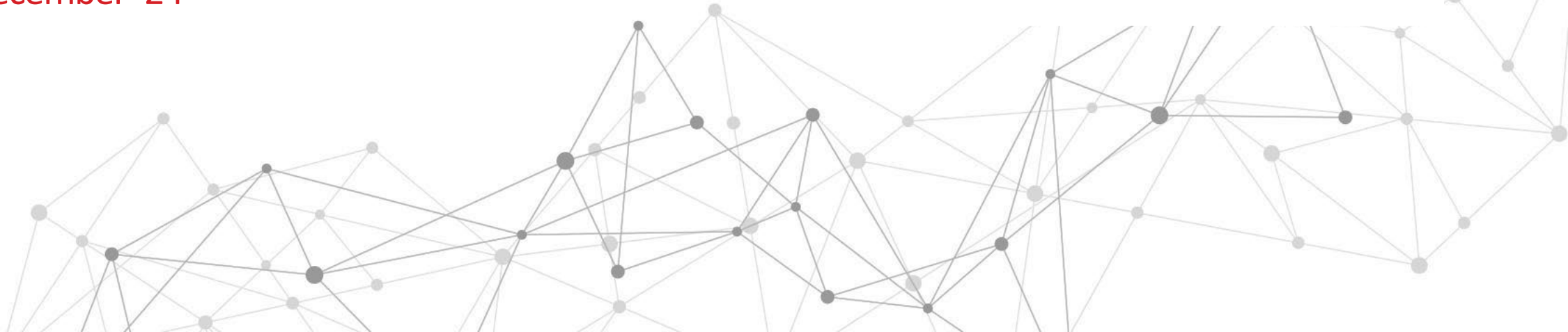
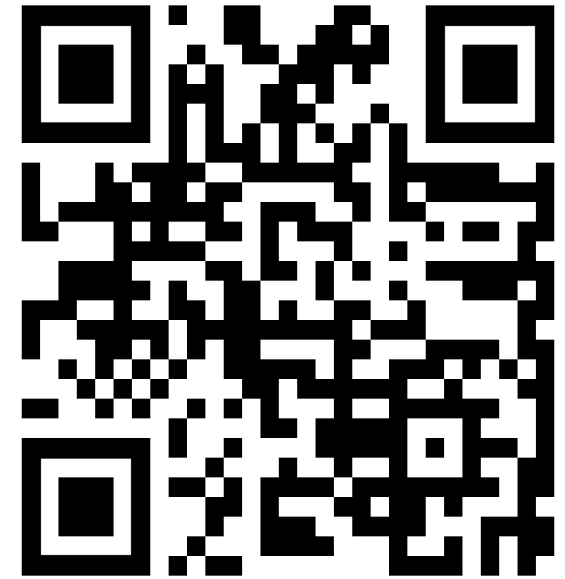


iConnections

Mathew Garver
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Heinz Blennemann
Blennemann Family Office
Heinz@Blennemann.com

December '24



iConnections “Virtual Meet Up”

>1

hour

10

slides

20+

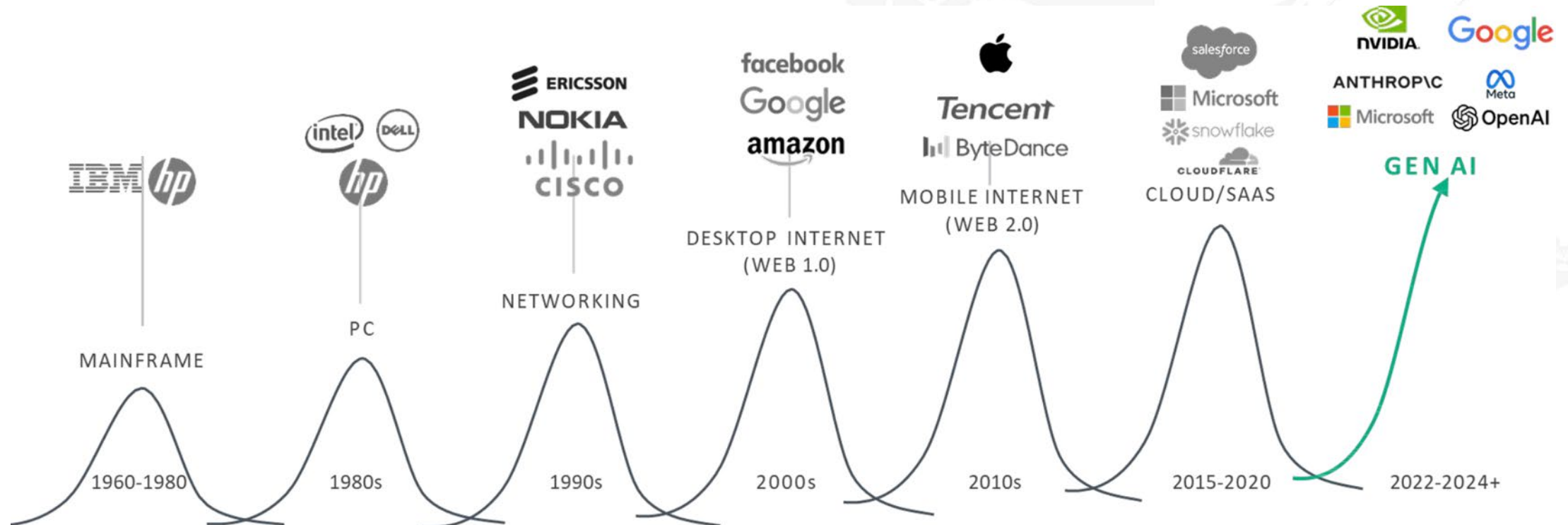
Participants

- Members of the Global FO community
- Economics, Tech, Academia specialist in the FO global community
- Founded AI Council with London based Campden Wealth (p2p SFO group)
- AI Council is open-source but invite only + 100 members over 2 years
- AI Council is a forum for deep technical review with leading names, thought leadership, education, investors...

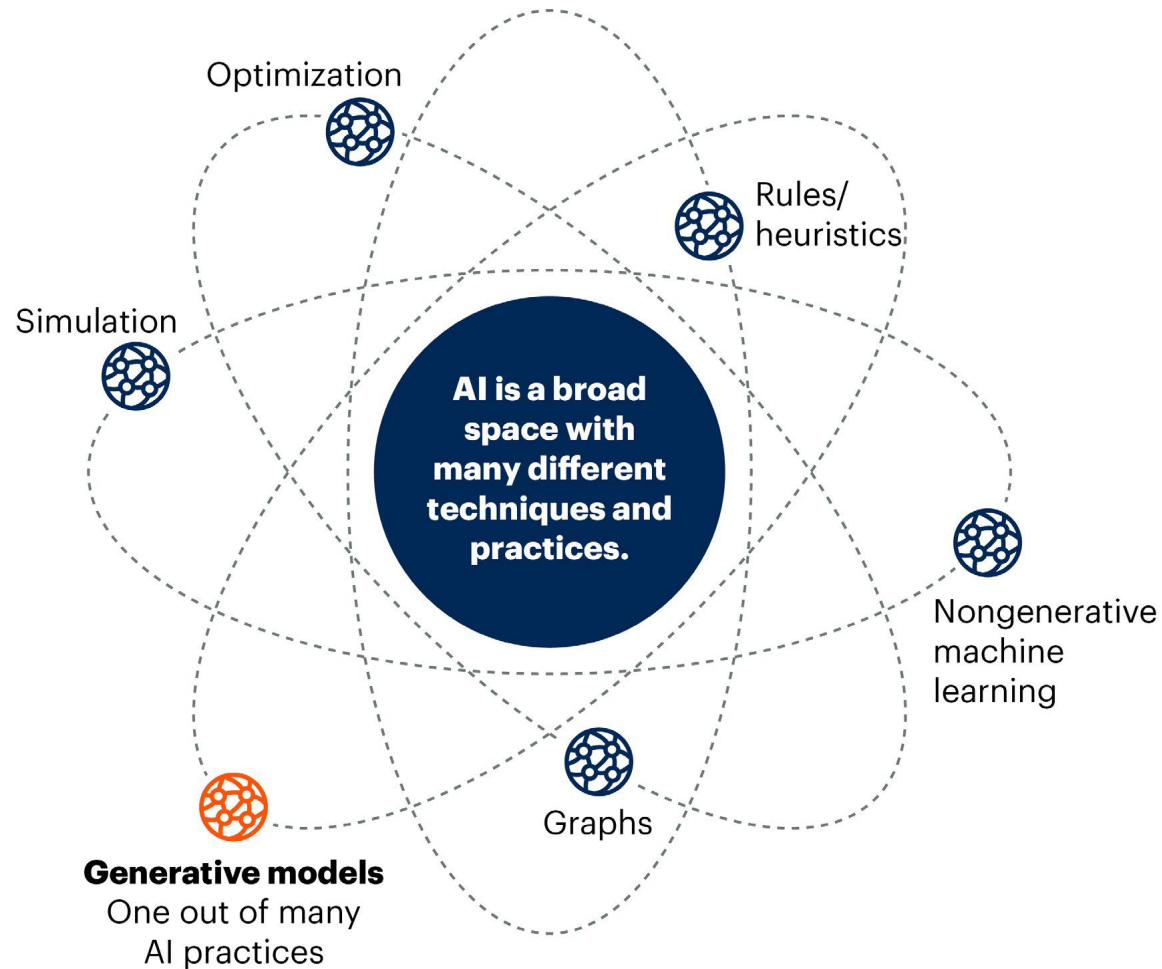
Consistent themes with AI Council?

- ✓ SFOs are slow to adopt AI
- ✓ Operationalizing AI is productivity driver
- ✓ OAI automation is value theme for '25
- ✓ Data Privacy is paramount
- ✓ Security Risk are serious concern

GPT Innovation Cycle with AI-driven Automation



AI/ML/DL is much broader than Gen AI



Will AI lead to superintelligence or just super-automation?

Will the \$1 trillion of generative AI investment pay off?

AI may start to boost US GDP in 2027

Perspectives: Two lens to view Gen AI impact

Lens 1

Total economic potential of 60-plus organizational use cases¹

Revenue impacts of use cases¹

Lens 2

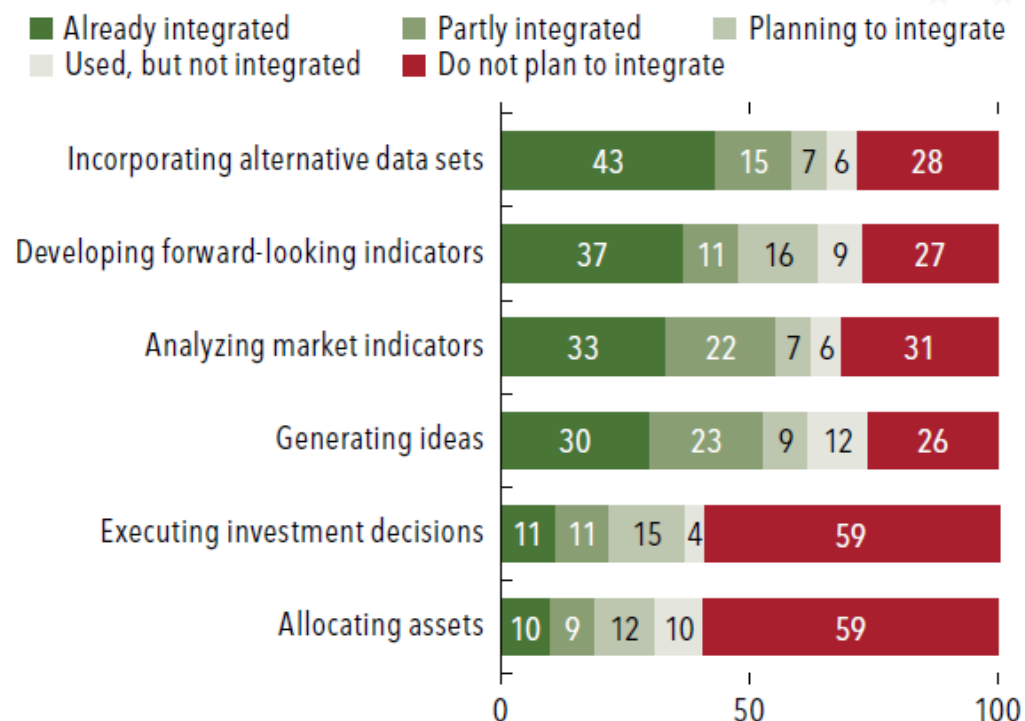
Labor productivity potential across ~2,100 detailed work activities performed by global workforce

Cost impacts of use cases

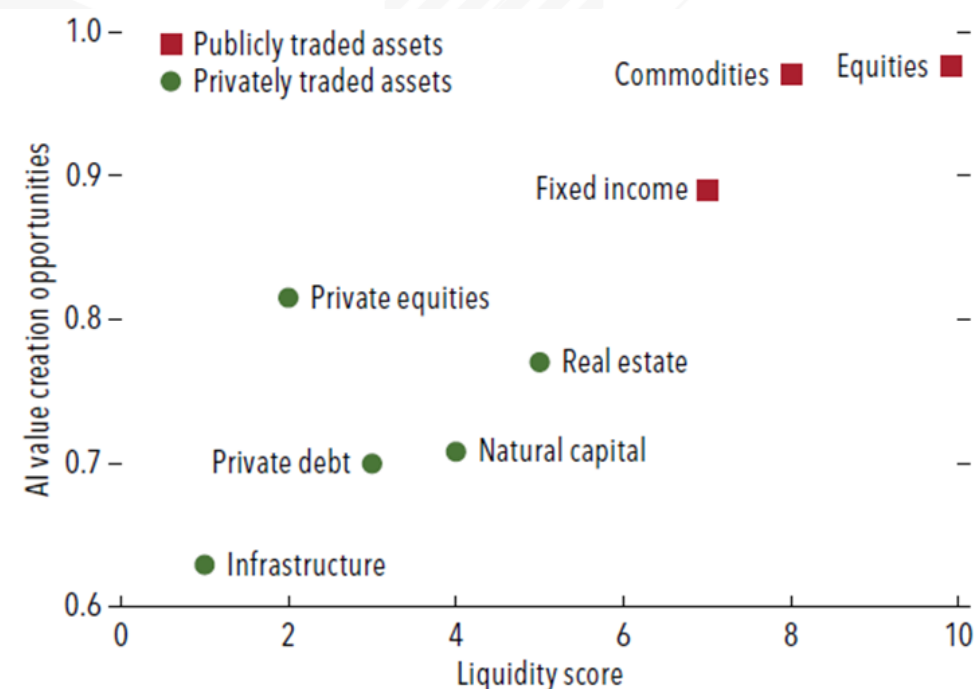
¹For quantitative analysis, revenue impacts were recast as productivity increases on the corresponding spend in order to maintain comparability with cost impacts and not to assume additional growth in any particular market.

