

INTELLIGENT SIGNALS: AI CAN TRANSFORM YOUR BUSINESS



- 1. AI Is a GPT
- 2. The Jagged Frontier
- 3. Point and System Innovation
- 4. Investing the AI Dividend

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tinyurl.com/ewapoll



Artificial Intelligence (AI)

Software and machines automating tasks that typically require human intelligence

Predictive

Analyzes outcomes and their probabilities

- Forecast asset prices
 - Predict maintenance needs
 - Recognize a face to unlock device
-

Generative

Creates new instances

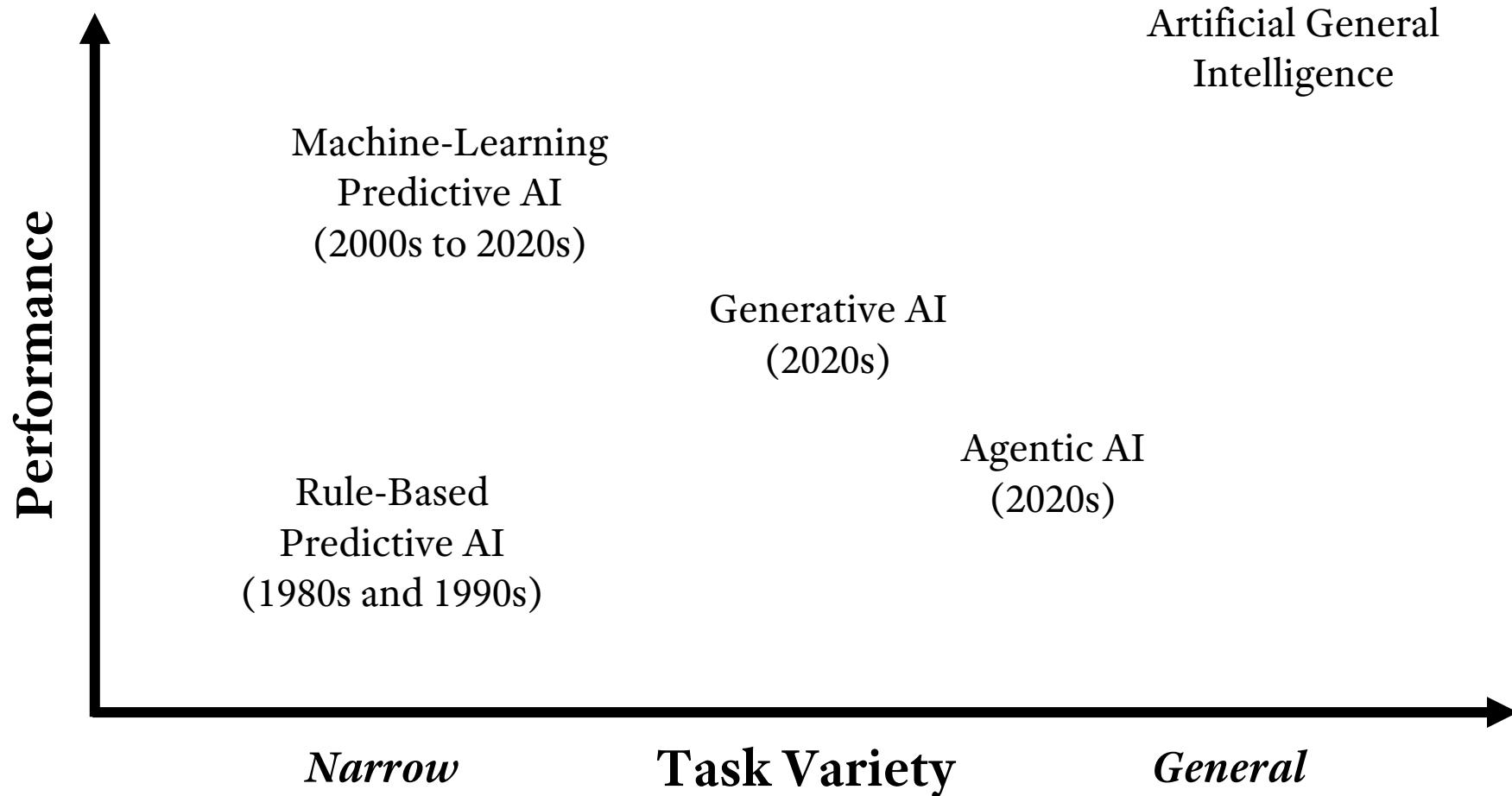
- Draft email or memo
 - Summarize information
 - Generate image or video
-

Agentic

Plans and acts via tools

- Price competitively
- Onboard a supplier
- Schedule a meeting and prep notes

Why AI Is Different Now



What should we do today?

Go to the Enterprise Wireless Alliance site and open the Wireless Leadership Summit 2025 registration form.

