments LLC	85,064,286	85,064,286	23	21.5%
20	New Covenant Trust Co., NA	34,390,875	34,390,875	23	34.4%
21	Russell Investments Implementation Services LLC	18,474,178	18,474,178	23	4.2%
22	Global Assets Advisory LLC	71,180,912	45,640,937	22	42.8%
23	Schroder Investment Management (Singapore) Ltd.	5,323,113,980	4,179,271,778	21	38.9%
24	Cannell & Spears LLC	2,715,265,928	2,715,265,928	21	56.1%
25	The Bryn Mawr Trust Co. (Investment Management)	1,056,342,287	1,056,342,287	21	41.5%

Source: Intro-act, 13F Filings

Chart 30: Top 25 Disruptive Tech Sellers (Q/Q)

Rank	Investor Name	Invested in Disruptive Tech (\$)	Q/Q Change (\$)	Change in Positions (#)	Disruptive Tech as % of AUM
1	Huatai-PineBridge Fund Management Co., Ltd.	178,460,480	(500,549,531)	-47	0.6%
2	CCB Principal Asset Management Co., Ltd.	25,944,565	(191,122,042)	-41	0.5%
3	China Asset Management Co., Ltd.	5,760,546,304	(9,002,020,964)	-36	8.4%
4	Harvest Fund Management Co., Ltd.	985,906,051	(2,109,034,470)	-32	3.2%
5	China Universal Asset Management Co., Ltd.	578,683,833	(2,478,140,889)	-32	1.9%
6	CA Indosuez (Switzerland) SA	25,150,987	(302,643,370)	-32	4.0%
7	E Fund Management Co., Ltd.	606,898,025	(14,064,345,553)	-22	1.0%
8	boerse. de Vermögensverwaltung GmbH	163,284,635	9,807,756	-22	45.1%
9	Arete Wealth Advisors LLC	34,545,674	(222,944,605)	-21	3.2%
10	Amundi Austria GmbH	813,897,874	19,556,942	-20	18.1%
11	Itau USA Asset Management, Inc.	611,561,782	(51,837,582)	-20	15.4%
12	KBC Fund Management Ltd.	207,189,844	(447,368,124)	-20	2.3%
13	GLG Partners LP	45,161,159	(351,749,825)	-20	0.5%
14	FJ Investments LLC (Utah)	459,015,789	(637,737,568)	-19	40.0%
15	Apicil Asset Management SA	18,765,416	(138,982,474)	-19	2.0%
16	Sanders Capital LLC	41,150,156,620	4,263,841,459	-16	67.1%
17	KBC Asset Management NV	21,889,189,784	3,121,486,234	-16	48.6%
18	Argenta Spaarbank NV	1,414,347,587	(190,893,394)	-16	22.7%
19	Greenwood Gearhart, Inc.	334,478,350	49,823,020	-16	32.6%
20	Lee Financial Co. LLC	53,923,741	5,147,073	-16	9.0%
21	The O'Dell Group LLC	50,161,909	7,151,228	-16	12.3%
22	Long Island Wealth Management, Inc.	4,542,251	(1,601,533)	-16	3.2%
23	Weiss Multi-Strategy Advisers LLC	1,129,562	(545,477,786)	-16	1.0%
24	Livelsberger Financial Advisory	332,114	(2,494,762)	-16	3.9%
25	MFS International (UK) Ltd.	5,616,544,769	285,758,648	-15	8.5%