AI Use Cases in Capital Markets

Early Adoption in Investment Decision Use Case by Investment Managers



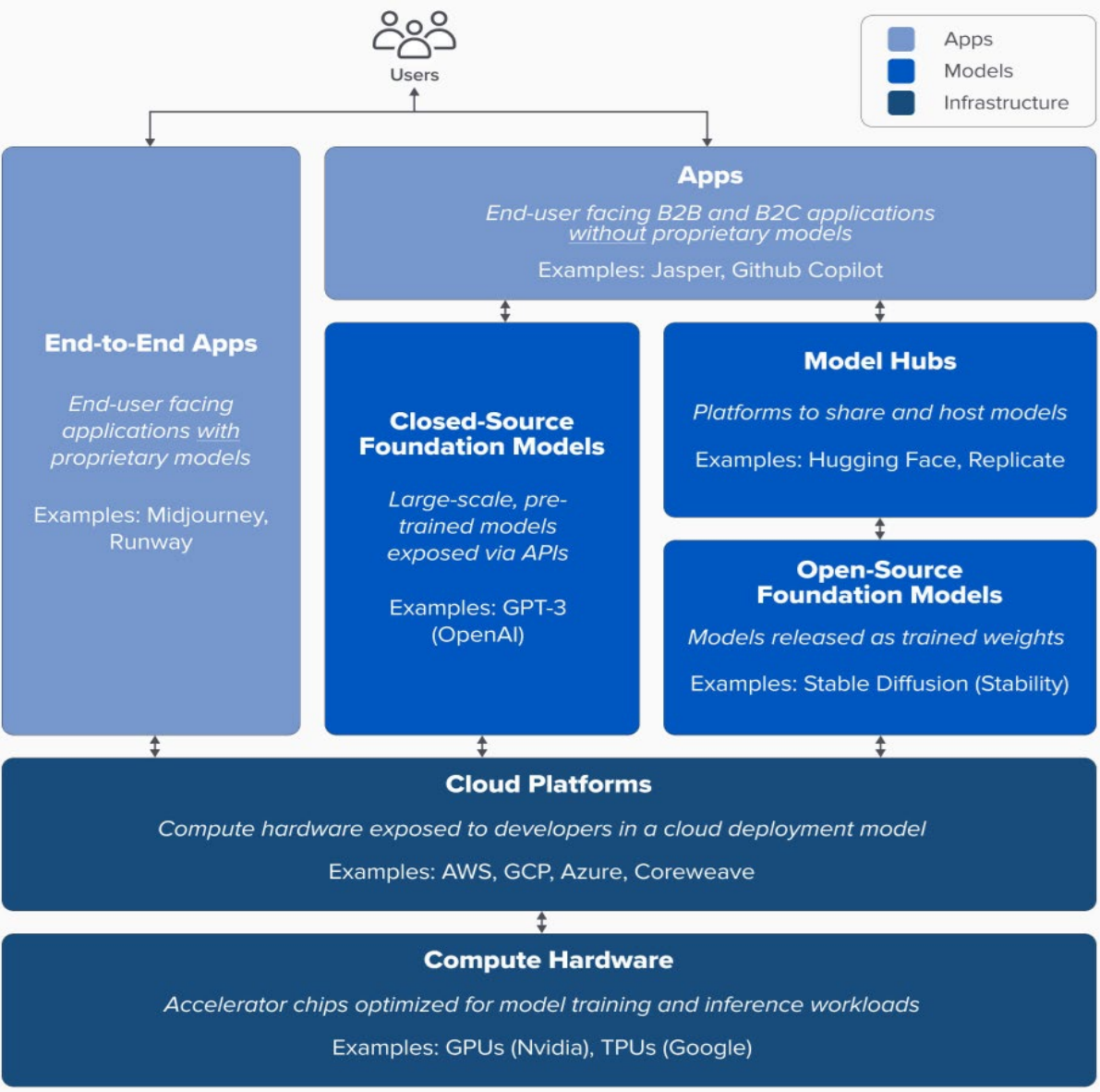
Strong Correlation to Liquidity and AI Adoption



Source: IMF GFSR Oct '24

Compendium Sources: Goldman Sachs, McKinsey, Stanford HAI Index, State of AI Report, Draper Associates; Reid Hoffman at Blitzscaling; others

Investment Market Segments



Land Grab:

- 1) Have access to proprietary data
- 2) Create a unique set of proprietary data

Network Effects:

- 3) Direct Network Effects
- 4) Data Network Effects
- 5) Indirect Network Effects
- 6) Two-Sided Network Effects
- 7) B2B Network Effects
- 8) Learning Effects

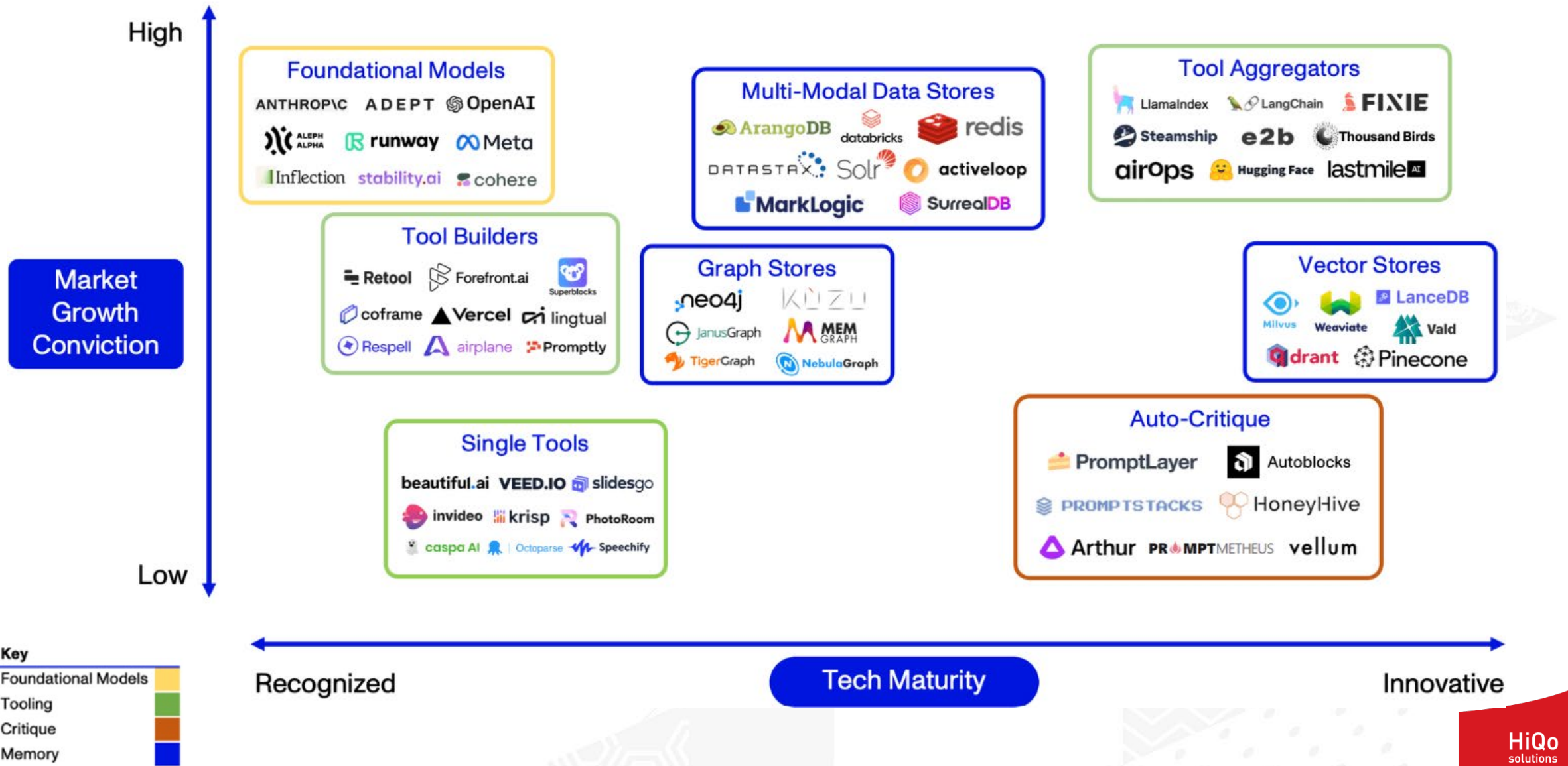
Viral Growth/Distribution:

- 9) Social Layer
- 10) Direct Communication
- 11) Freemium / Premium
- 12) Value Chain Spread
- 13) Distribution Partner
- 14) Unforeseen new methods with AI

Differentiating AI Startup Attribute:	Benefit:
1. Have access to unique proprietary data.	Moat = Winner take most
2. Create a unique set of proprietary data.	Moat = Winner take most
3. Leverage user-to-user interactions within the product.	Network Effects
4. Enable the AI to self-learn and improve experience across users.	Network Effects

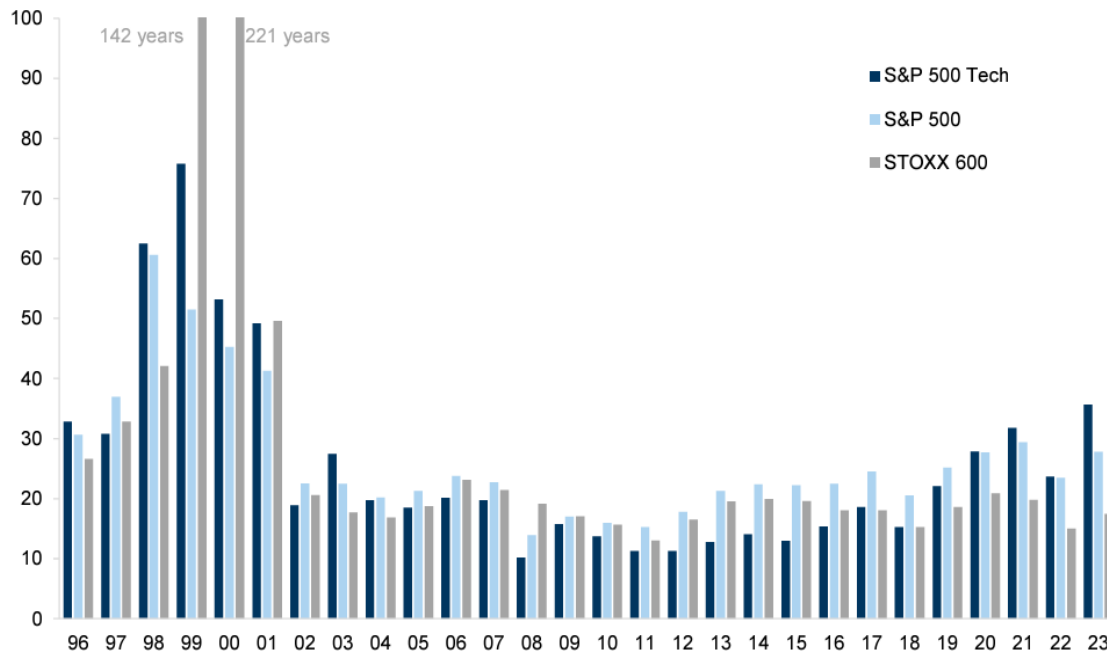
r Associates; Reid Hoffman at Blitzscaling; others

AI Agent Ecosystem



Valuations and Tech EPS

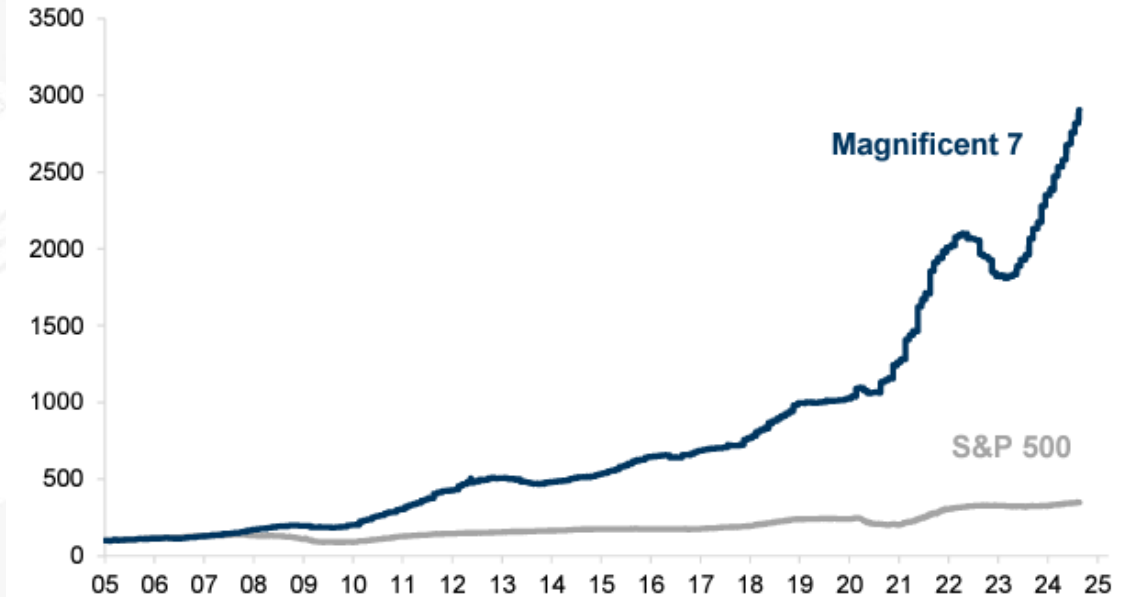
Cash Flow paybacks in current
Valuations lower than 2000 Bubble Peak



We use today's FCF, assuming no growth in future FCF and not discounting future cash flows

Source: Factset, Goldman Sachs Global Investment Research

MAG 7 Earnings outstripping US markets



Source: FactSet, Goldman Sachs Global Investment Research

INTEGRATING AI TOOLS INTO THE INVESTMENT PROCESS

➤ **Using AI for Sourcing, Due Diligence and Portfolio Management**

❖ Example 1

- ✓ Sourcing - Review and rate 50 venture fund decks
- ✓ Challenges - Multimodal - How to read graphs, tables and even logos

❖ Example 2

- ✓ Quarterly fund reports - Review 25 reports every quarter

➤ **Evolution of AI Inference on Proprietary Databases**

- ❖ Internal software, originally had to convert pdf's to text and process, now larger inputs / context windows
- ❖ Hebbia
- ❖ Google Notebook LM