+ Agent mode X

Logged in ▾

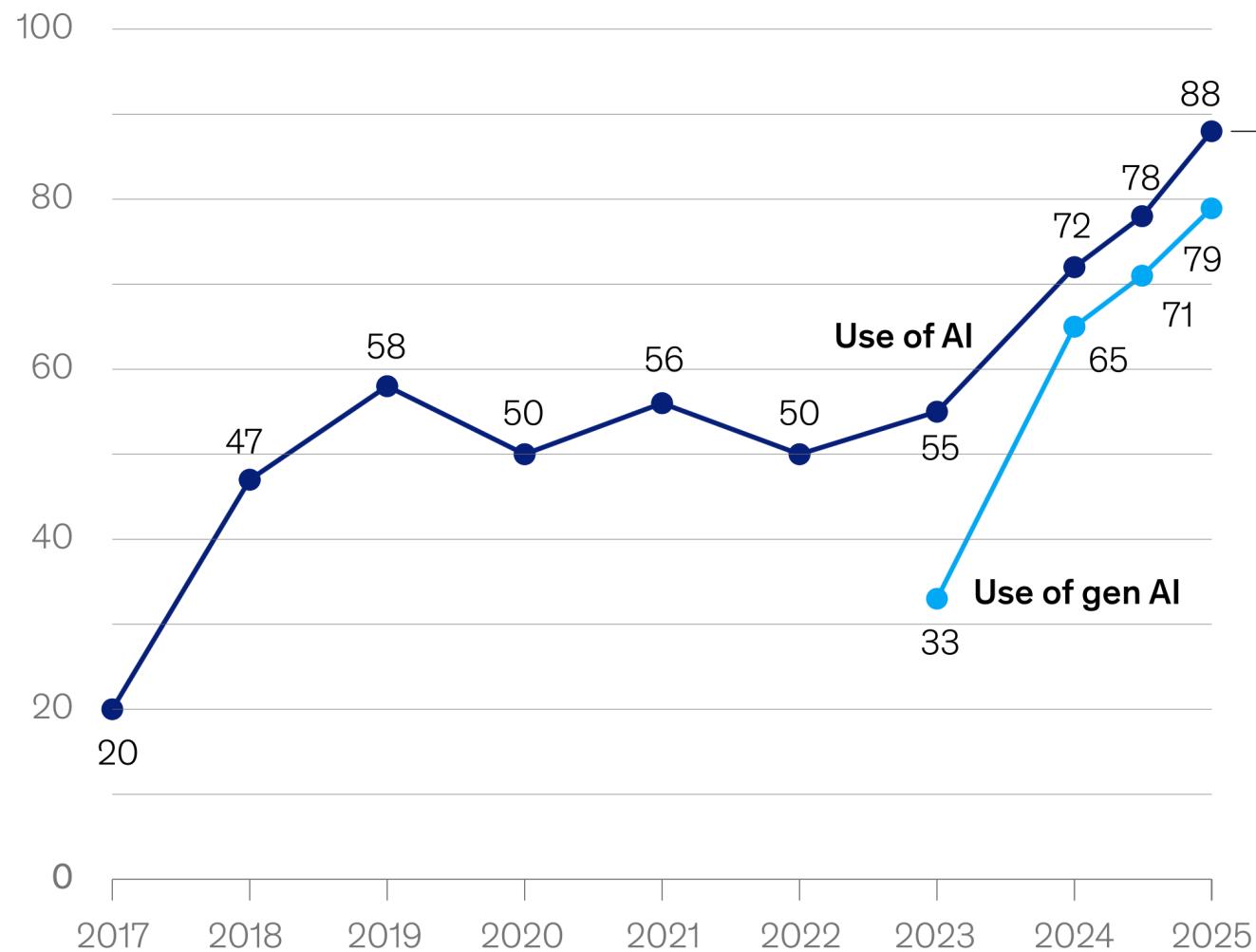


General Purpose Technology: The Other GPT

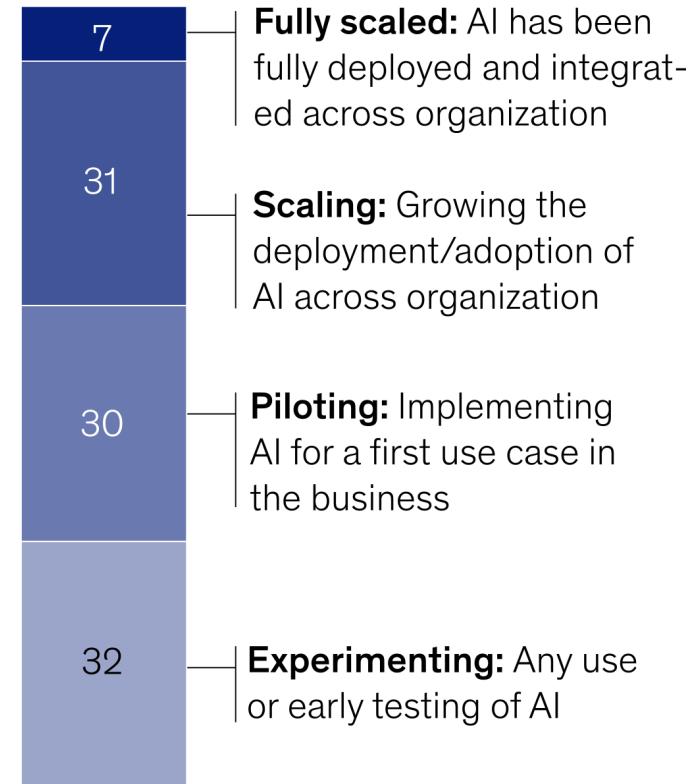
- Innovations that reshape the economy
 - Apply across tasks and industries
 - Improve with scale and network effects
 - Enable complementary innovations and new ways of working
- **Leadership priority:** active, guided exploration toward innovation and new ways of working



Organizations that use AI in at least 1 business function¹



Phase of AI use among organizations using AI in 2025



Source: *The State of AI* by McKinsey, 2025

Top 10 Use Cases for Generative AI

Category	Use Case	2025 Rank
Analytics / Insights / Planning	Data analyses and analytics	1 (73%)
Employee Productivity	Document/meeting summarization	2 (70%)
Employee Productivity	Document and proposal editing/writing	3 (68%)
Employee Productivity	Presentation and report creation	3 (68%)
Employee Productivity	Idea generation/brainstorming	5 (66%)
Customer / Marketing / Sales	Marketing content creation (text, images, videos)	6 (66%)
Customer / Marketing / Sales	Customer service and support	7 (66%)
Employee Productivity	Email generation	8 (64%)
Internal Operations / Processes	Internal support and help desk	9 (64%)
Customer / Marketing / Sales	Sales content creation (presentations, emails, proposals)	10 (64%)

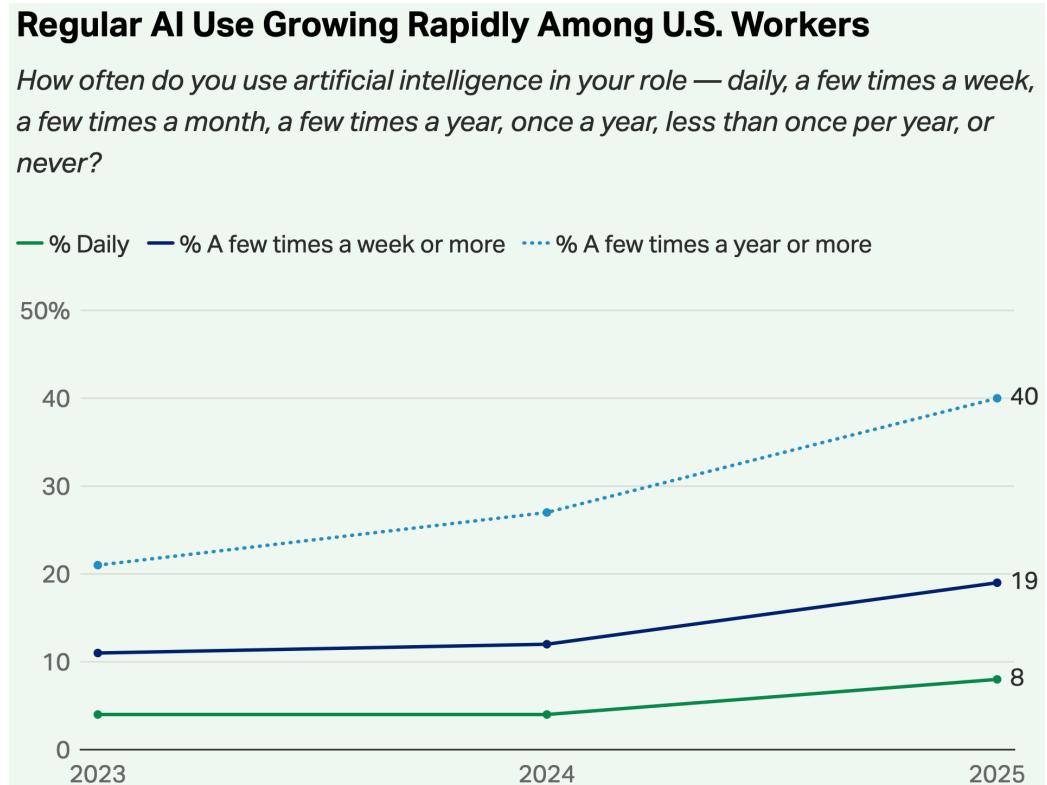
Source: *Gen AI Fast-Tracks into the Enterprise* from Knowledge at Wharton, 2025

AI Adoption Impacts

- | Task Level | Organization Level |
|--|---|
| — 30% of workforce used generative AI; daily users report saving 4 hours per week | — 7% of firms have successfully scaled AI across the organization (31% scaling) |
| — Consultants and customer service agents using AI saw a 15–25% productivity boost for certain tasks | — 6% of generative and agentic AI projects create positive ROI; majority experience safety and reliability issues |
| — Doctors that adopt AI improve diagnostic accuracy 15% | — 15–55% of AI pilot projects generate positive ROI (studies from MIT, McKinsey, Wharton) |

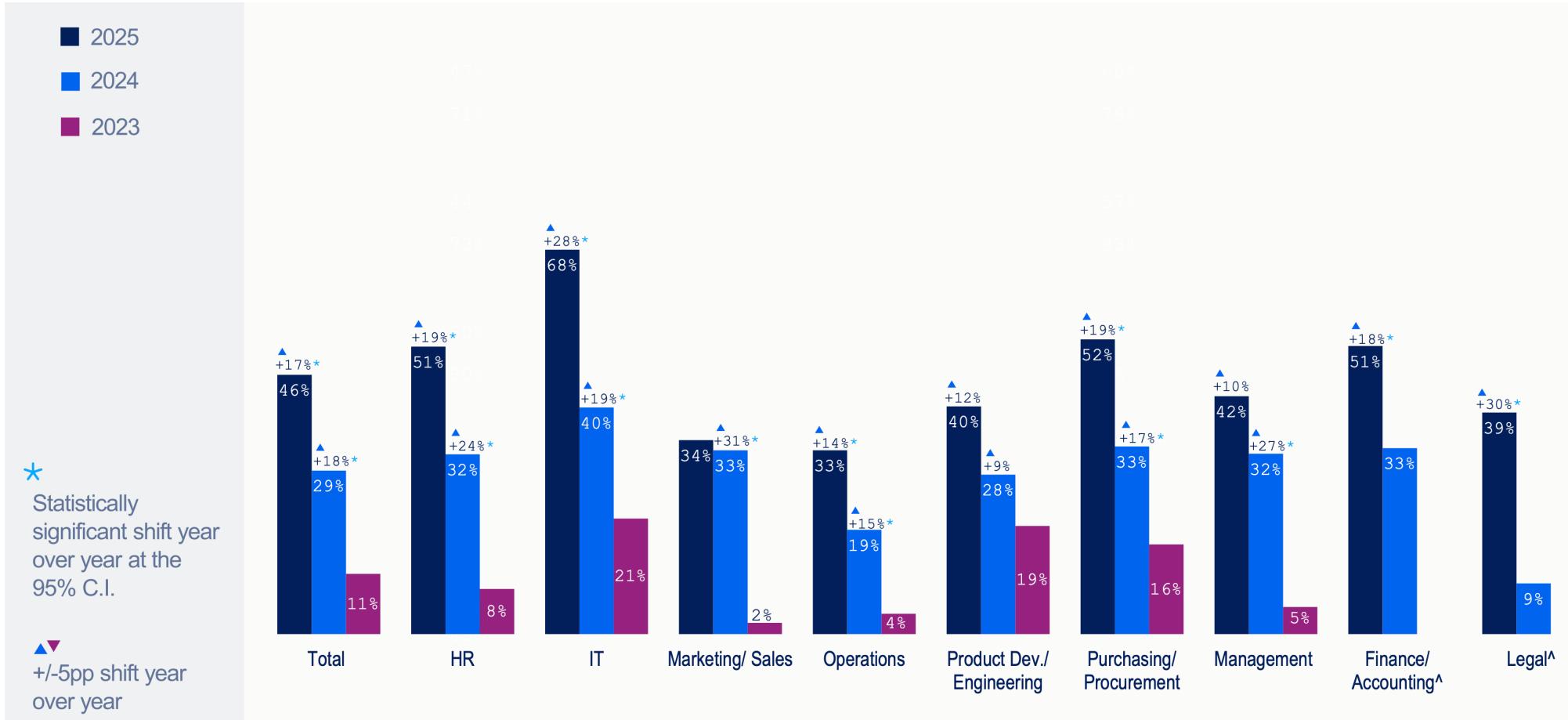
AI Use Among All U.S. Workers

- 52% of adults use generative AI regularly for work or personal purposes
- 24% use generative AI primarily for work
- 40% think AI will drastically change the work they do