Source: Intro-act, 13F Filings

# Disruptive Tech – Monthly AI Update

		10/18/2024	Share Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	Price Performance			Sales			EBITDA		Book Value		
						% to High	% to Low	% YTD	LTM	NTM	EV/Sales	LTM	NTM	EV/ EBITDA	Book/ Share	P/ Book
<b>Peer Set</b>																
<b>TECHNOLOGY- DIVERSIFIED</b>																
1	Apple	AAPL	235.00	3,572,972	3,612,467	1%	-30%	32%	394,328	412,393	8.8 x	130,733	140,015	25.8 x	4.38	53.6 x
2	Amazon	AMZN	188.99	1,983,557	2,044,557	6%	-37%	13%	513,983	665,717	3.1 x	74,074	148,170	13.8 x	22.54	8.4 x
3	Meta	META	576.47	1,259,431	1,438,175	5%	-52%	71%	116,609	172,189	8.4 x	52,072	103,687	13.9 x	61.89	9.3 x
4	Google	GOOGL	163.42	957,478	1,939,694	17%	-26%	13%	282,836	364,443	5.3 x	110,155	157,799	12.3 x	24.41	6.7 x
5	Tesla	TSLA	220.70	705,057	687,273	23%	-37%	-37%	81,464	107,877	6.4 x	19,096	17,529	39.2 x	20.81	10.6 x
<b>TECHNOLOGY- SEMICONDUCTORS</b>																
6	Nvidia	NVDA	138.00	3,385,140	3,360,355	2%	-72%	369%	26,974	152,601	22.0 x	10,107	101,562	33.1 x	2.37	58.3 x
7	Taiwan Semiconductor	TSM	200.78	1,041,355	1,010,652	6%	-58%	67%	74,351	106,012	9.5 x	51,323	73,137	13.8 x	21.73	9.2 x
8	Advanced Micro Devices	AMD	155.97	252,435	249,339	46%	-40%	8%	23,601	29,401	8.5 x	8,518	10,343	24.1 x	34.94	4.5 x
9	Intel	INTC	22.77	97,365	126,326	125%	-19%	-56%	63,054	53,272	2.4 x	19,346	13,087	9.7 x	26.95	0.8 x
10	Teradyne	TER	126.04	20,567	20,186	29%	-36%	-23%	3,155	3,077	6.6 x	978	821	24.6 x	16.88	7.5 x
11	Ambarella, Inc.	AMBA	58.26	2,405	2,192	13%	-32%	-71%	338	292	7.5 x	59	(6)	-	13.27	4.4 x
12	SMART Global	SGH	15.69	830	1,099	90%	-16%	-56%	1,819	1,342	0.8 x	270	184	6.0 x	8.01	2.0 x
13	CEVA	CEVA	24.39	578	425	6%	-34%	-44%	135	109	3.9 x	(0)	-	-	11.15	2.2 x
<b>TECHNOLOGY- IT SERVICES</b>																

## Disruptive Tech – Monthly AI Update

14	IBM	IBM	232.20	213,891	257,848	2%	-41%	74%	60,530	64,123	4.0 x	15,838	16,067	16.0 x	26.08	8.9 x
15	Capgemini SE	CAP-FR	200.38	34,586	38,270	24%	-16%	-18%	23,498	-	-	3,739	-	-	70.65	2.8 x
16	Elm Company	7203-SA	279.31	22,345	20,805	14%	-36%	-	1,227	-	-	291	-	-	15.60	17.9 x
17	Northern Data AG	NB2-DE	34.53	2,167	2,193	4%	-48%	-60%	-	539	4.1 x	-	235	9.4 x	14.83	2.3 x
18	ArcSoft Corporation	688088-CN	4.76	1,909	1,630	30%	-39%	-31%	77	-	-	8	-	-	0.94	5.0 x
19	Innodata	INOD	18.80	545	533	15%	-71%	218%	-	164	3.3 x	-	27	19.5 x	1.00	18.8 x
20	BigBear.ai Holdings	BBAI	1.75	438	572	174%	-34%	-69%	155	183	3.1 x	(17)	(8)	-	0.42	4.2 x
21	Appen Limited	APX-AU	1.37	348	324	20%	-88%	-81%	389	-	-	11	-	-	0.37	3.7 x
22	NSW Inc.	9739-JP	19.60	292	176	17%	-15%	-2%	339	-	-	-	-	-	15.51	1.3 x
23	GMO GlobalSign	3788-JP	18.82	220	183	16%	-20%	-47%	120	-	-	-	-	-	5.66	3.3 x
24	FRONTEO	2158-JP	4.36	172	169	29%	-27%	-85%	53	-	-	-	-	-	0.54	8.0 x
25	FiscalNote Holdings	NOTE	1.19	156	302	91%	-45%	-88%	116	123	2.4 x	(24)	10	29.6 x	0.77	1.5 x
26	Neural Group	4056-JP	6.08	93	102	56%	-23%	-53%	22	-	-	-	-	-	0.24	25.2 x
27	Tripleize Co	5026-JP	9.61	80	79	59%	-57%	-	16	-	-	-	-	-	0.80	11.9 x
28	Japan Data Science Consortium	4418-JP	5.48	75	71	41%	-36%	-70%	11	148	0.5 x	-	-	-	1.73	3.2 x
29	Metareal	6182-JP	5.17	56	42	135%	-1%	-60%	32	-	-	-	-	-	1.19	4.3 x
30	JTP	2488-JP	6.64	40	20	16%	-15%	28%	-	-	-	-	-	-	3.95	1.7 x
31	PBT Group	PBG-ZA	0.33	34	33	30%	-8%	-30%	-	-	-	-	-	-	0.14	2.3 x
32	AR advanced technology	5578-JP	7.86	26	18	157%	-2%	-	-	-	-	-	-	-	4.11	1.9 x