➤ **Future Features Needed**

- ❖ Memory, multi-modal, larger context windows, agents

INVESTING IN AI

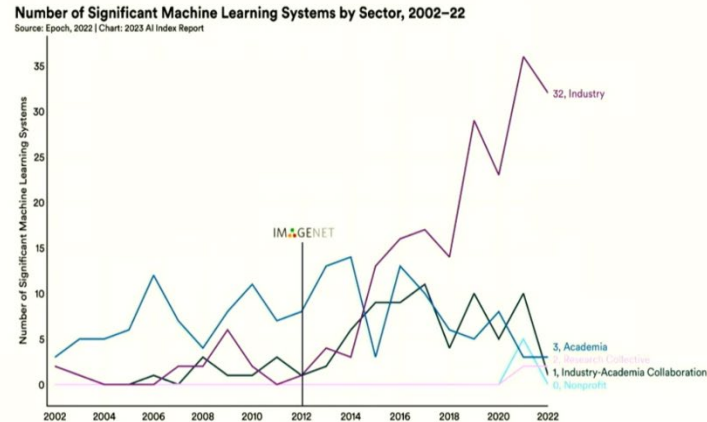
- ✓ **Historical Perspective** – eg 12k personal AI assistant startups on “thereisanaiforthat.com” -> be selective
- ✓ **More IPO's and M&A** with Reduced Regulations -> brighter future
- ✓ **Invest by vertical with industry experts** -> start with problem not solution (eg industry VC funds, cyber VC funds)
- ✓ **Investing in Infrastructure & Energy** - Data Centers and Power Plants / Transmission -> sell Levi's to the gold miners
- ✓ **AI talent centered at cities with universities** (Stanford, MIT, ...) -> look for opportunities in the right places

City (with major university)	Number of AI unicorns	Top three most valued companies
San Francisco	10	OpenAI, Databricks, Scale AI
New York/Boston	5	UiPath, Dataminr, Replit
Beijing	4	ByteDance, Zhipu AI, Light
London	3	DeepMind, Synthesia, Quantexa
Tel Aviv	3	AI21 Labs, Silverfort, Gong.io
Toronto	2	Cohere, Waabi
Paris	2	Mistral AI, LightOn
Berlin	2	Helsing, Merantix

ROLE OF UNIVERSITIES

- ✓ Provide Talent
- ✓ Woefully Underfunded
- ✓ Families can support universities, learn, source deals

Seismic Shift to Large AI Models Leaving Academia Behind

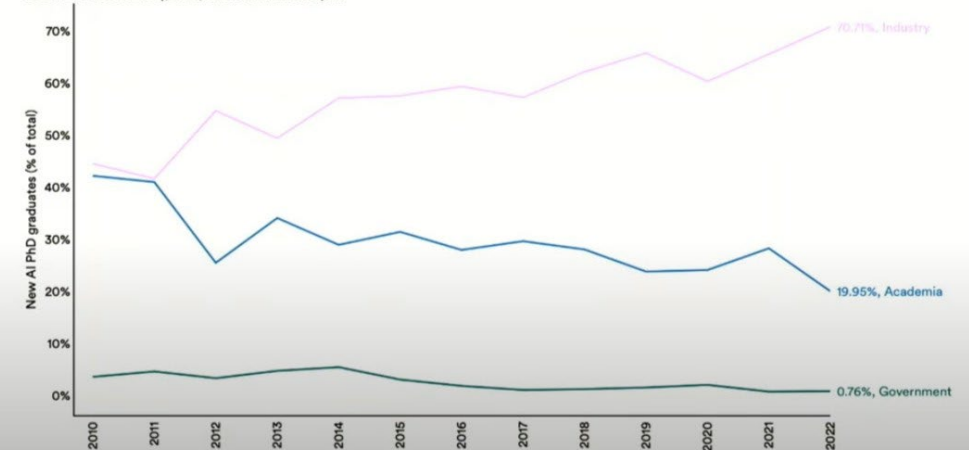


Maslej et al. Stanford HAI (2023)

Industry Dominates AI Talent Acquisition

Employment of new AI PhDs (% of Total) in the United States and Canada by sector, 2010–22

Source: CRA Taulbee Survey, 2023 | Chart: 2024 AI Index report



VALUABLE REFERENCES

Access to and Leaderboard of Best Language Models

<https://lmarena.ai/>

There's An AI for Everything

<https://theresanaiforthat.com/>

Family Office AI resources link (thanks to Matt Garver)

<https://lsgmi.com/ai-council>

a16z's list of top 100 Consumer AI apps

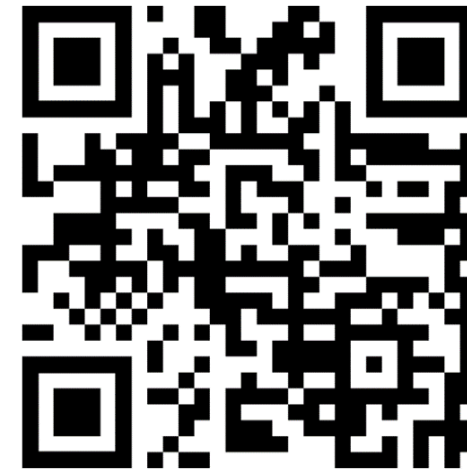
<https://a16z.com/100-gen-ai-apps-3/>

AI Events in Silicon Valley

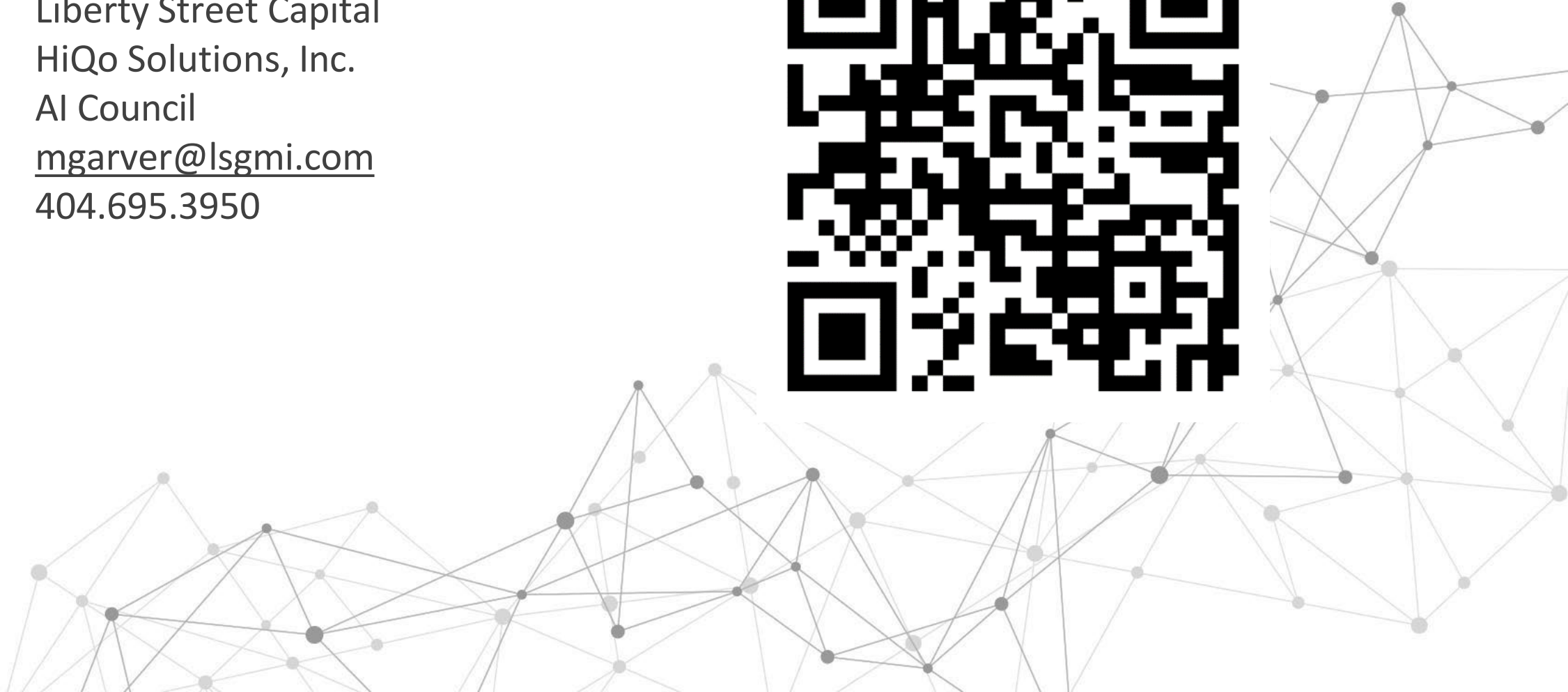
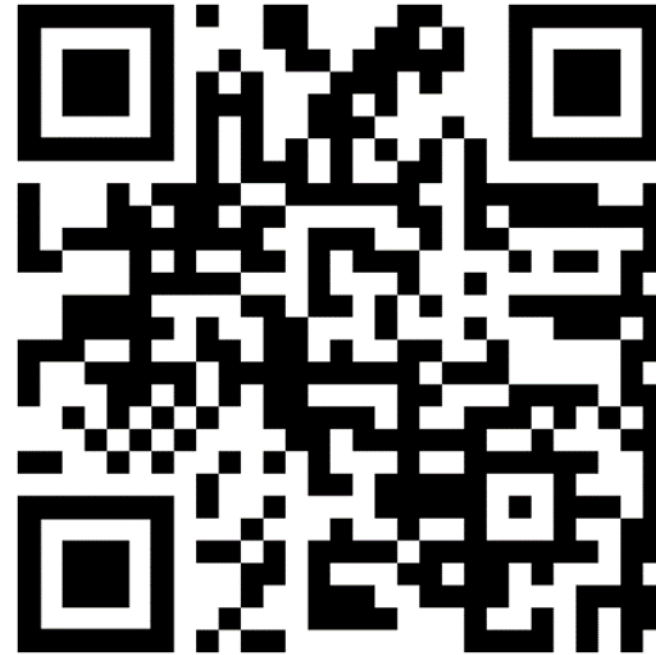
<https://events.cerebralvalley.ai/>

AI Research Tool – creates podcasts too

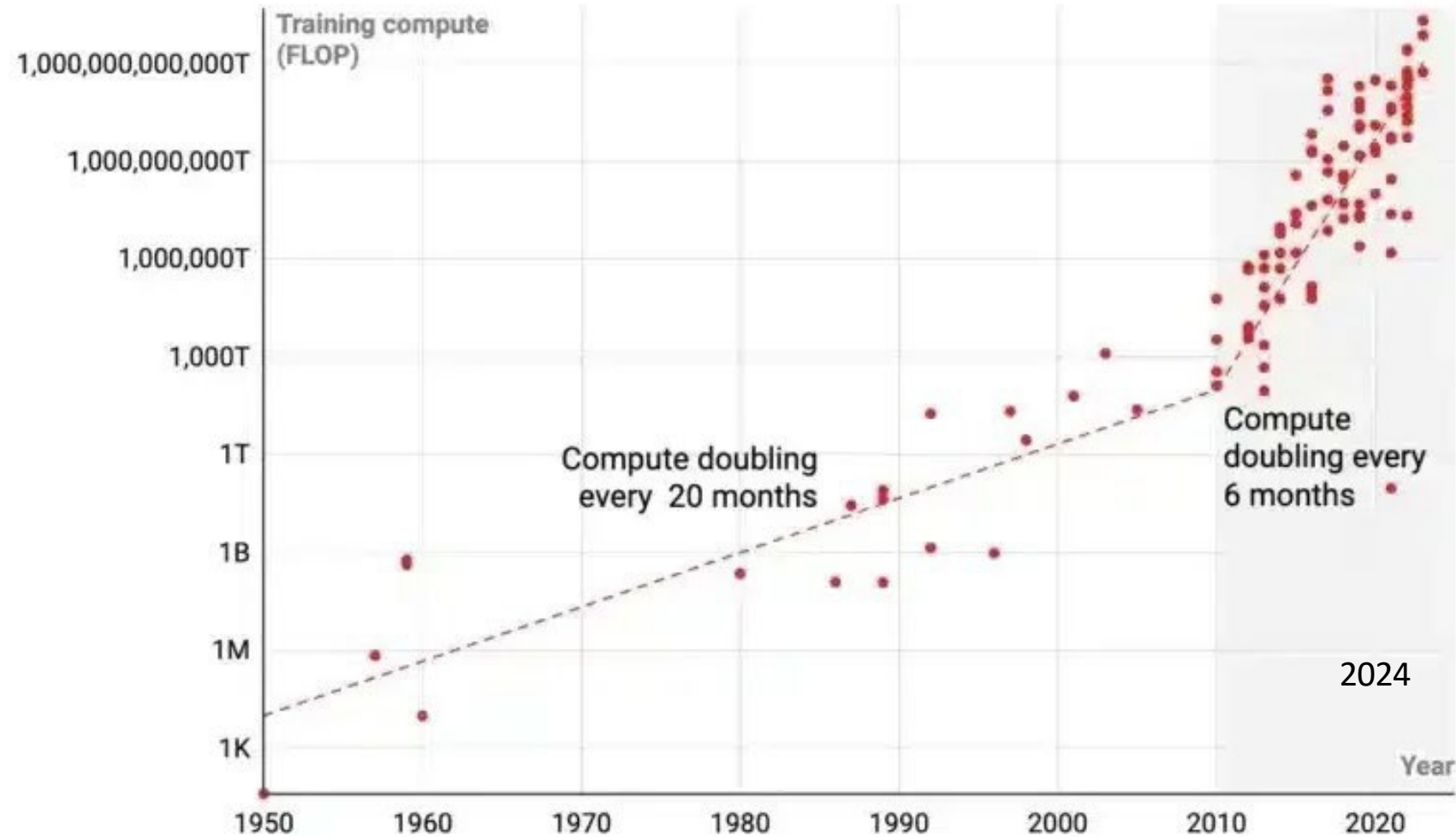
<https://notebooklm.google/>



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Unsustainable – AI compute training – 2x every 6 months