Source: Elon University and Gallup, 2025

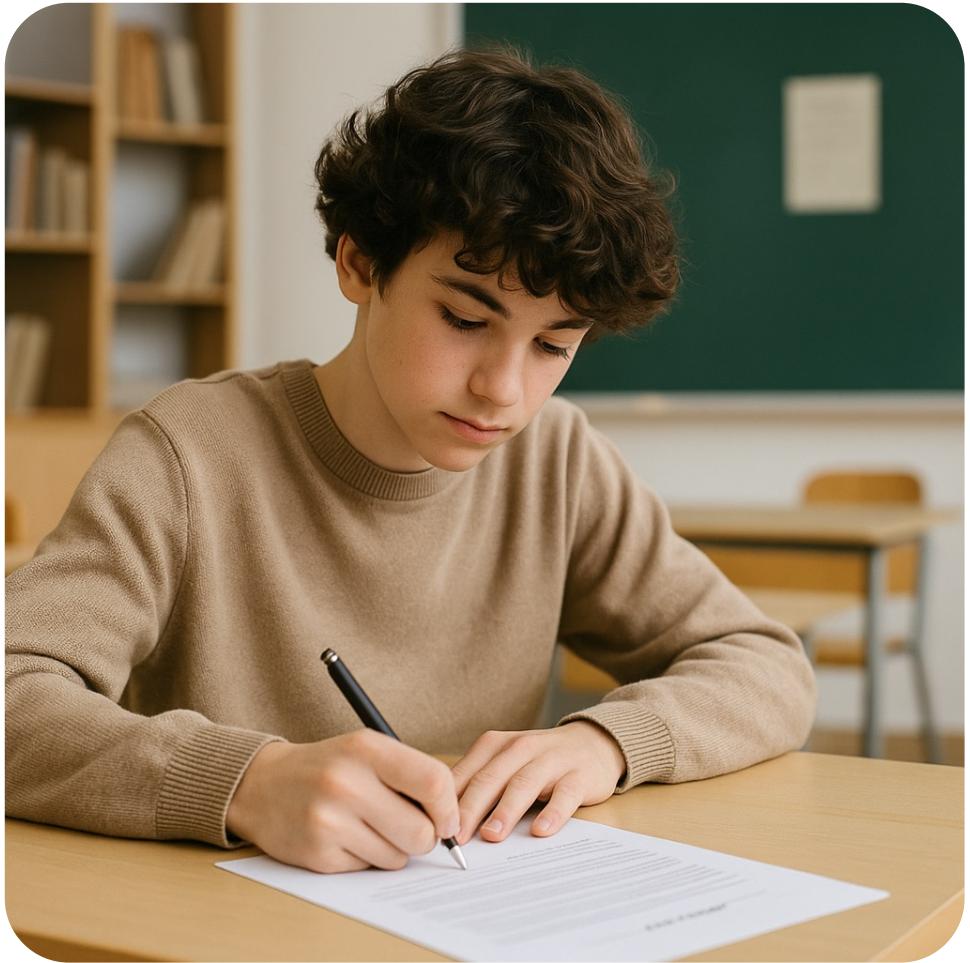
Daily Generative AI Usage Among Senior Decision Makers



Source: *Gen AI Fast-Tracks into the Enterprise* from Knowledge at Wharton, 2025

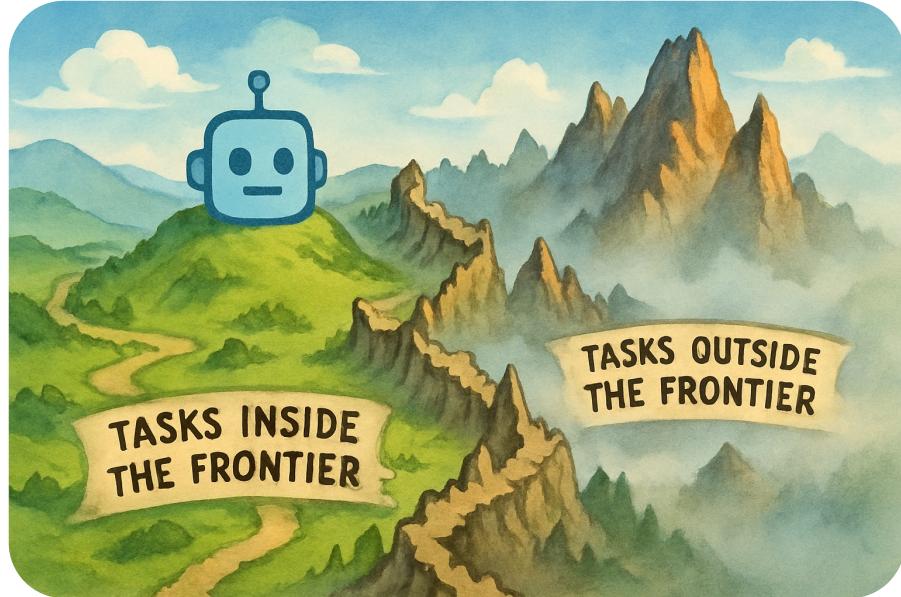


*A picture of a group of watches
showing the time 12:03*



*A young student signing a paper
with their left hand*

AI Is a Jagged Technological Frontier



- Current AI is capable of a variety of tasks, but AI capabilities are uneven
- There is no simple map, and the frontier is moving quickly, but today's AI is likely the worst we will ever use
- Adapting to benefit from a “jagged” technology as an individual or organization is complex

Mapping Your Jagged Frontier: AI as a Thought Partner

- Go beyond drafting, summarization, and search: try AI as a “thought partner”
 - Provide as much context as possible
 - Interact by suggesting improvements and having the AI ask you questions
 - Ask for feedback, coaching, and data analysis (see quarterly review prompt)
 - Tell the AI what it is and have the AI adopt a persona

Prompt: I am new to using AI, and I don't understand what it can do for me. Interview me by asking one question at a time to identify something in my work that you can help me do better

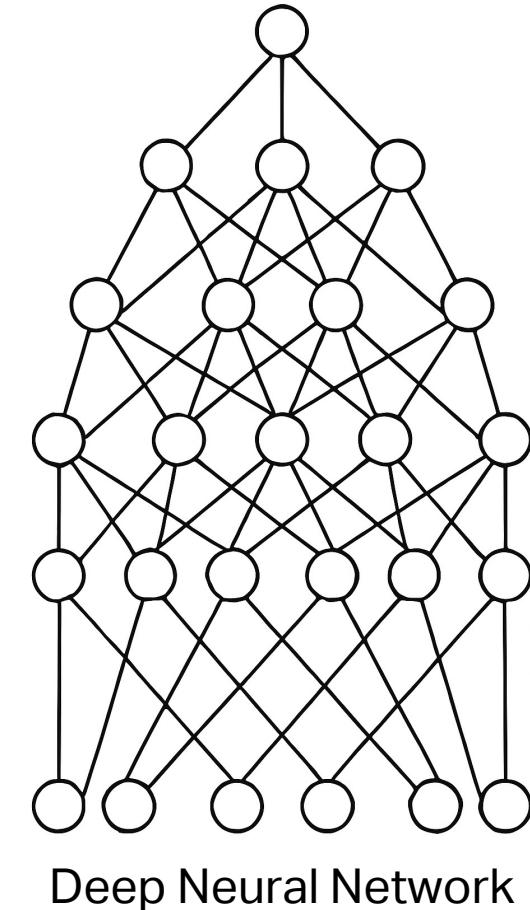
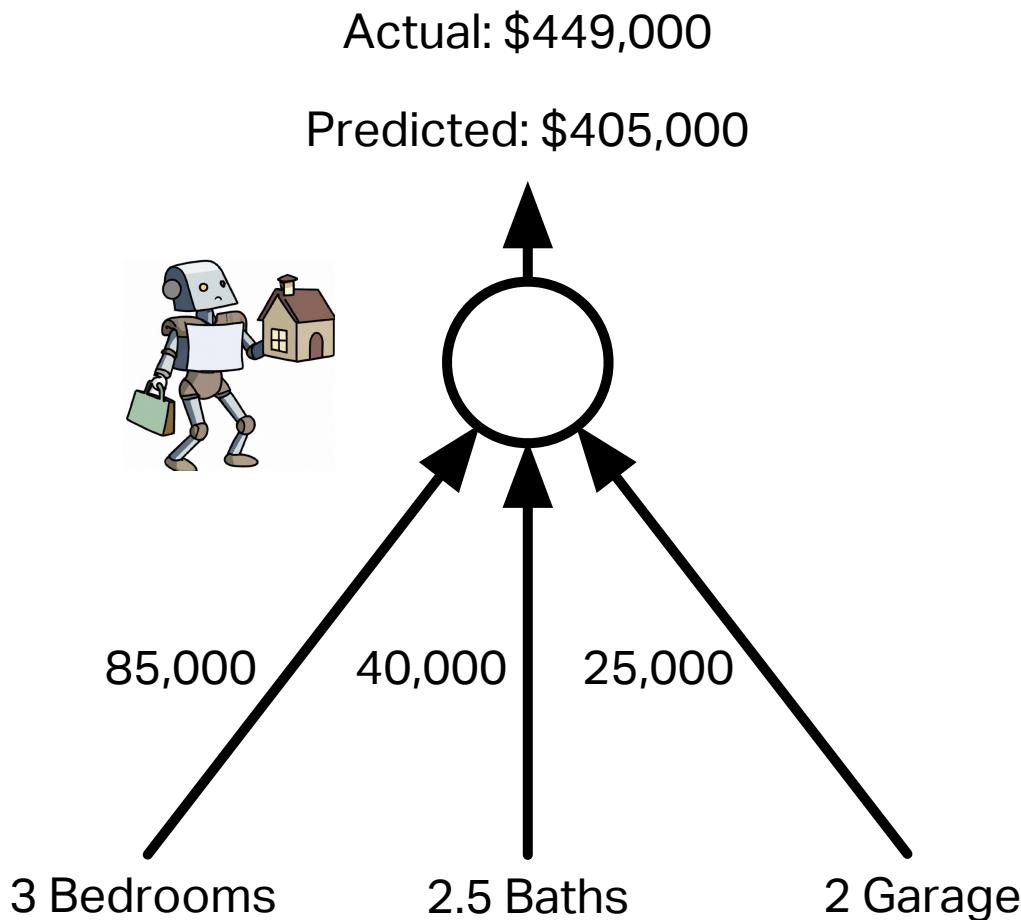
How Do You Talk to a Large Language Model (LLM)?

```
<|im_start|>system<|im_sep|>You are a helpful assistant. Here is information for you to reference. Here are the tools you have available.<|im_end|><|im_start|>user<|im_sep|>I am at the Wireless Leadership Summit. How should I introduce tokenization?<|im_end|><|im_start|>assistant<|im_sep|>
```

```
200264, 17360, 200266, 3575, 553, 261, 10297, 29186, 13, 7306, 382, 2164, 395, 481, 316, 9682, 13, 7306, 5 53, 290, 8437, 481, 679, 2839, 13, 200265, 200264, 14 28, 200266, 40, 939, 540, 290, 48458, 47238, 46378, 1 3, 3253, 1757, 357, 26650, 6602, 2860, 30, 200265, 20 0264, 173781. 200266
```