## Disruptive Tech – Monthly AI Update

33	EarthLabs	SPOT-CA	0.15	21	(9)	31%	-32%	-79%	-	-	-	-	-	-	0.23	0.6 x
34	MEDIASEEK	4824-JP	1.78	17	15	46%	-11%	-44%	6	-	-	-	-	-	2.23	0.8 x
TECHNOLOGY- SOFTWARE																
35	Microsoft	MSFT	418.16	3,108,199	3,130,509	12%	-22%	24%	198,270	278,264	11.3 x	98,588	151,491	20.7 x	36.11	11.6 x
36	Hewlett Packard Enterprise Company	HPE	20.69	26,869	34,824	10%	-30%	31%	28,496	31,890	1.1 x	5,212	5,842	6.0 x	17.00	1.2 x
37	iflytek	002230-CN	6.45	14,093	16,177	18%	-29%	-22%	2,731	3,579	4.5 x	262	319	50.8 x	1.02	6.3 x
38	Juniper Networks	JNPR	39.21	12,907	13,498	1%	-37%	10%	5,301	5,036	2.7 x	1,033	855	15.8 x	13.84	2.8 x
39	Open Text Corp	OTEX-CA	34.02	9,123	14,535	31%	-19%	-28%	3,494	5,350	2.7 x	1,265	1,790	8.1 x	15.88	2.1 x
40	Unity Software	U	22.11	8,775	10,103	97%	-37%	-85%	1,391	1,694	6.0 x	(51)	355	28.5 x	8.05	2.7 x
41	SenseTime Group	20-HK	0.21	7,378	7,089	41%	-65%	-70%	553	-	-	(572)	-	-	0.09	2.4 x
42	CCC Intelligent Solutions Holdings	CCCS	11.16	6,957	7,595	15%	-12%	-2%	782	983	7.7 x	305	413	18.4 x	3.04	3.7 x
43	UiPath	PATH	13.06	6,106	5,521	113%	-21%	-70%	1,059	1,492	3.7 x	72	184	30.0 x	3.27	4.0 x
44	AppFolio	APPF	201.14	4,628	7,059	37%	-18%	66%	472	841	8.4 x	19	234	30.2 x	10.24	19.6 x
45	Beijing Ultrapower Software	300002-CN	1.86	3,391	3,346	14%	-43%	88%	694	-	-	159	-	-	0.46	4.0 x
46	C3.ai	AI	25.67	3,171	2,504	49%	-27%	-18%	267	402	6.2 x	(62)	(99)	-	6.89	3.7 x
47	TRS Information Technology	300229-CN	2.46	1,956	1,900	19%	-46%	51%	132	-	-	38	-	-	0.61	4.0 x
48	SoundHound AI	SOUN	5.50	1,793	1,777	86%	-73%	-	31	114	15.5 x	(73)	(43)	-	0.64	8.5 x
49	Esker SA	ALESK-FR	285.12	1,727	1,640	6%	-59%	-29%	173	-	-	35	-	-	21.93	13.0 x
50	BlackBerry	BB-CA	2.57	1,519	1,558	72%	-18%	-73%	656	608	2.6 x	(71)	41	38.1 x	1.24	2.1 x