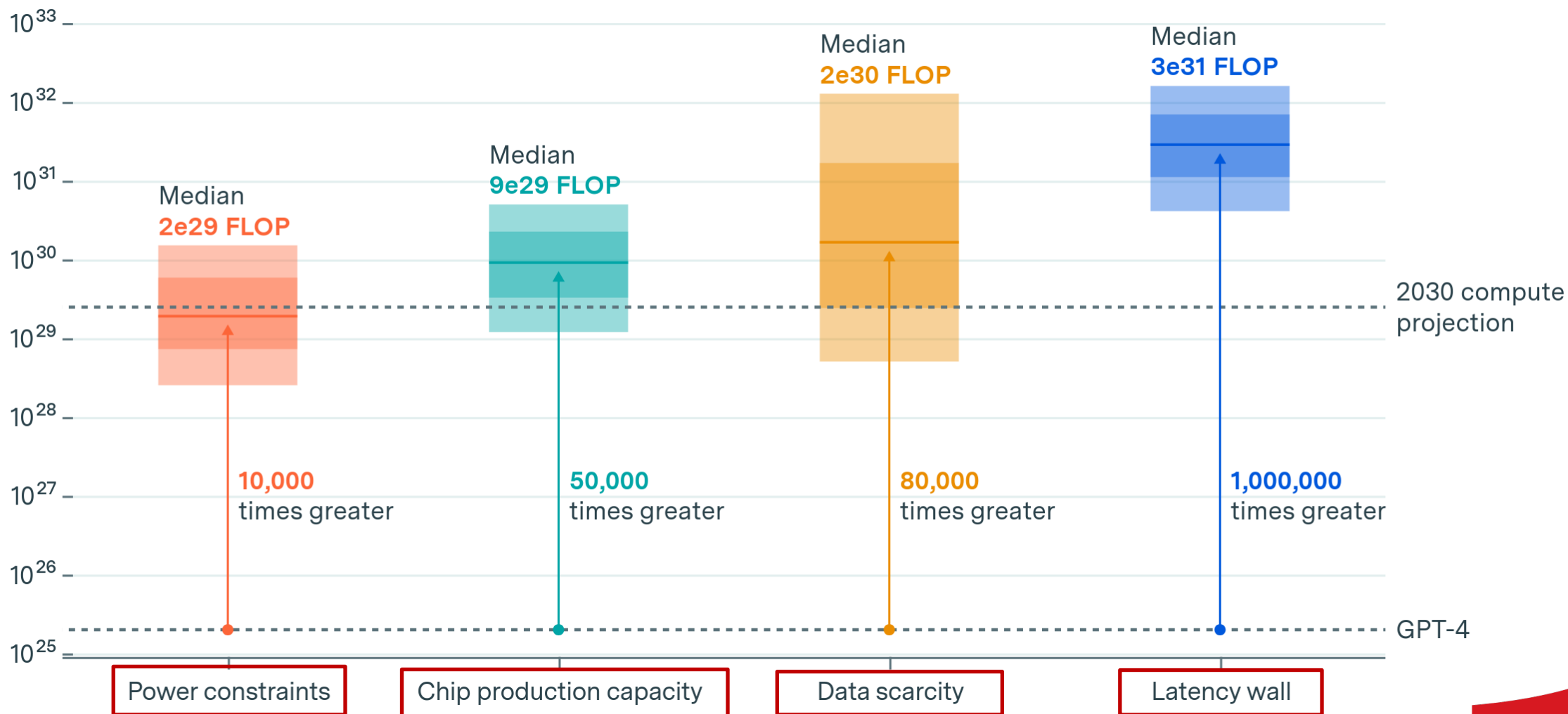


Source: Epoch World Data for TIME

Compendium Sources: Goldman Sachs, McKinsey, Stanford HAI Index, State of AI Report, Draper Associates; Reid Hoffman at Blitzscaling; others

Constraints to scaling training by 2030

Training compute (FLOP)



Source: EPOCH

Compendium Sources: Goldman Sachs, McKinsey, Stanford HAI Index, State of AI Report, Draper Associates; Reid Hoffman at Blitzscaling; others

Shift to Large AI Model Leaving Academia Behind

Number of Significant Machine Learning Systems by Sector, 2002–22

Source: Epoch, 2022 | Chart: 2023 AI Index Report

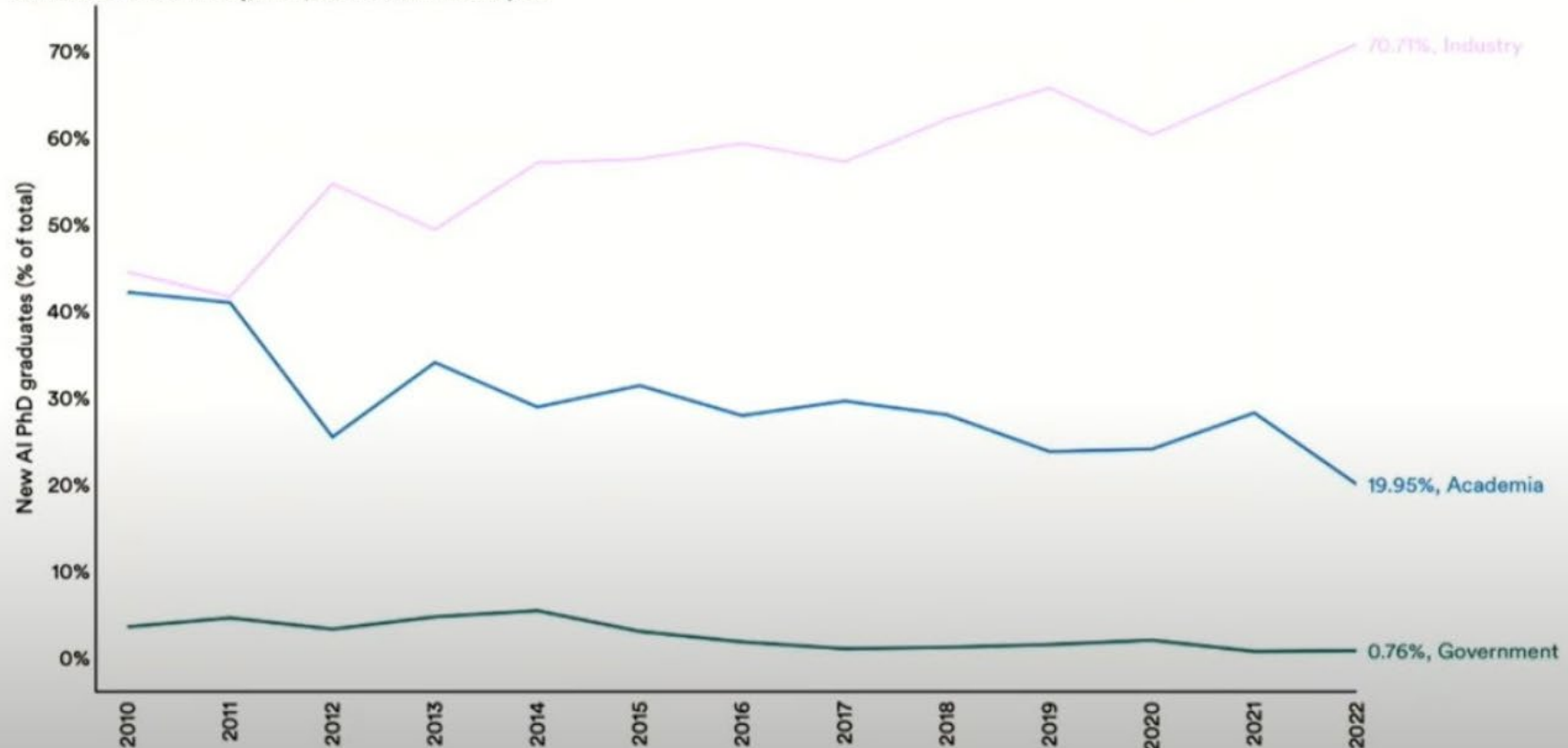


Stanford HAI Index

Industry Dominates AI Talent Acquisition

Employment of new AI PhDs (% of Total) in the United States and Canada by sector, 2010–22

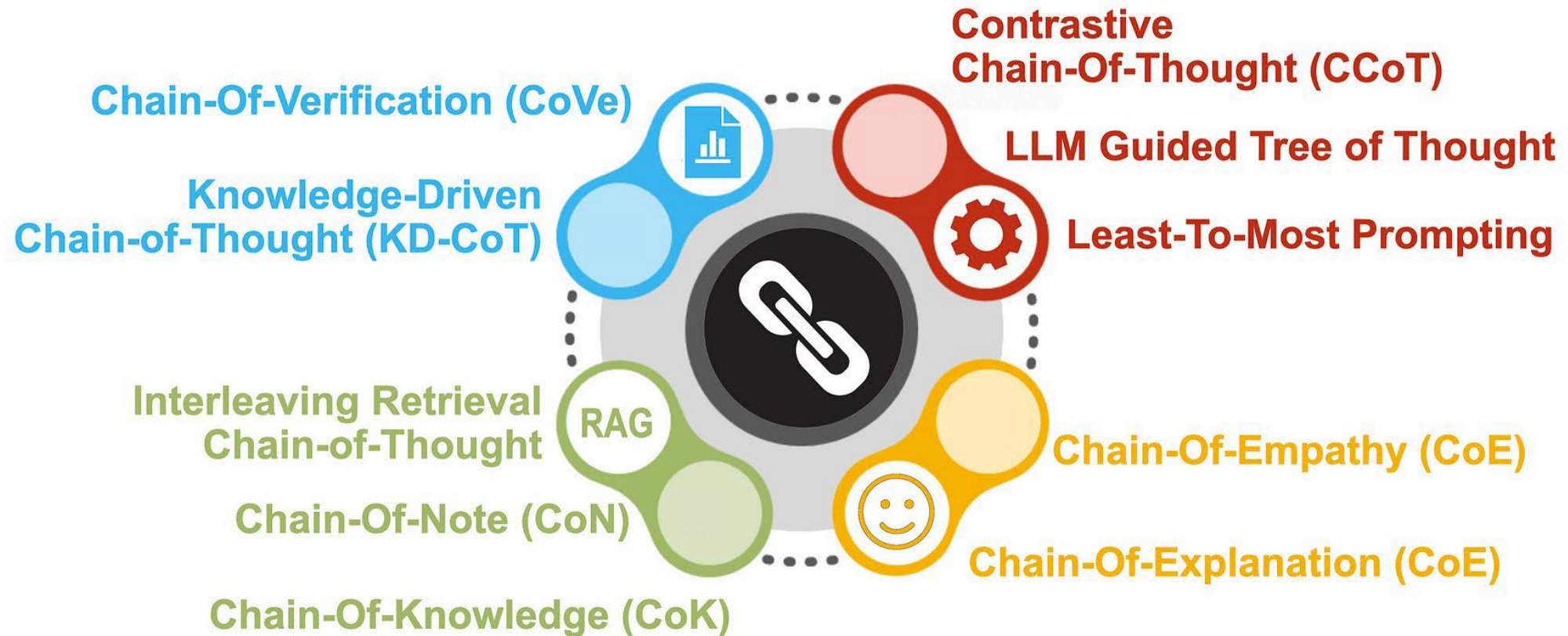
Source: CRA Taulbee Survey, 2023 | Chart: 2024 AI Index report



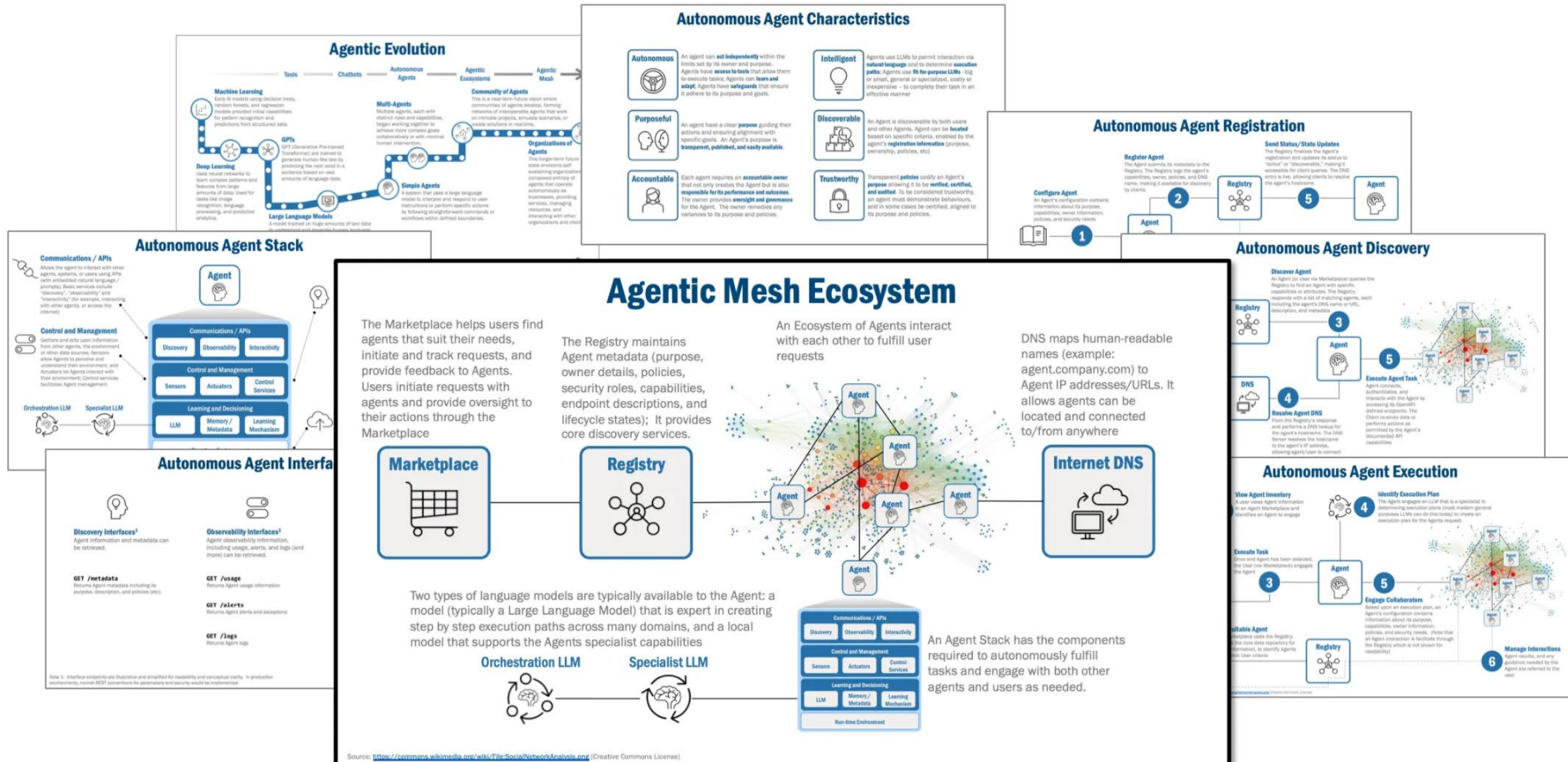
Source: Stanford HAI 2024

Compendium Sources: Goldman Sachs, McKinsey, Stanford HAI Index, State of AI Report, Draper Associates; Reid Hoffman at Blitzscaling; others