- A conversation is a series of numbers representing tokens: words, subwords, punctuation
- Next token:
 - The (token 976, 10.2%)
 - A (token 32, 4.6%)
 - You (token 3575, 3.2%)

How a Neural Network Works

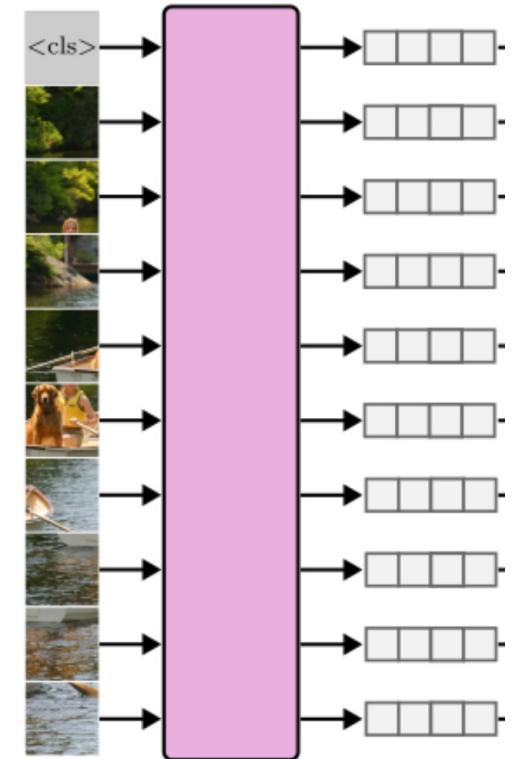
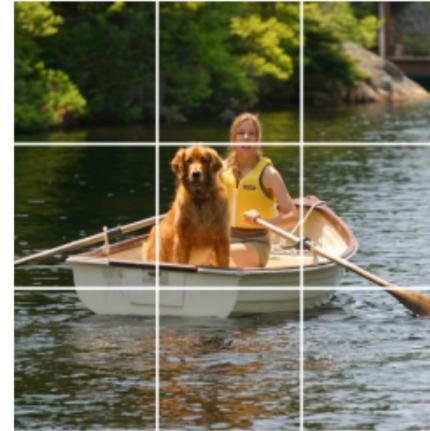


Pre-Training a Neural-Network LLM

	At	Ohio	State	,	we	believe	in	education	for	citizenship	.
Token	2243	23917	5388	11	581	6423	306	7850	395	71287	13
1.	At	Ohio	State	[?]							
2.	At	Ohio	State	,	[?]						
3.	At	Ohio	State	,	we	[?]					
4.	At	Ohio	State	,	we	believe	[?]				
5.	At	Ohio	State	,	we	believe	in	[?]			

Refining an LLM

- **Retrieval-augmented generation:**
Inserting curated information into the token stream
- **Patch-based tokenization:** images and audio can be divided into small pieces and processed as tokens



Thinking Fast and Slow: System 1 Versus System 2

- **System 1:** fast, automatic, intuitive thinking
 - Uses heuristics and patterns
 - Feels like “gut instinct”
 - AI’s strength

- **System 2:** slow, deliberate, and conscious thinking
 - Involves reasoning, logic, planning



College football fans disappointed after Michigan wins a National Championship

Post-Training LLMs to Reason

- **Chain of thought:** asking the AI to “show its work”
- **Reasoning models:** AI that is “fine-tuned” by reinforcement learning to break problems into sub-problems and use “thinking tokens”
 - Focus on the *entire response process* not just the next token
- Requires extensive human feedback and examples of reasoning (math proofs, engineering solutions, legal arguments)

- Calculating maximum achievable rate
For the given scenario, I'll compute the maximum achievable rate by considering both deterministic and ergodic capacities. This includes using Shannon's upper bound formula and Rayleigh fading's expected value. I'll also incorporate various factors like path loss, interference, and noise but keep it concise. I'll ignore antenna gains since they're not specified.

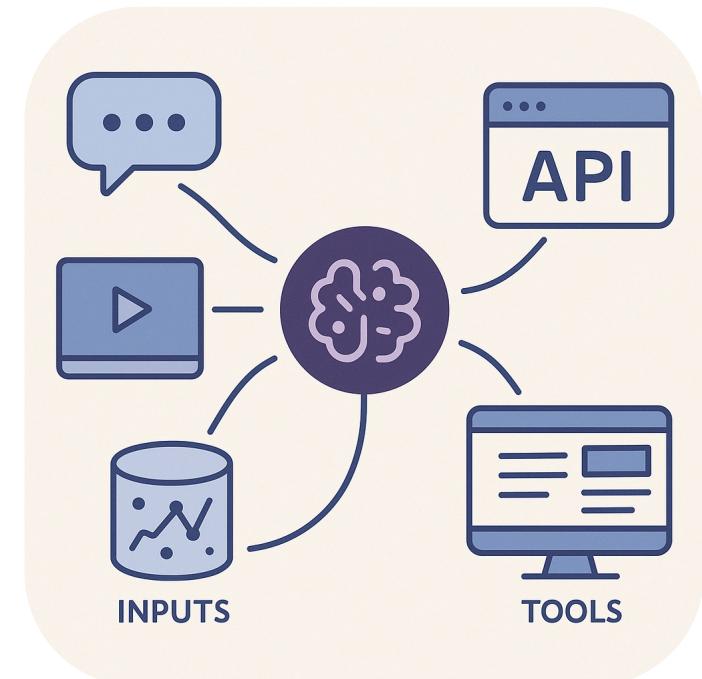
// Computing maximum achievable data rate

```
import math

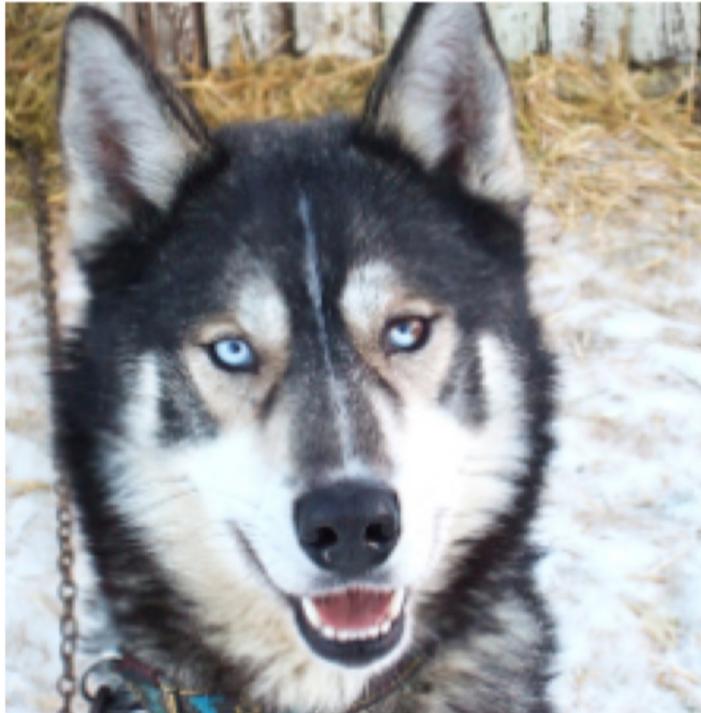
# Given parameters
fc = 5e9    # 5 GHz
B = 20e6    # 20 MHz
P_tx_dBm = 40.0
P_I_dBm = 40.0
N0_dBm_per_Hz = -174.0
alpha = 3.5
```