## Disruptive Tech – Monthly AI Update

51	<b>Nagarro SE Business-Intelligence of Oriental Nations Corporation</b>	NA9-DE	101.03	1,392	1,571	4%	-34%	-54%	908	-	-	156	-	-	18.39	5.5 x
52		300166-CN	1.46	1,326	1,756	11%	-47%	-12%	331	-	-	10	-	-	0.75	1.9 x
53	<b>Appier Group</b>	4180-JP	11.50	1,175	1,114	18%	-43%	-1%	146	256	4.4 x	10	-	-	2.30	5.0 x
54	<b>PROS Holdings</b>	PRO	19.68	929	1,091	108%	-15%	-43%	276	345	3.2 x	(15)	27	39.8 x	(1.76)	-11.2 x
55	<b>Beijing Fourth Paradigm</b>	6682-HK	2.75	735	963	434%	-12%	-	-	-	-	-	-	-	1.55	1.8 x
56	<b>Bouvet ASA</b>	BOUV-NO	6.32	650	651	7%	-26%	-26%	299	-	-	47	-	-	0.33	19.2 x
57	<b>Linkage Software</b>	688588-CN	1.54	615	500	21%	-46%	-32%	95	-	-	-	-	-	0.42	3.7 x
58	<b>Shenzhen Sunwin Intelligent</b>	300044-CN	0.76	583	633	52%	-44%	46%	-	-	-	-	-	-	0.12	6.5 x
59	<b>Bairong</b>	6608-HK	1.28	529	630	48%	-22%	-4%	301	-	-	35	-	-	1.36	0.9 x
60	<b>Beijing Deep Glint Technology</b>	688207-CN	1.96	507	287	78%	-30%	-	-	-	-	-	-	-	1.22	1.6 x
61	<b>Newborn Town</b>	9911-HK	0.40	480	370	52%	-50%	-13%	410	-	-	47	-	-	0.15	2.6 x
62	<b>Wisesoft</b>	002253-CN	2.04	461	469	14%	-49%	-27%	-	-	-	-	-	-	0.75	2.7 x
63	<b>Sidetrade SA</b>	ALBFR-FR	243.21	357	320	8%	-43%	32%	40	-	-	4	-	-	27.99	8.7 x
64	<b>QingCloud Technologies</b>	688316-CN	4.86	232	242	90%	-35%	-38%	-	-	-	-	-	-	0.43	11.3 x
65	<b>CyberLink</b>	5203-TW	2.91	230	158	21%	-13%	-9%	55	70	2.2 x	8	-	-	1.82	1.6 x
66	<b>JLK</b>	322510-KR	8.74	225	233	113%	-43%	80%	-	-	-	-	-	-	0.22	39.1 x
67	<b>Strait Innovation Internet</b>	300300-CN	0.33	217	279	106%	-59%	-56%	-	-	-	-	-	-	0.03	9.6 x
68	<b>SELVAS AI</b>	108860-KR	7.58	204	243	132%	-1%	-21%	-	-	-	-	-	-	3.65	2.1 x
69	<b>eCloudvalley Digital Technology</b>	6689-TW	2.97	202	147	55%	-12%	-69%	293	-	-	7	-	-	1.34	2.2 x