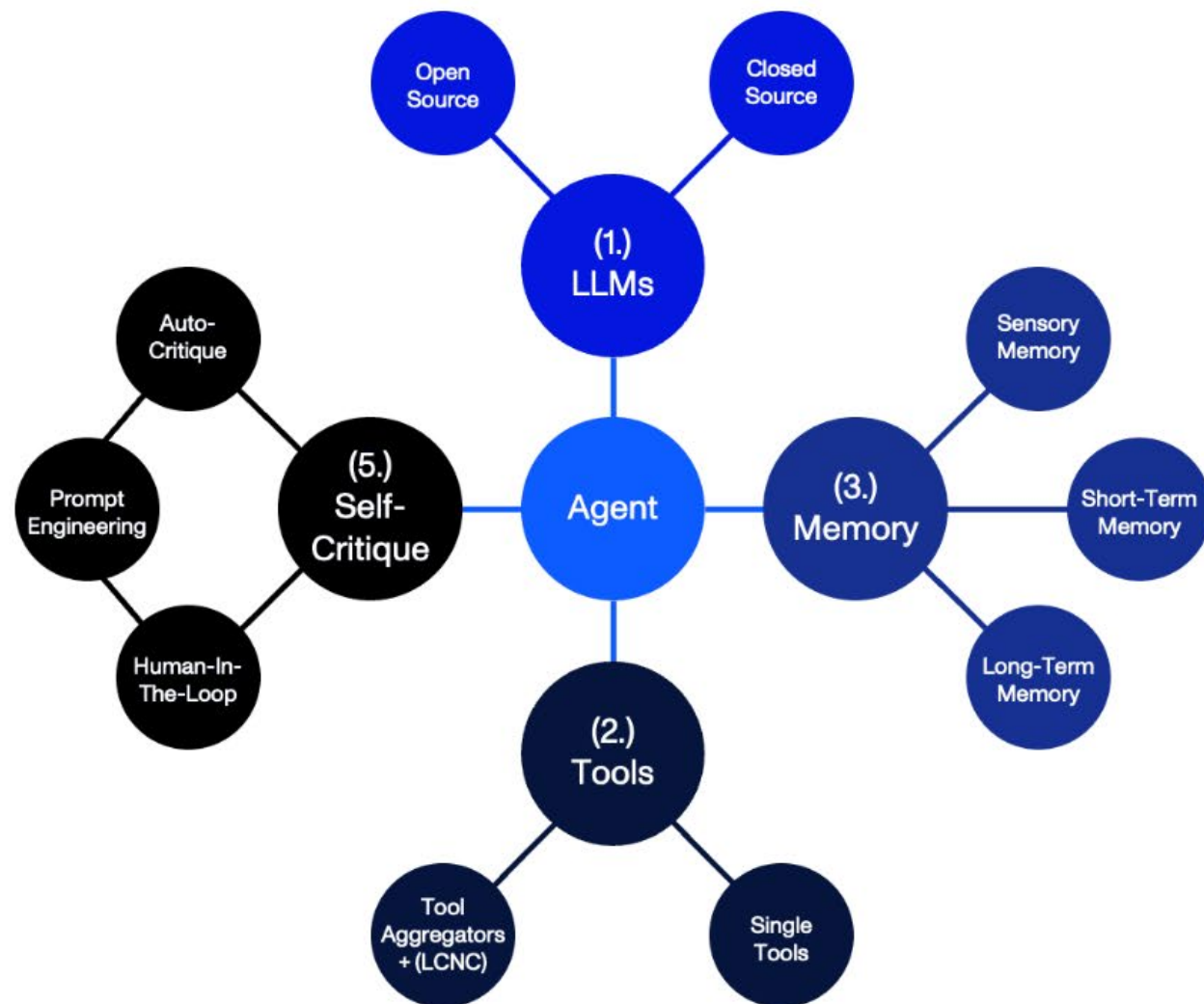
Chain-of-Thought (CoT) – Why is this important?



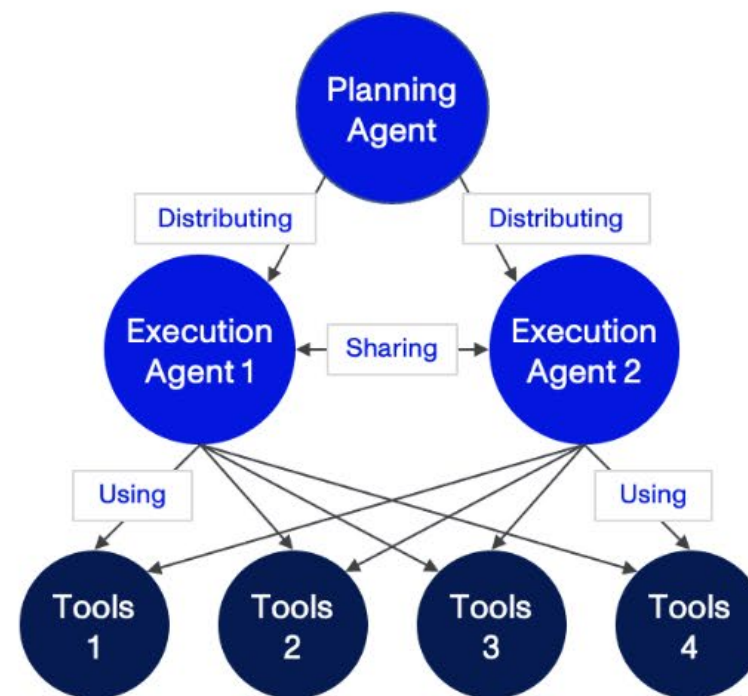
Investment Landscape: Autonomous Agentic Mesh



Agent Ecosystem



(6.) Teaming – Agent Coordination



AI Use Cases in Capital Markets

Key Processes	Client/Institution Profiling	Asset Allocation			Trading	Risk Management	
	Identification of Needs and Constraints	Asset Class Allocation	Sectoral Allocation	Security Selection	Orders Placement and Execution	Risk Monitoring	Reporting
Potential Benefits from Adopting AI	Enhance client's profile assessment <ul style="list-style-type: none"> Analyze unstructured or alternative clients' data to understand unique objectives, idiosyncratic needs, and risk preference Generate simulated scenarios and visualization of potential outcomes of different asset mix 	Enhance optimization and forecast techniques for strategic allocation <ul style="list-style-type: none"> High dimensional forecasting and predictor selections Deep learning methodologies for dynamic multiperiod portfolio optimization Clustering/network analysis to analyze multidimensional interactions/correlations 	Improve analysis precision <ul style="list-style-type: none"> Feature extraction (beta, momentum, and so on) Network/multidimension analysis for relative value analysis and identify price dislocation 	Minimize market impact <ul style="list-style-type: none"> Structured trade execution algorithms to minimize market impact Analyzing unstructured data and cross-market indicators to identify prevailing liquidity conditions 	Dynamic risk sensing <ul style="list-style-type: none"> Generate risk hypothesis To identify performance drivers and anomalies through multidimensional analysis 	Customize insights <ul style="list-style-type: none"> Customized content generation, reports, and dashboards Chatbot 	
		Derive signals from unstructured and alternative data <ul style="list-style-type: none"> Natural language processing models for sentiment analysis to identify thematic opportunities Polarity detection, microtext analysis, aspect extraction, or sarcasm detection to improve signal quality 		Assist price discovery <ul style="list-style-type: none"> Modelling executable prices for illiquid securities through multiple market indicators 	Generate risk scenario <ul style="list-style-type: none"> Value-at-risk estimation through generative adversarial networks to capture temporal dynamics in time-series data 	Ease compliance monitoring <ul style="list-style-type: none"> Screening, flagging, and reporting of anomalies 	

Source: IMF GFSR Oct '24

Compendium Sources: Goldman Sachs, McKinsey, Stanford HAI Index, State of AI Report, Draper Associates; Reid Hoffman at Blitzscaling; others

Tree-of-Thoughts (Tot)

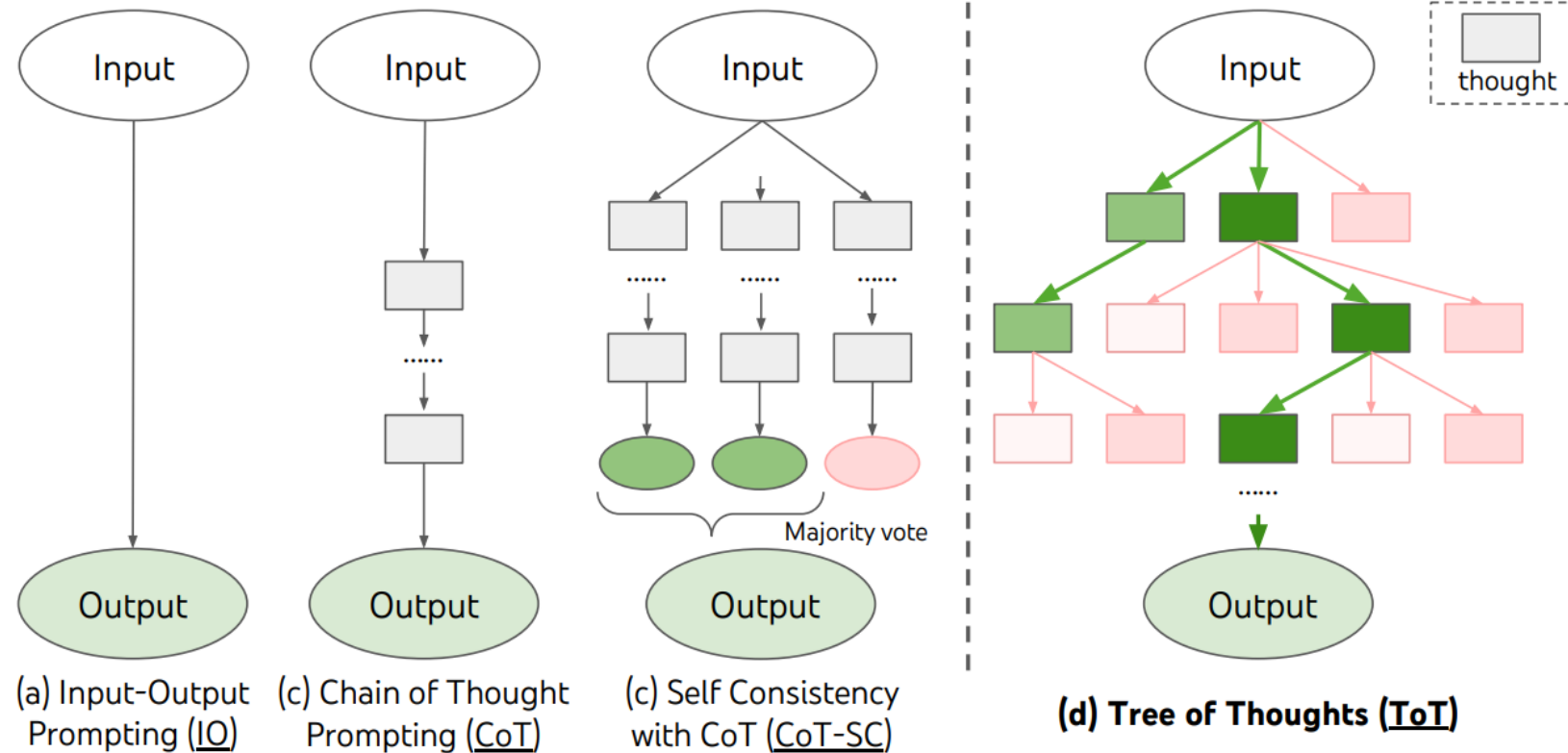


Figure 1: Schematic illustrating various approaches to problem solving with LLMs. Each rectangle box represents a *thought*, which is a coherent language sequence that serves as an intermediate step toward problem solving. See concrete examples of how thoughts are generated, evaluated, and searched in Figures 2,4,6.