From Reasoning to Agents

- **Agentic AI** systems can sense, plan, decide, and act (including robots)
- **Sense:** gather information from sensors, event streams, and user interfaces
- **Plan and decide:** use reasoning LLMs to form goals and determine actions via reasoning and tool-use tokens
- **Act:** execute through APIs, software tools, and user interfaces



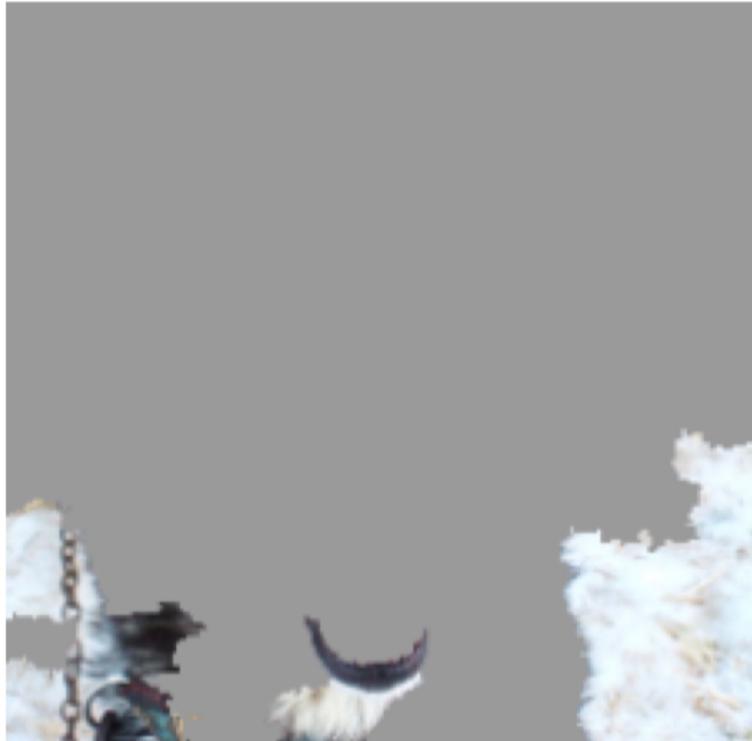
AI Is Alien Intelligence: Husky or Wolf?



Husky Classified as Wolf

Source: *Why Should I Trust You?* by Ribeiro et al., 2016

AI Is Alien Intelligence: Husky or Wolf?



Explanation

Source: *Why Should I Trust You?* by Ribeiro et al., 2016

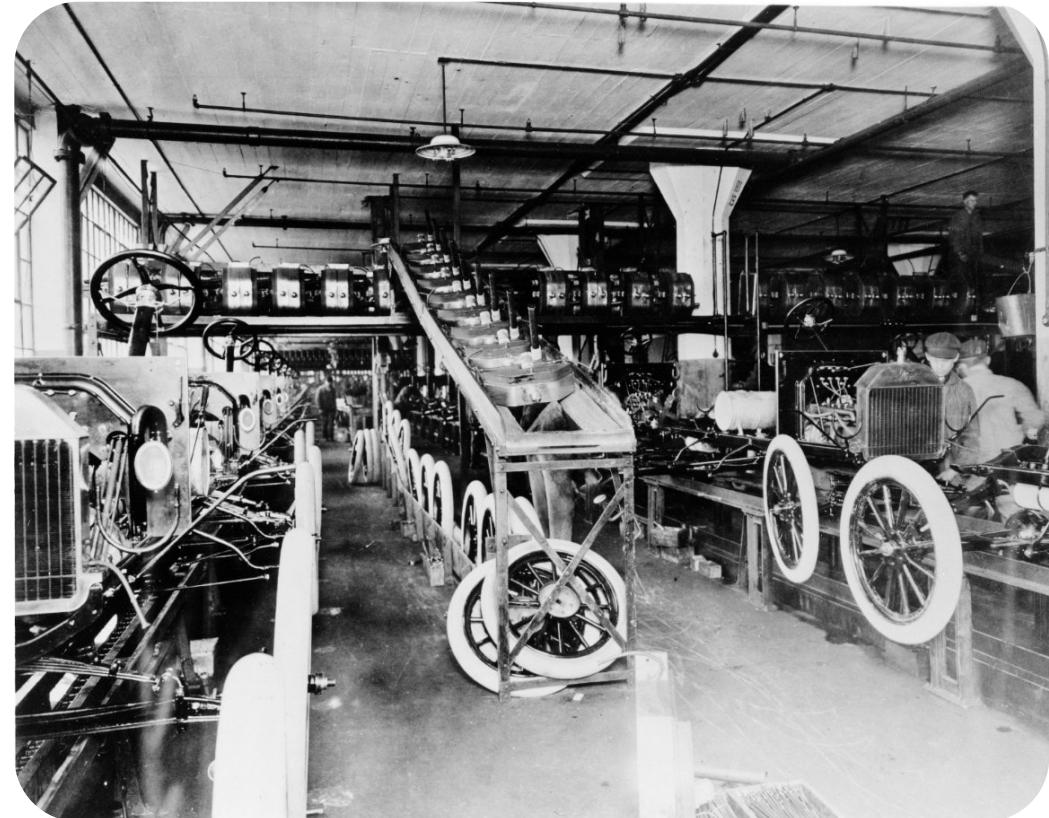
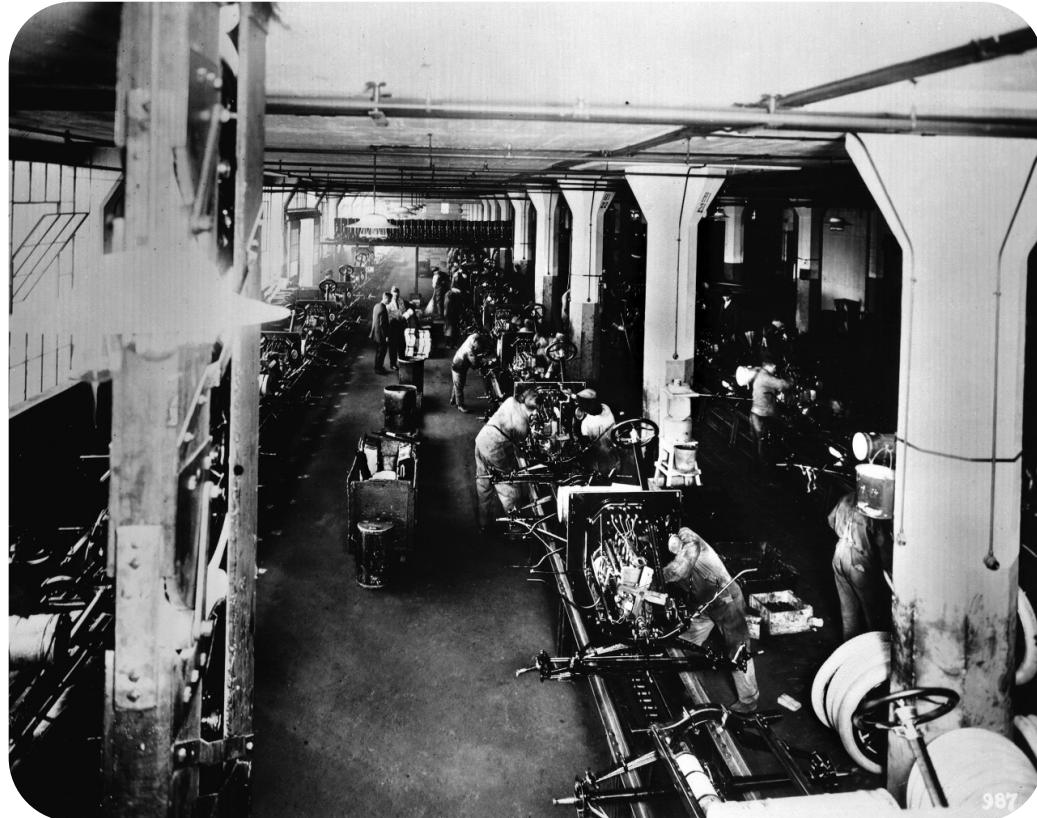
Leading on the Jagged Frontier: Point and System Innovation