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70	JIG-SAW	3914-JP	28.04	189	178	46%	-19%	-48%	23	-	-	-	-	-	3.12	9.0 x
71	Computer Institute of Japan	4826-JP	2.77	185	102	145%	-19%	53%	159	-	-	-	-	-	1.76	1.6 x
72	Perfect	PERF	1.94	165	41	94%	-12%	-80%	47	65	0.6 x	13	-	-	1.38	1.4 x
73	Datasection	3905-JP	8.13	144	141	150%	-78%	175%	14	-	-	5	-	-	0.76	10.7 x
74	ABEJA	5574-JP	13.60	126	105	203%	-20%	-	-	-	-	-	-	-	2.94	4.6 x
75	Almawave SpA	AIW-IT	4.16	125	121	40%	-4%	-24%	52	-	-	10	-	-	2.70	1.5 x
76	HEROZ	4382-JP	8.26	124	119	86%	-27%	-27%	21	-	-	4	-	-	2.24	3.7 x
77	Headwaters	4011-JP	61.50	117	110	123%	-36%	205%	12	-	-	-	-	-	3.97	15.5 x
78	Cyber Security Cloud	4493-JP	12.10	114	105	69%	-12%	-16%	17	-	-	-	-	-	1.14	10.6 x
79	Spyrosoft	SPR-PL	102.17	112	115	44%	-15%	92%	-	-	-	-	-	-	23.11	4.4 x
80	pluszero	5132-JP	14.46	111	106	42%	-31%	-	-	-	-	-	-	-	0.98	14.8 x
81	LivePerson	LPSN	1.16	105	428	243%	-61%	-97%	515	285	1.5 x	(16)	22	19.3 x	0.75	1.5 x
82	Laboro.AI	5586-JP	6.30	100	88	224%	-30%	-	-	-	-	-	-	-	1.02	6.2 x
83	AI inside	4488-JP	22.83	91	73	232%	-1%	-56%	28	-	-	5	-	-	8.91	2.6 x
84	Intumit	7547-TW	2.90	84	74	15%	-61%	102%	-	-	-	-	-	-	0.64	4.5 x
85	Loihde Oyj	LOIHDE-FI	12.59	72	72	36%	-12%	-31%	131	-	-	14	-	-	18.32	0.7 x
86	EDGE Technology	4268-JP	5.61	60	56	6%	-45%	-	-	-	-	-	-	-	0.44	12.7 x
87	Asteria Corp	3853-JP	3.40	60	45	50%	-16%	-63%	25	-	-	-	-	-	2.26	1.5 x
88	GLAD CUBE	9561-JP	6.76	56	51	13%	-55%	-	11	-	-	-	-	-	1.10	6.2 x

## Disruptive Tech – Monthly AI Update

89	TI Cloud	2167-HK	0.30	53	8	179%	-77%	-	56	-	-	(1)	-	-	0.39	0.8 x
90	Ridge-i	5572-JP	12.61	49	37	71%	-25%	-	-	-	-	-	-	-	3.87	3.3 x
91	VAIV	301300-KR	3.08	38	58	157%	-14%	-86%	-	-	-	-	-	-	3.68	0.8 x
92	Avant Technologies	AVAI	0.31	38	39	533%	-79%	-69%	-	-	-	-	-	-	(0.02)	-17.4 x
93	monoAI technology	5240-JP	2.97	36	26	144%	-7%	-	11	-	-	-	-	-	1.05	2.8 x
94	SenSen Networks	SNS-AU	0.04	34	34	2%	-72%	-61%	6	-	-	(5)	-	-	0.01	7.4 x
95	Duos Technologies	DUOT	3.91	30	35	47%	-51%	-24%	15	18	2.0 x	(6)	(5)	-	0.37	10.4 x
96	Brains Technology	4075-JP	5.04	28	20	118%	-26%	-73%	7	-	-	-	-	-	1.95	2.6 x
97	Aidemy	5577-JP	6.82	27	19	156%	-11%	-	12	-	-	-	-	-	2.00	3.4 x
98	WebComm Technology	6865-TW	1.45	21	21	67%	-4%	-69%	-	-	-	-	-	-	0.78	1.9 x
99	SecondXight Analytica	5028-JP	1.97	17	13	202%	-1%	-	7	-	-	-	-	-	0.57	3.4 x
100	sMedio	3913-JP	3.84	9	3	93%	-9%	-32%	6	-	-	-	-	-	3.43	1.1 x
101	VIQ Solutions	VQS-CA	0.17	9	21	26%	-52%	-93%	46	-	-	(3)	-	-	0.09	1.9 x
102	Orchasp Limited	532271-IN	0.04	8	9	86%	-42%	-59%	-	-	-	-	-	-	0.09	0.5 x
103	Munic SA	ALMUN-FR	0.68	6	7	126%	-35%	-79%	23	-	-	2	-	-	1.31	0.5 x
104	infiniitii ai	IAI-CA	0.04	5	6	123%	-54%	-9%	-	-	-	-	-	-	(0.01)	-6.6 x
105	VSBLTY Groupe	VSBY-CA	0.06	3	7	593%	-50%	-99%	2	-	-	-	-	-	(0.13)	-0.5 x
106	XPON Technologies Group	XPN-AU	0.01	2	1	326%	-30%	-96%	9	-	-	(3)	-	-	(0.00)	-1.8 x
107	Presto Automation	PRST	0.00	1	59	48338%	-28%	-100%	-	-	-	-	-	-	(0.57)	0.0 x