Agent Orchestration

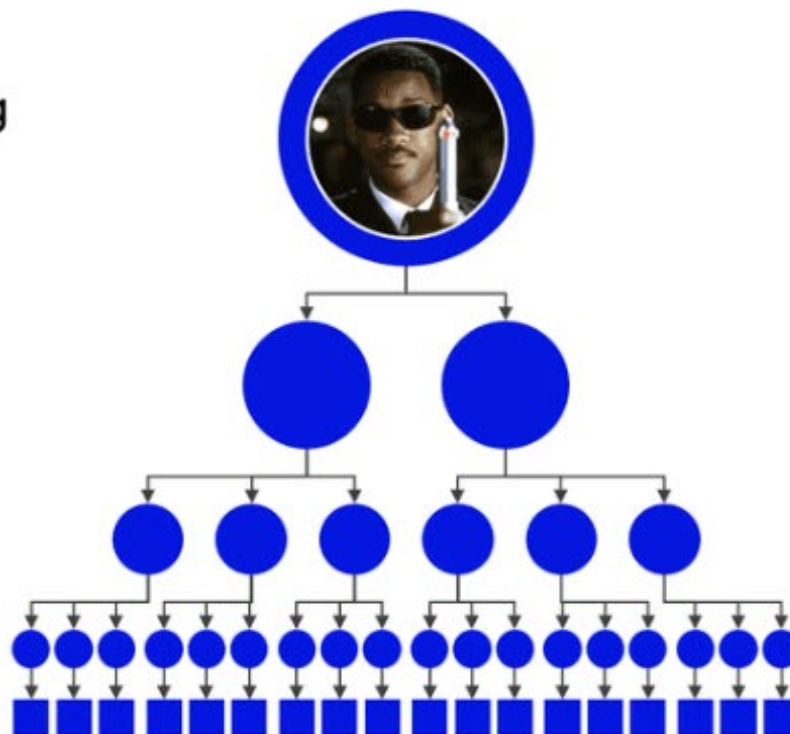
Orchestrating Agent

Sub-Orchestrating Agents

Sub-Orchestrating Agents

Task Agents

Completed Tasks

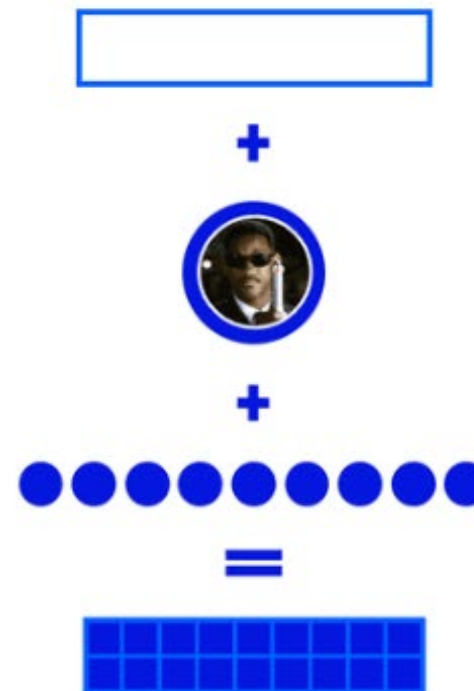


Highly Complex Task

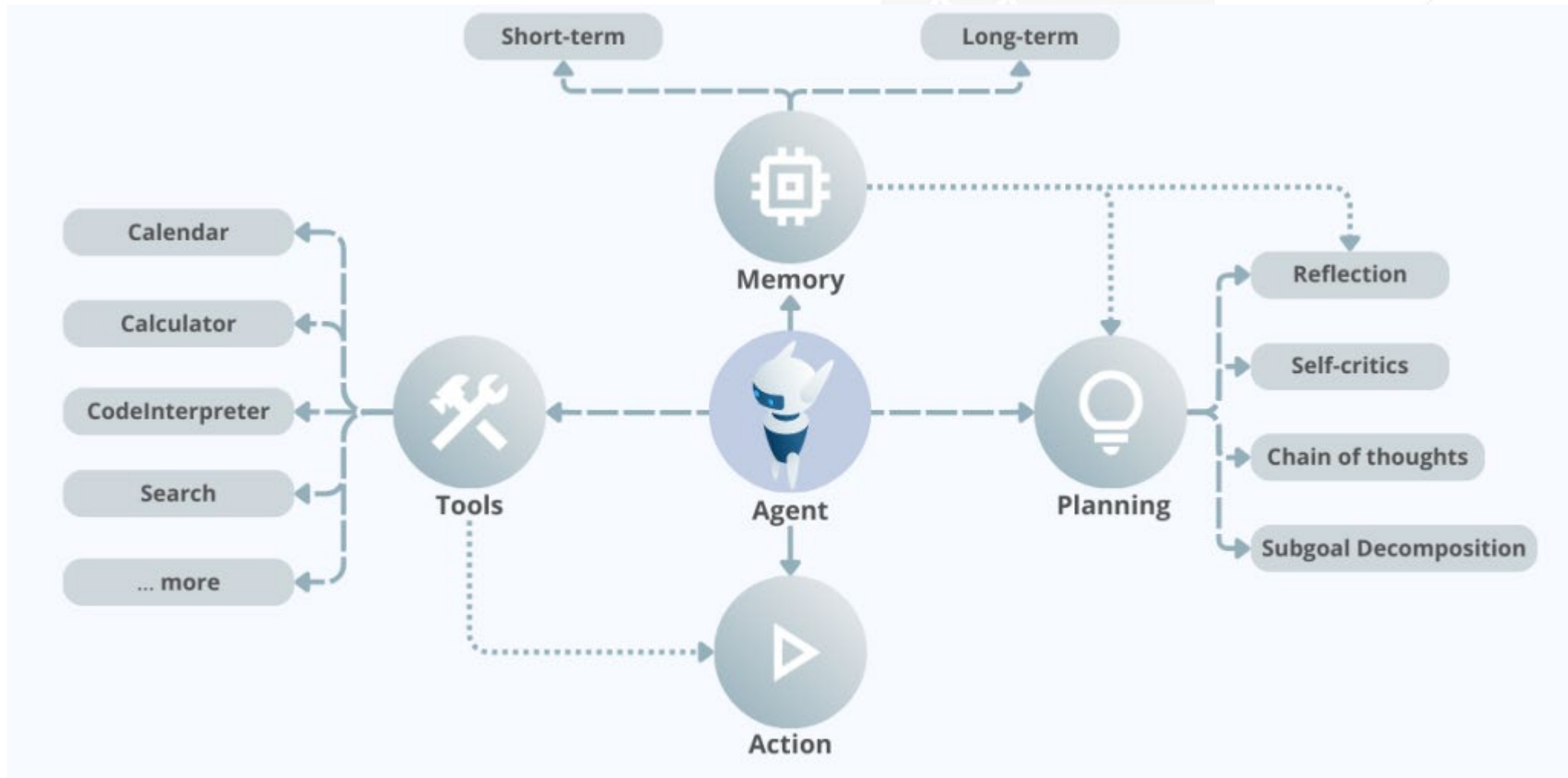
Orchestration Agent(s)

Numerous Task Agents

Completed Tasks



Building Blocks of Autonomous AI Agent Systems

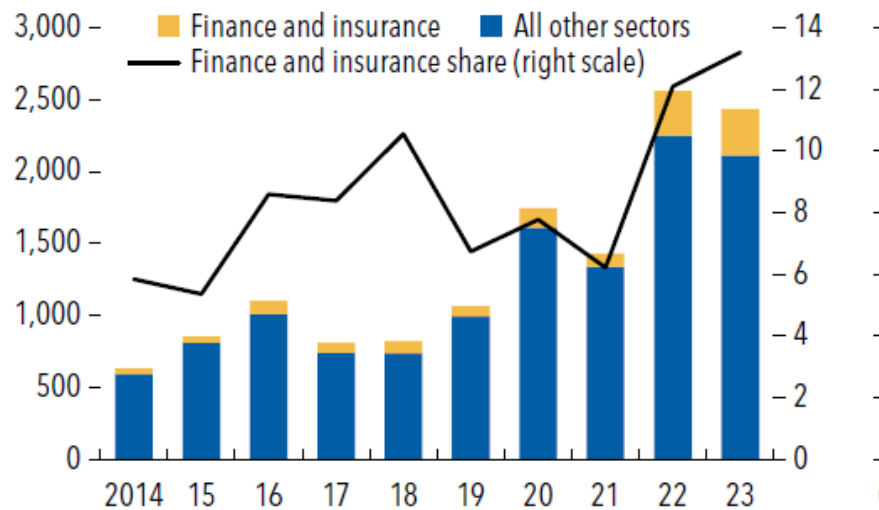


Cyberattacks and AI Incidents

Cyberattacks have increased, with the financial sector share rising as well.

1. Cyberattacks

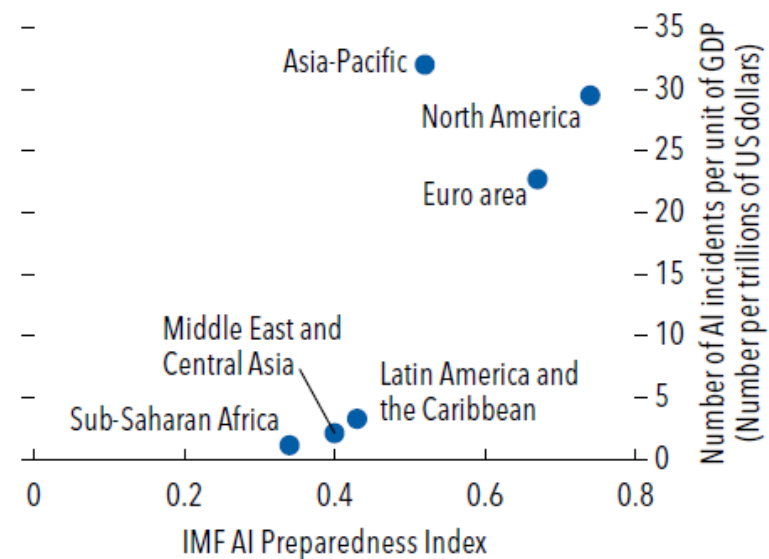
(Number per year; finance and insurance sector share in percent)



Despite higher AI preparedness, North America and Europe have higher rates of AI incidents.

2. AI Incidents per Unit of GDP and AI Preparedness

(Number per trillions of US dollars; index)



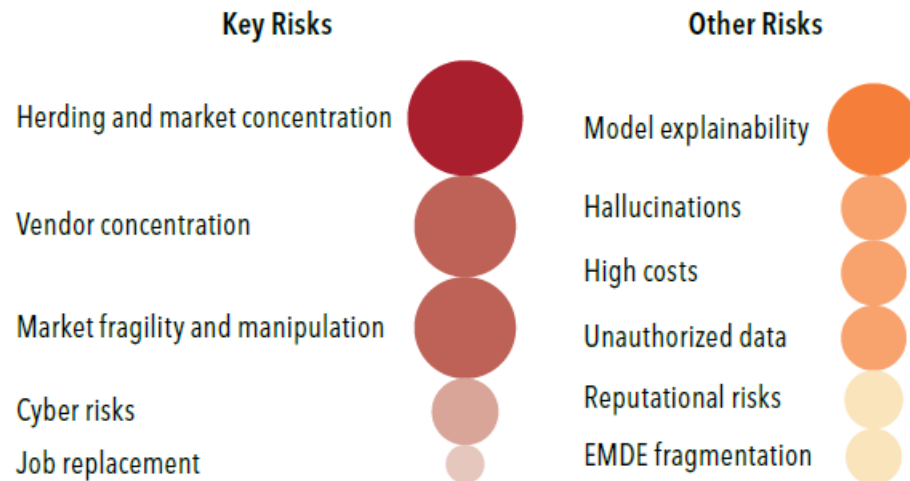
Sources: AI, Algorithmic, and Automation Incidents and Controversies (AIAAIC); University of Maryland Center for International and Security Studies; and IMF staff calculations.

Note: AIAAIC defines an "incident" as a sudden known or unknown event (or "trigger") that becomes public and which takes the form of a disruption, loss, emergency, or crisis. In panel 2, the IMF AI Preparedness Index incorporates four macro-structural indicators that are relevant for AI adoption: digital infrastructure, innovation and economic integration, human capital and labor market policies, and regulation and ethics. AI = artificial intelligence.

AI Market Intelligence: Risks & Regs

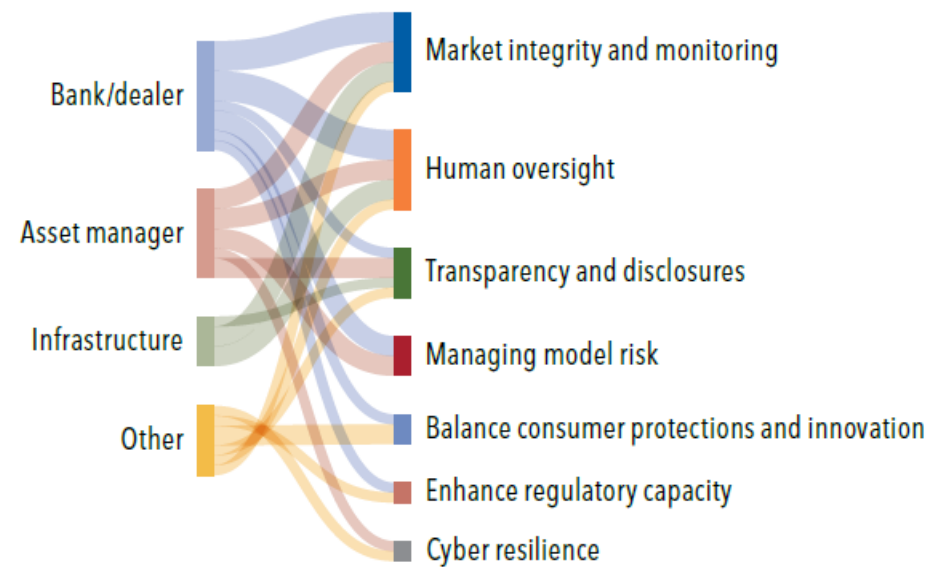
Some of the largest risks involve herding and market concentration as well as model explainability.

1. What Risks Are Associated with Using Generative AI? (Share of participants)



Most market participants agree that regulators should ensure market integrity through monitoring and maintain human oversight of decision making.

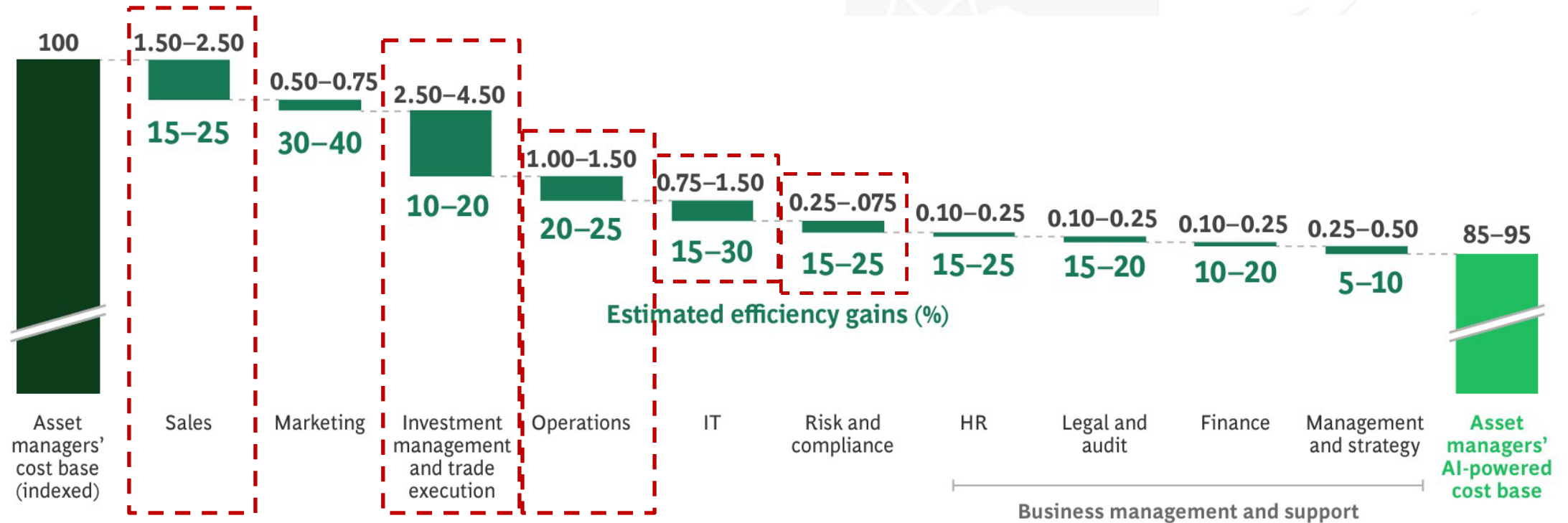
2. How Do You Expect Regulatory Authorities to Respond to the Risks of Generative AI?



Sources: IMF, October 2024 *Global Financial Stability Report* market intelligence; and IMF staff calculations.

Note: For both panels, deepfake risks are included in the cyber categories, and additional information on market intelligence can be found in Box 3.1. In panel 1, the size and color of the bubbles represent the share of participants. Panel 2 shows that industry market participants expect regulatory authorities to intervene to limit the risks of generative AI. Infrastructure refers to market infrastructure firms. Other industry types in panel 2 include AI vendors, academia, and rating agencies. AI = artificial intelligence; EMDE = emerging market and developing economies.