- **Point innovation:** deploy AI to inform or automate an existing decision or function
 - Your initial wins and explorations of the jagged frontier
- **System innovation:** deploy AI by redesigning systems of interdependent decisions and functions
 - Complex but delivers far more ROI
 - Evidence suggests most organizations are stuck at point innovation

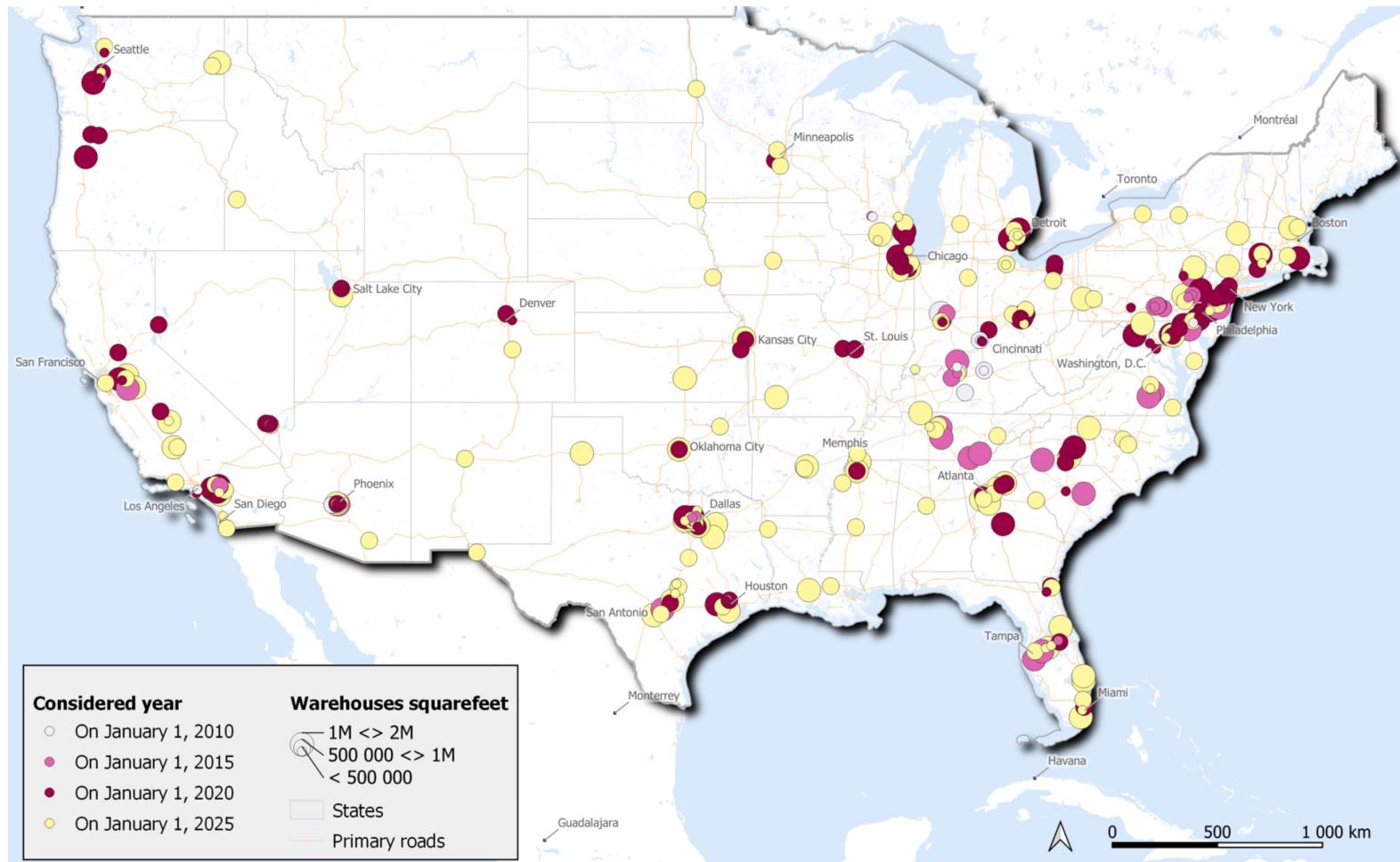
Factories Under Steam Power



Point to System: Assembly Line and Electric Power

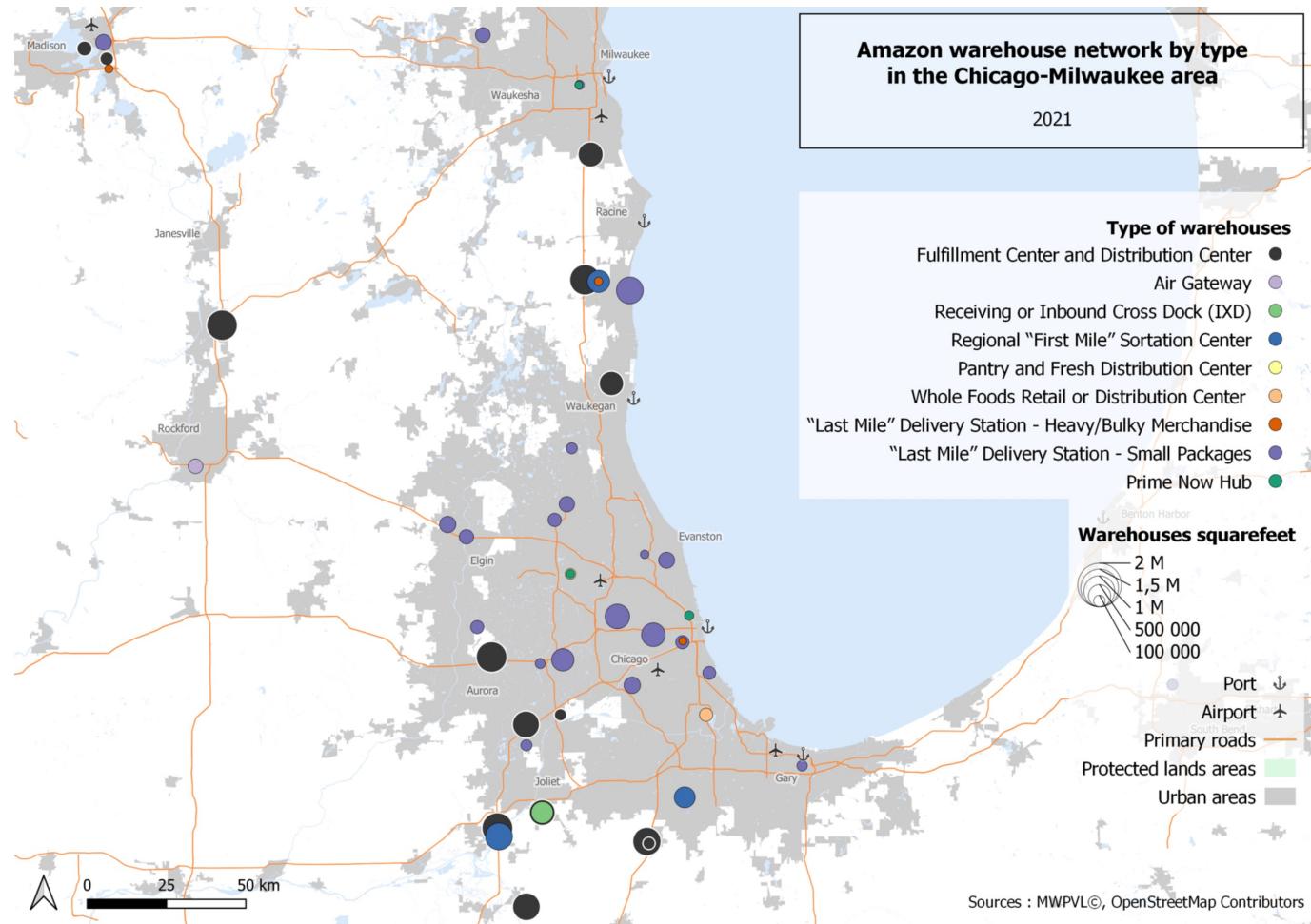


Amazon's Predictive AI System Innovation



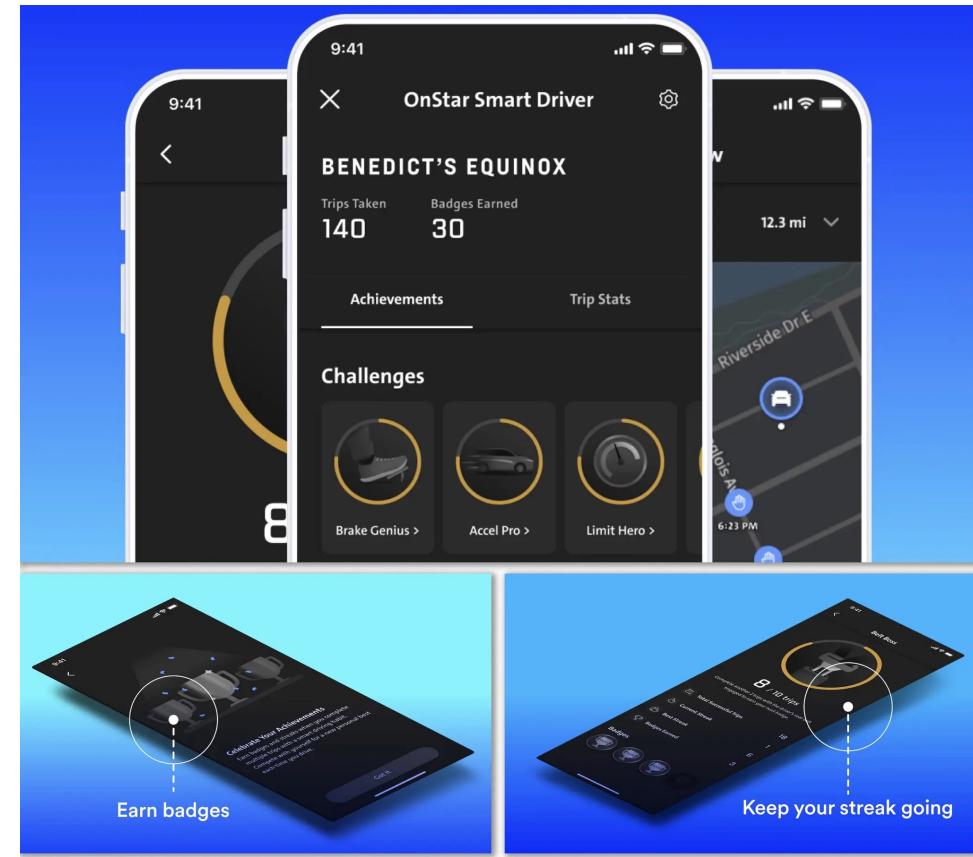
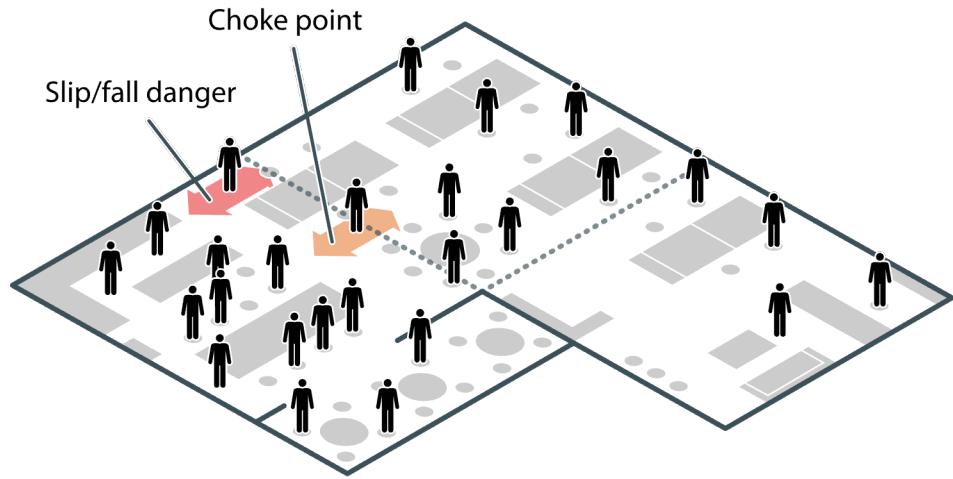
Source: Assessing the Spatial Footprint of E-Commerce Logistics by Schorung et al., 2024

Amazon's Predictive AI System Innovation