## Disruptive Tech – Monthly AI Update

108	Genesis Electronics Group	GEGI	0.00	0	3	2640%	-99%	-94%	-	-	-	-	-	-	-	-
OTHERS																
109	Coinbase Global	COIN	220.21	44,692	50,866	29%	-68%	-13%	3,194	5,479	9.3 x	(371)	2,314	22.0 x	33.71	6.5 x
110	Block	SQ	74.66	41,454	43,323	17%	-48%	-54%	17,532	25,947	1.7 x	991	3,183	13.6 x	31.25	2.4 x
111	Temenos AG	TEMN-CH	73.85	5,551	5,961	40%	-21%	-45%	950	1,091	5.5 x	366	421	14.2 x	10.19	7.2 x
112	Upstart Holdings	UPST	53.13	4,756	5,278	8%	-63%	-65%	842	658	8.0 x	37	10	515.5 x	6.68	8.0 x
113	nCino.	NCNO	36.58	4,227	4,215	2%	-26%	-33%	408	581	7.3 x	9	111	38.1 x	9.32	3.9 x
114	MTI Ltd.	9438-JP	7.79	479	377	11%	-53%	62%	187	-	-	-	-	-	1.94	4.0 x
115	Qudian	0HF1H0-E	2.22	280	(916)	17%	-32%	110%	84	-	-	-	-	-	7.86	0.3 x
116	Ever Fortune.AI	6841-TW	2.58	250	214	48%	-6%	-50%	-	-	-	-	-	-	0.66	3.9 x
117	RocKontrol Technology Group	688051-CN	2.99	231	232	78%	-35%	-60%	-	-	-	-	-	-	1.46	2.0 x
118	Imagesat International (I.S.I)	ISI-IL	3.64	223	234	11%	-40%	-	-	91	2.6 x	-	37	6.3 x	2.67	1.4 x
119	FreeBit	3843-JP	7.85	184	151	47%	-17%	4%	335	-	-	-	-	-	4.22	1.9 x
120	Aiforia Technologies Oyj	AIFORIA-FI	4.66	134	122	13%	-29%	-21%	2	-	-	(9)	-	-	0.84	5.5 x
121	Deepnoid	315640-KR	4.63	104	92	117%	-35%	-36%	-	-	-	-	-	-	0.79	5.9 x
122	Broadband Tower	3776-JP	1.40	86	82	45%	-45%	-17%	-	-	-	-	-	-	1.00	1.4 x
123	Laon People	300120-KR	3.55	74	83	92%	-15%	-55%	-	-	-	-	-	-	1.52	2.3 x
124	Acer Medical	6857-TW	4.83	74	67	55%	-7%	47%	-	-	-	-	-	-	0.44	11.1 x
125	Roadzen	RDZN	0.90	62	66	697%	-11%	-	-	86	0.8 x	-	(3)	-	(0.48)	-1.9 x

## Disruptive Tech – Monthly AI Update

126	ContextVision AB	CONTX-NO	0.47	36	29	84%	-3%	-75%	11	-	-	5	-	-	0.11	4.2 x
127	Mynet	3928-JP	2.60	23	23	36%	-44%	-49%	78	-	-	-	-	-	1.19	2.2 x
128	Renalytix Plc	RENX-GB	0.10	19	22	865%	-6%	-99%	3	4	5.1 x	(50)	-	-	(0.05)	-1.8 x
129	SOS	007VFG-E	0.83	15	(237)	732%	-40%	-98%	-	-	-	-	-	-	17.54	0.0 x
130	Silver Egg Technology	3961-JP	5.03	15	8	177%	-9%	-40%	9	-	-	-	-	-	3.34	1.5 x
131	Institution for a Global Society	4265-JP	2.29	10	6	87%	-12%	-84%	5	-	-	-	-	-	1.39	1.6 x
132	SATO Technologies	SATO-CA	0.17	8	12	174%	-16%	-76%	8	-	-	-	-	-	0.10	1.8 x
133	Marpai	MRAI	0.55	6	2	525%	-40%	-97%	24	-	-	(20)	-	-	(2.33)	-0.2 x

Data updated as of 10/18/2024.

\* Companies for which quarterly NTM and LTM data is not available, yearly numbers are used.

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