AI-Enabled Gains across Value Chain for Investment Mngt



Sources: BCG's Global Asset Management Benchmarking Database, 2023; expert interviews; BCG analysis.

Note: Individual value chain ranges do not add up to the total range because of rounding.

Source: BCG

Agent Market Ecosystem Systems

The 2024 AI Agent Ecosystem v2

AI agents will become the dominant entities using the internet, apps, and enterprise software, disrupting established business models.

Ecosystem
Layer:

Agent Marketplaces:

- Foundational Models (OpenAI GPT as a precursor)
- Enterprise (Agent.ai by Hubspot, Salesforce AgentForce)
- Big Tech (Amazon, Google, Microsoft, Meta, Apple)
- Startups: (MultiOn agent leaderboard)

Application
Layer:

Agent Apps:

- Largest sector, thousands of companies to emerge
- Multimodal: input/sensors, knowledge data, output
- No-code agents, future: dynamically generated

Connect to LLMs

Agent Platforms:

Enable developers to build agents:
(MultiOn, Adept, Workday, CrewAI, Lyrz, LangGraph)

Management
Layer:

Agent Permissions/Security:

- Agent authentication (KYA)
- Tiered credentials
- Agent capabilities

Management:

- Orchestration: observability (AgentOps), compliance, swarm management
- Arbitration: which agent gets priority in network
- Payments: agent to tech (Skyfire), agent to human (Payman), human to agent
- Improvement: metacognition, simulation, reflection, eval, self-healing

Data
Layer:

Exclusive/Private Data:

- RAG/Access to enterprise, gov, personal data, agent data

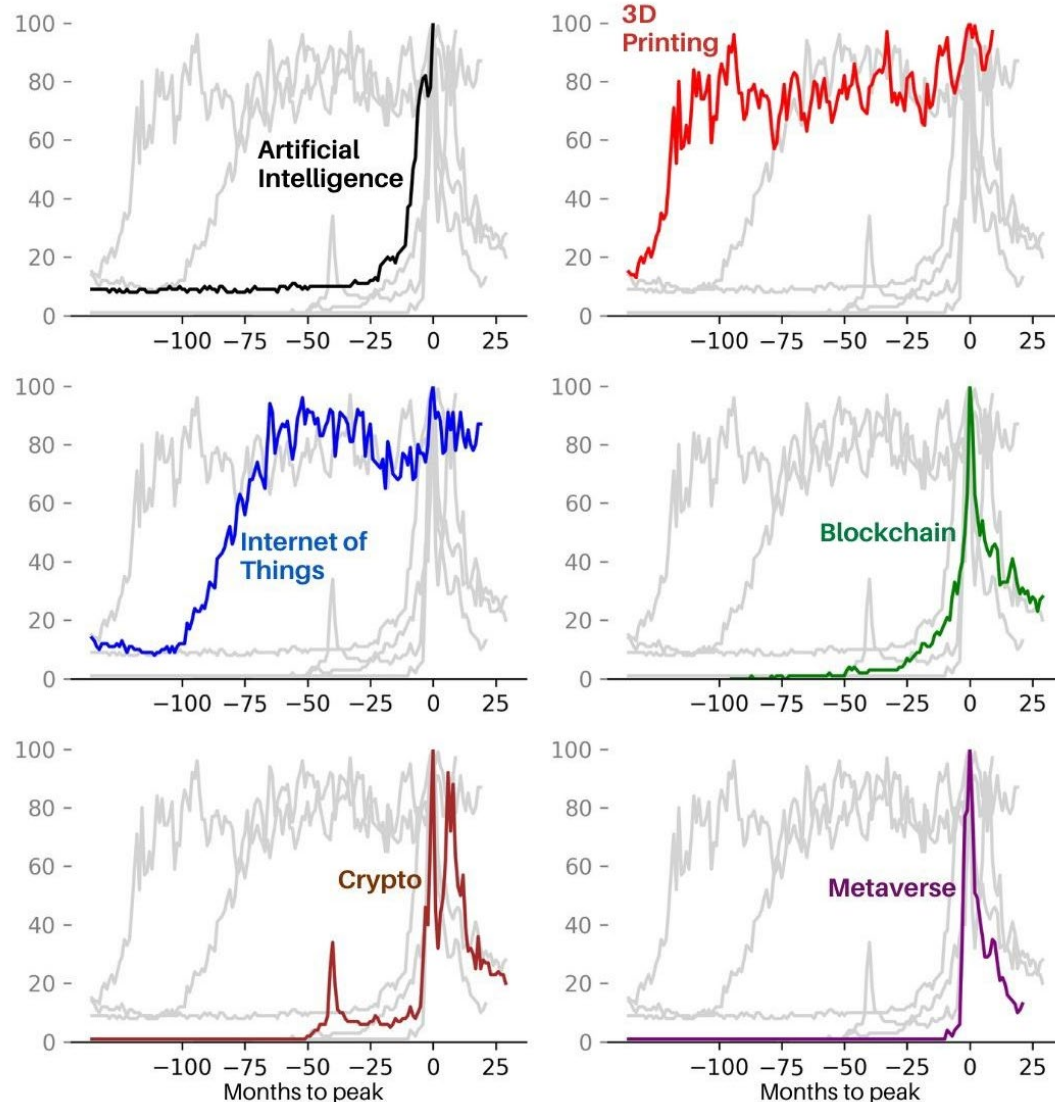
Open Data:

- Public data, (Dendrite)
- Data Providers, scraping services

Unified APIs:

- Fast info or transactions; no imitating click path

Hype Cycle Comparisons



Artificial Intelligence (AI)

- **General Purpose Technology:** Pervasive applicability across multiple sectors.
- **Maturing Investment:** Transitioning to widespread practical use with proven ROI.
- **Current Phase:** Hype Peak but fueled by global adoption and innovation.

3D Printing

- **Specialized Use:** Mainly beneficial in specific industries like aerospace and medical.
- **Current Phase:** Stable as limitations in broader use case contexts become evident.

Internet of Things (IoT)

- **Connectivity Challenges:** Progress slowed by security and integration issues.
- **Current Phase:** Advancing as standards improve and practical deployments increase.

Blockchain

- **Expansion Beyond Crypto:** Now exploring broader transactional applications.
- **Current Phase:** Moving past initial disillusionment towards useful niche applications.

Cryptocurrency

- **Market Turbulence:** Characterized by extreme volatility and regulatory challenges.
- **Current Phase:** Undergoing reassessment by markets / regulators / spec vehicle.

Metaverse

- **Emerging Stage:** High initial expectations with uncertain practical utility / value.
- **Current Phase:** Anticipated challenges as it explores viable applications.

Source: Google Search

Compendium Sources: Goldman Sachs, McKinsey, Stanford HAI Index, State of AI Report, Draper Associates; Reid Hoffman at Blitzscaling; others

AI Council

>1

hour

AI and the Family Office: Leveraging AI Tools and Identifying Investment Opportunities

10

slides

1. Integrating AI Tools into the Investment Process: How are families utilizing AI applications in the investment process? Are the tools mature enough?

50+

Participants

2. Investing in AI: Where are the promising opportunities in AI, in terms of verticals, compute infrastructure, in public and private markets? Given today's frothy public and private markets, where does a rational family office investor look?

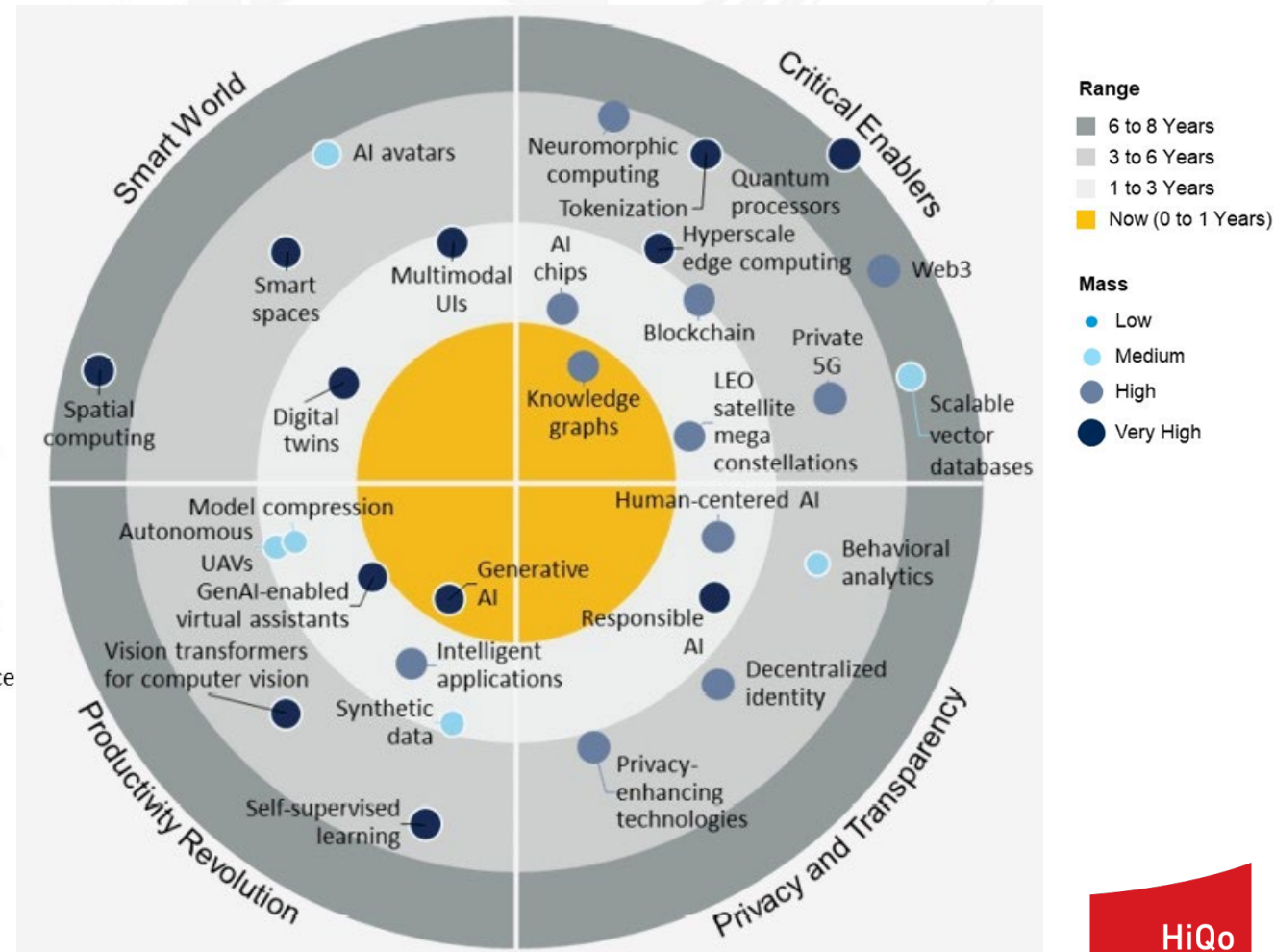
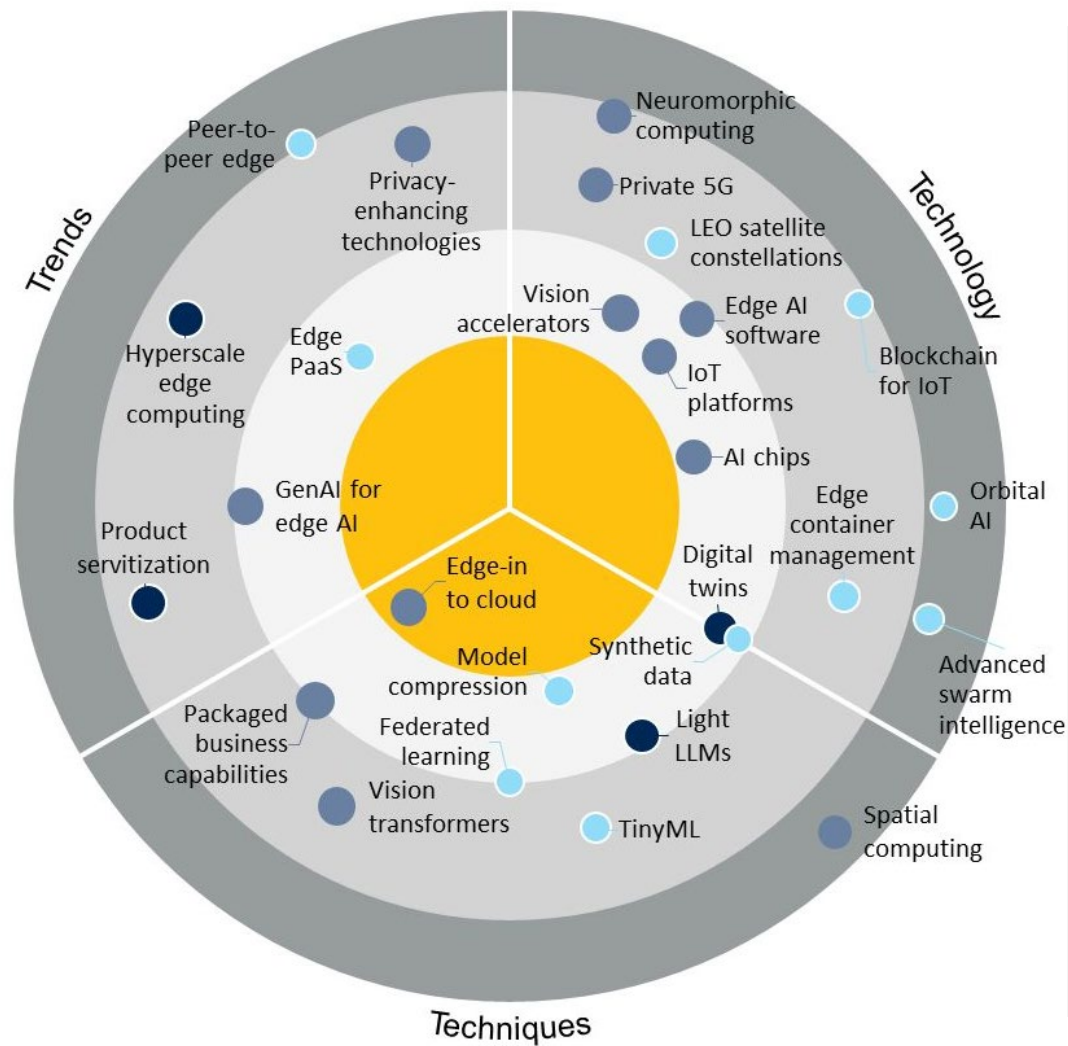
Which industry process rely heavily on AI in '24?