Source: *Assessing the Spatial Footprint of E-Commerce Logistics* by Schorung et al., 2024

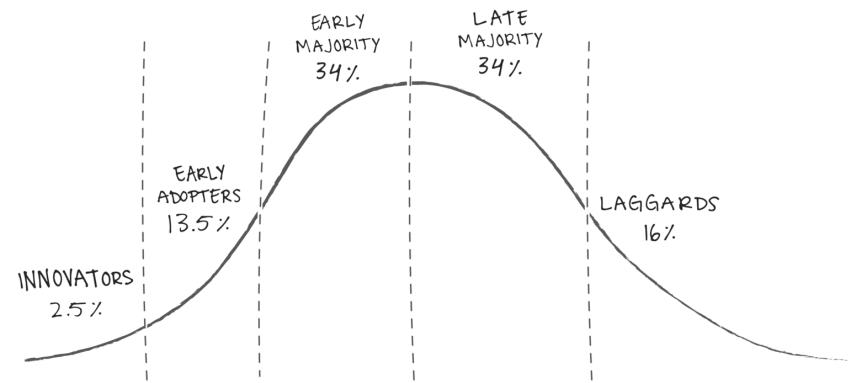
Predictive AI System Innovation in Insurance



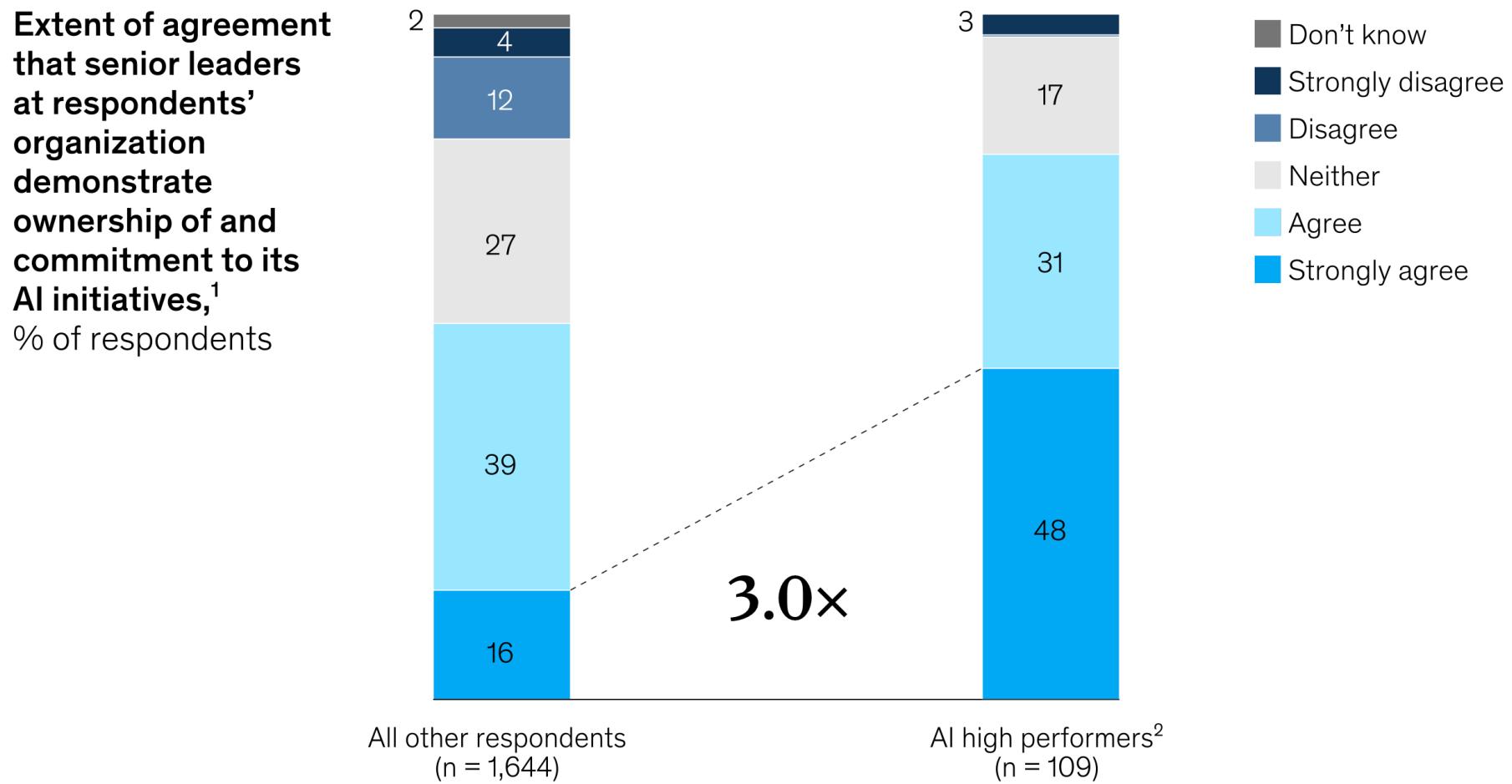
Source: *Predict and Prevent* by Risk and Insurance, 2024

Surfacing Point Innovations

- Find innovator/early adopter energy: identify curious individuals or teams already experimenting on frontier
 - Signal for where point innovations are emerging
- Scan for relatively simple, high-volume tasks (first-pass analysis, document prep, FAQs)
- Capture and share point innovations
 - Create a use case gallery or internal “show and tell”



High performers tend to have senior leaders who demonstrate strong ownership and commitment to AI initiatives.