Global AI ranked by revenue of use cases:



Source: McKinsey

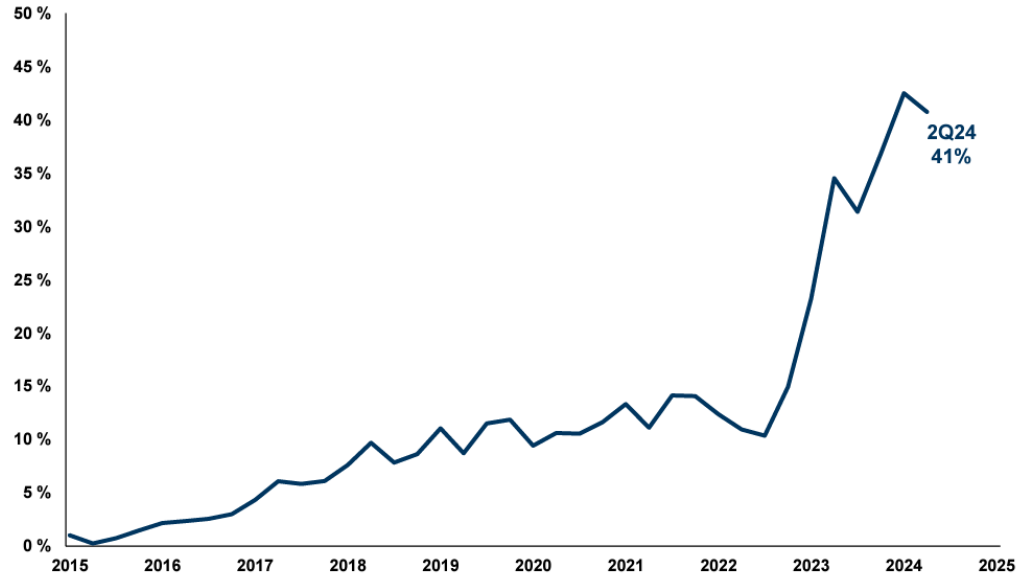
Compendium Sources: Goldman Sachs, McKinsey, Stanford HAI Index, State of AI Report, Draper Associates; Reid Hoffman at Blitzscaling; others



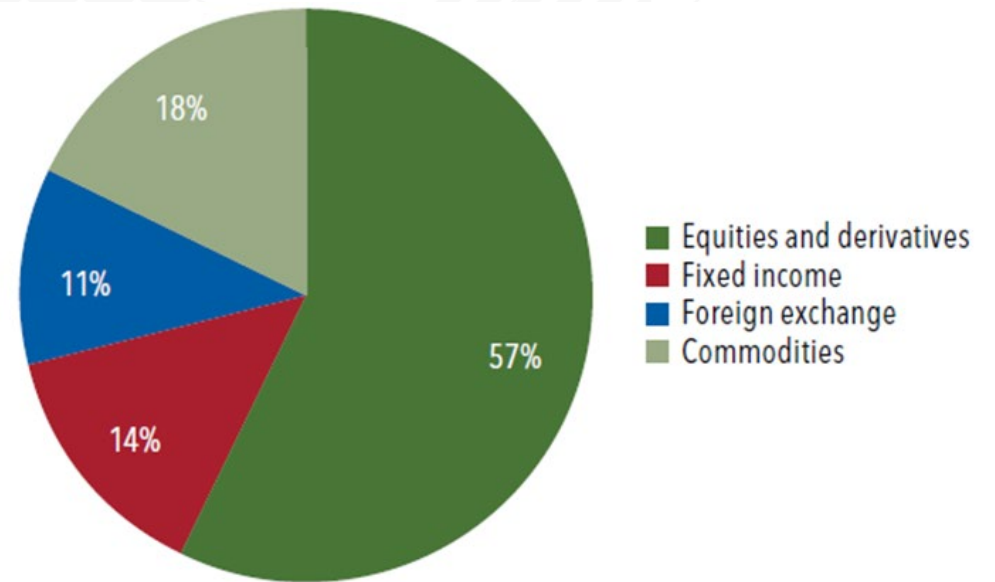
Value Creation from AI in Capital Markets

Strong Correlation to Liquidity and AI Adoption

Exhibit 3: Companies citing AI spiked following the release of Chat GPT
Proportion of S&P 500 firms mentioning "AI" during quarterly earnings calls

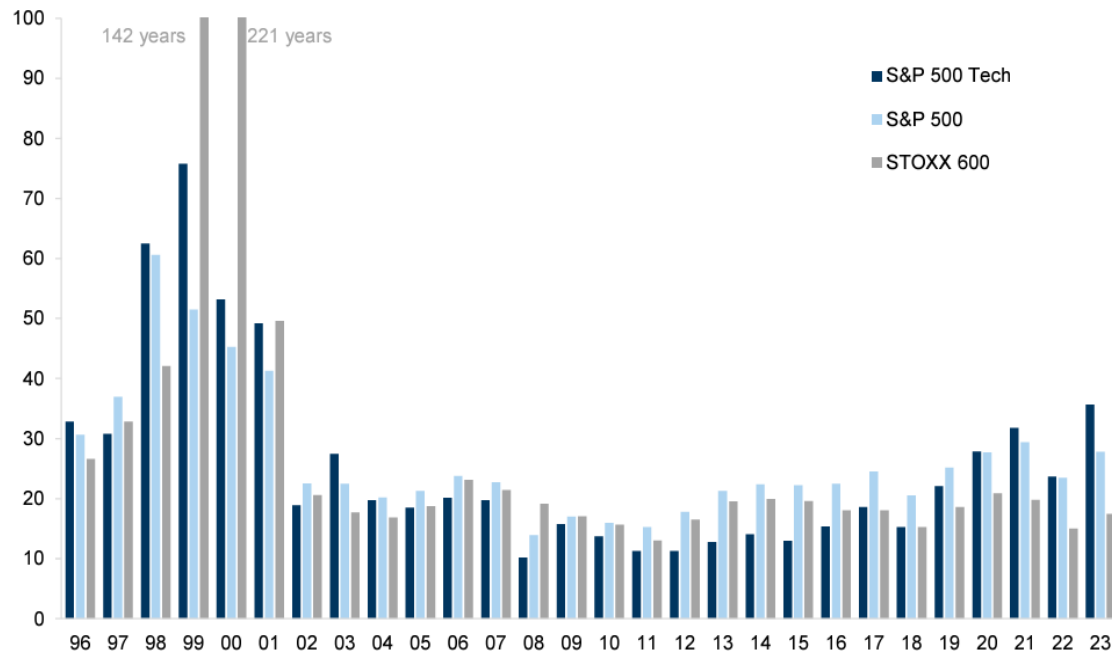


Equity Markets expected to see AI Implementation



Valuations

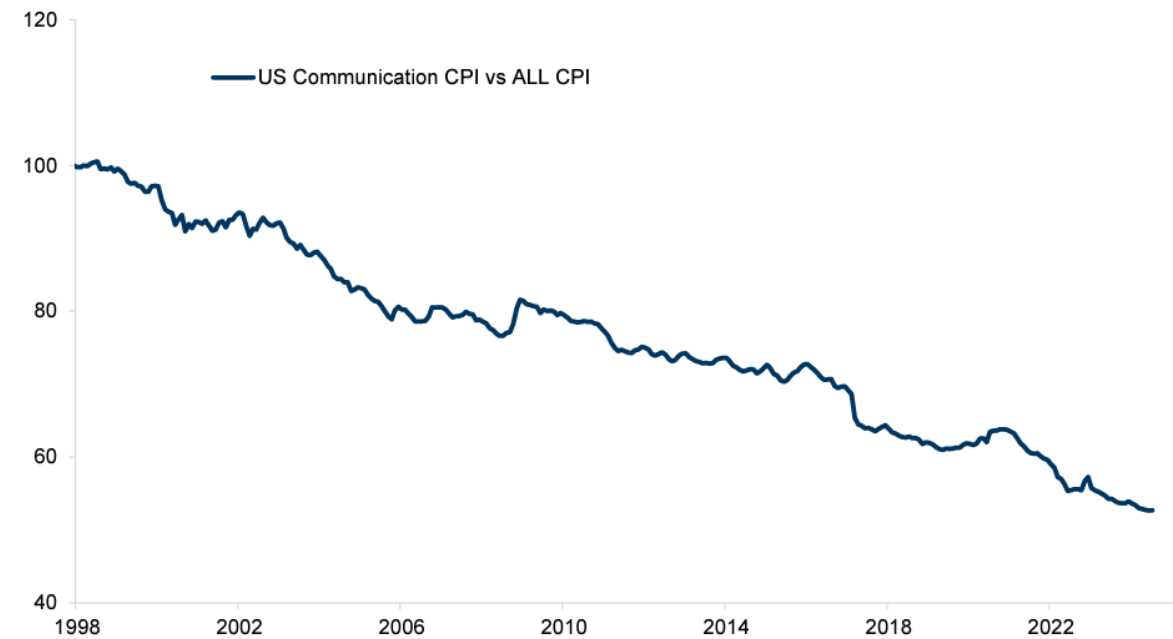
Cash Flow paybacks in current
Valuations lower than 2000 Bubble Peak



We use today's FCF, assuming no growth in future FCF and not discounting future cash flows

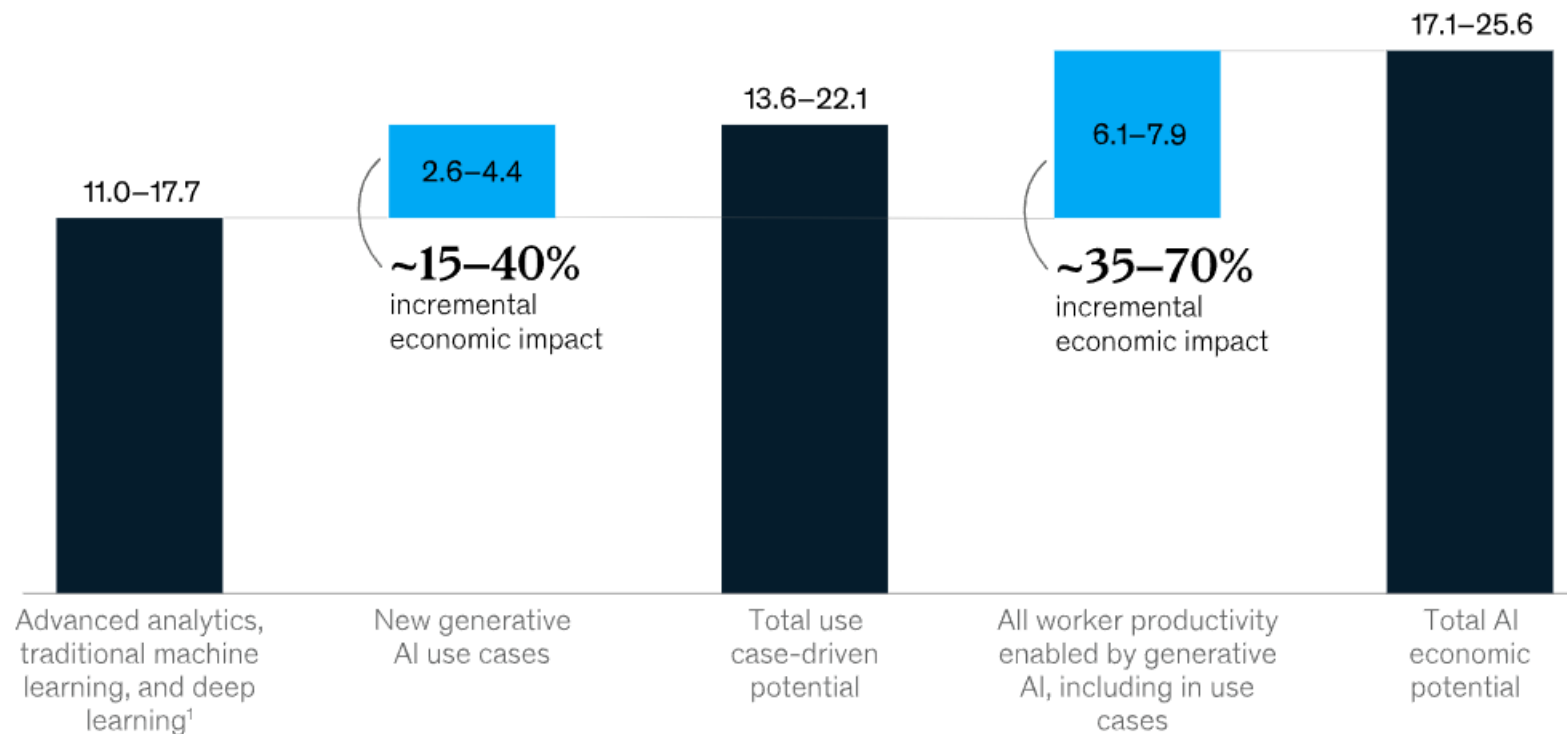
Source: Factset, Goldman Sachs Global Investment Research

Tech Sector is Deflationary



Source: Haver Analytics, Goldman Sachs Global Investment Research

Two lens to view Gen AI impact



¹Updated use case estimates from "Notes from the AI frontier: Applications and value of deep learning," McKinsey Global Institute, April 17, 2018.

McKinsey & Company

Two lens to view Gen AI impact

Lens 1: Targeted Uses Cases for Gen AI

- Definition: Applying generative AI to specific business “use cases” to biz challenges to achieve value outcomes.
- Example: In marketing, using generative AI to create personalized emails, leading to reduced costs and increased revenue through high-quality content at scale.
- Impact: Potential to unlock **\$2.6 to \$4.4 trillion** annually across 16 business functions, enhancing the \$11.0 to \$17.7 trillion from non-generative AI and analytics by 15-40%.

Lens 2: Labor Productivity on Work Activities:

- Scope: Affects around 2,100 detailed work activities across 850 occupations...communication about operational plans.
- Productivity: Estimates show generative AI could significantly boost labour productivity globally.
- Economic Benefit: Excluding overlaps from use case analysis, the broader application could generate **\$6.1 to \$7.9 trillion** annually in economic benefits.

Lens 1

Total economic potential of 60-plus organizational use cases¹

Lens 2

Labor productivity potential across ~2,100 detailed work activities performed by global workforce

Cost impacts of use cases

Revenue impacts of use cases¹

¹ For quantitative analysis, revenue impacts were recast as productivity increases on the corresponding spend in order to maintain comparability with cost impacts and not to assume additional growth in any particular market

AI Unlocking Sciences & Domains