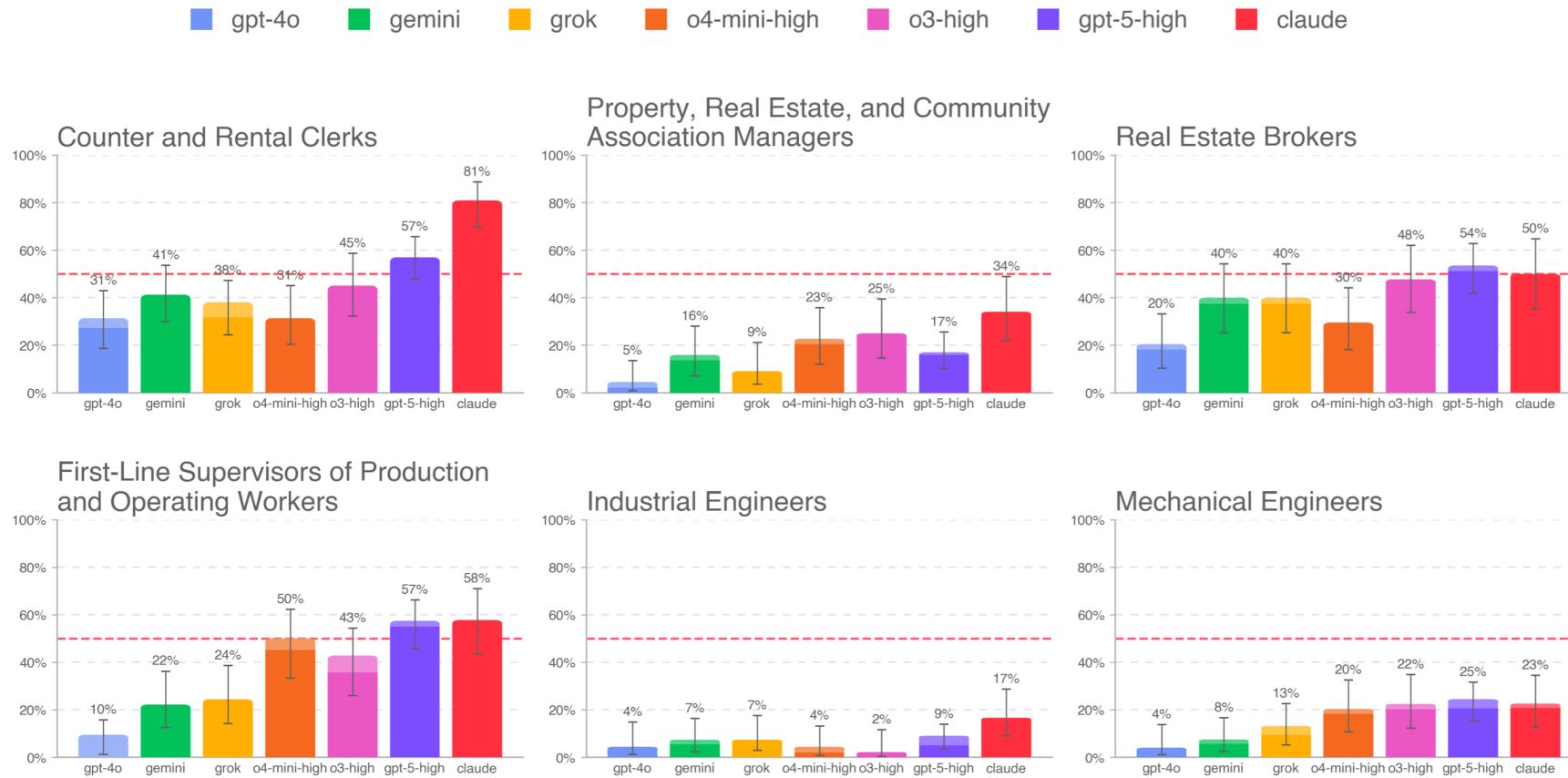
Source: *The State of AI* by McKinsey, 2025

Availability, Guard Rails, and Governance

- Organization must make tools available to surface point innovation
 - 40% of companies purchased LLMs; employees at 90% of companies reported using LLMs for work
- Establish policies on AI involvement beyond privacy, regulatory issues, etc.
 - "You can use AI, but you are ultimately responsible for what you deliver; it is expected you verify the data, assess the process, and otherwise validate responses"



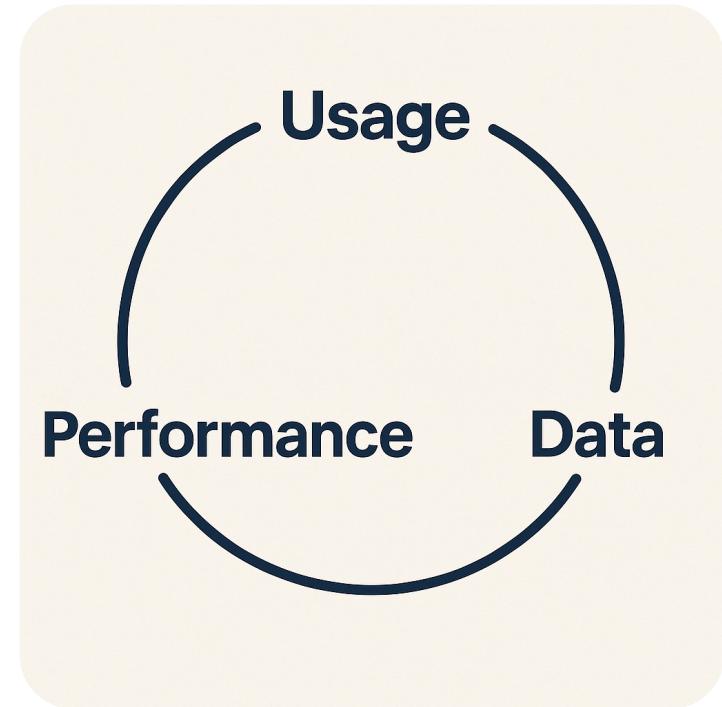
Interview Your AI



Source: *GDPval* by OpenAI, 2025

Fast Feedback Loops

- The specific nature of AI technologies confers tremendous first-mover advantage
- AI can have substantial upfront cost, but once it is in use and collecting data, improvement is often fast and inexpensive
 - Assuming custom models or versions of foundation models
- Cost of mistakes versus cost of delays



Moving Toward System Innovation

- Point innovations can be valuable but often have limited impact on the organization overall
- System innovation is more challenging than point innovation but much more valuable
- Start by evaluating processes surrounding the point innovation for bottlenecks, delays, duplicated effort



Constraints and Rules Can Be Opportunities

- Constraints, rules, and bottlenecks are starting points for creativity about system innovation
- What *else* can we do better with this technology? What becomes possible now?



Task-Level Thinking Can Be a Barrier



- Task-level thinking focuses on how AI augments specific, extant tasks rather than the broader function or need the tasks fulfill
- How best to fill the customer need given the new technology? (“The faster horse”)

Technology and Jobs



- From 1900 to 2000, portion of American workers in agriculture went from 40% to 2%
- 60% of jobs today did not exist in 1940
- 150K CPAs in 1980; 650K in 2025

AI and the Talent Pipeline

- Do automatable entry-level tasks giving professionals the opportunity to “learn the ropes” of the industry?
- 75% of firms plan to reskill at least 10% of their workforce on AI
- Value of creating “system shapers” or “integrators” that can work cross-functionally to drive system innovation

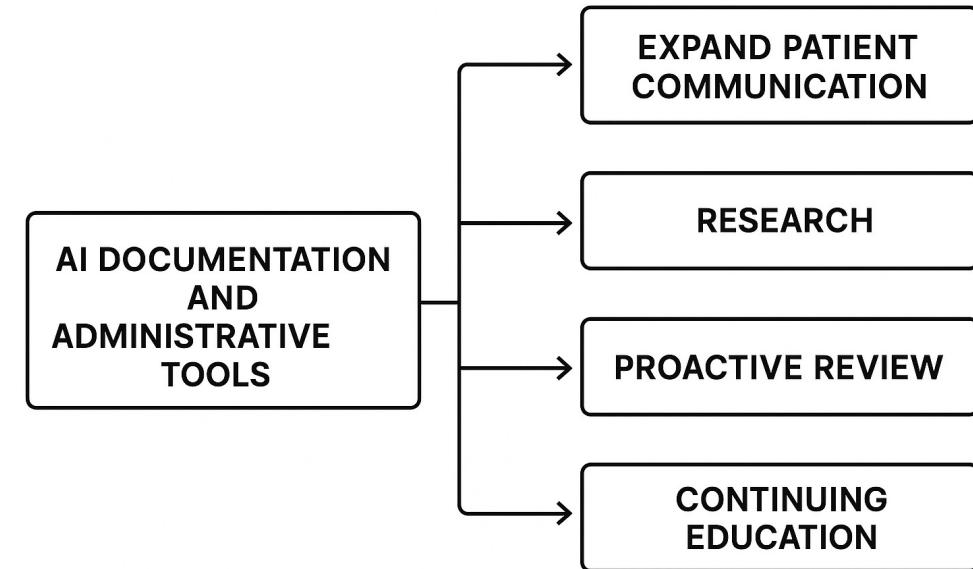


Generative AI System Innovation

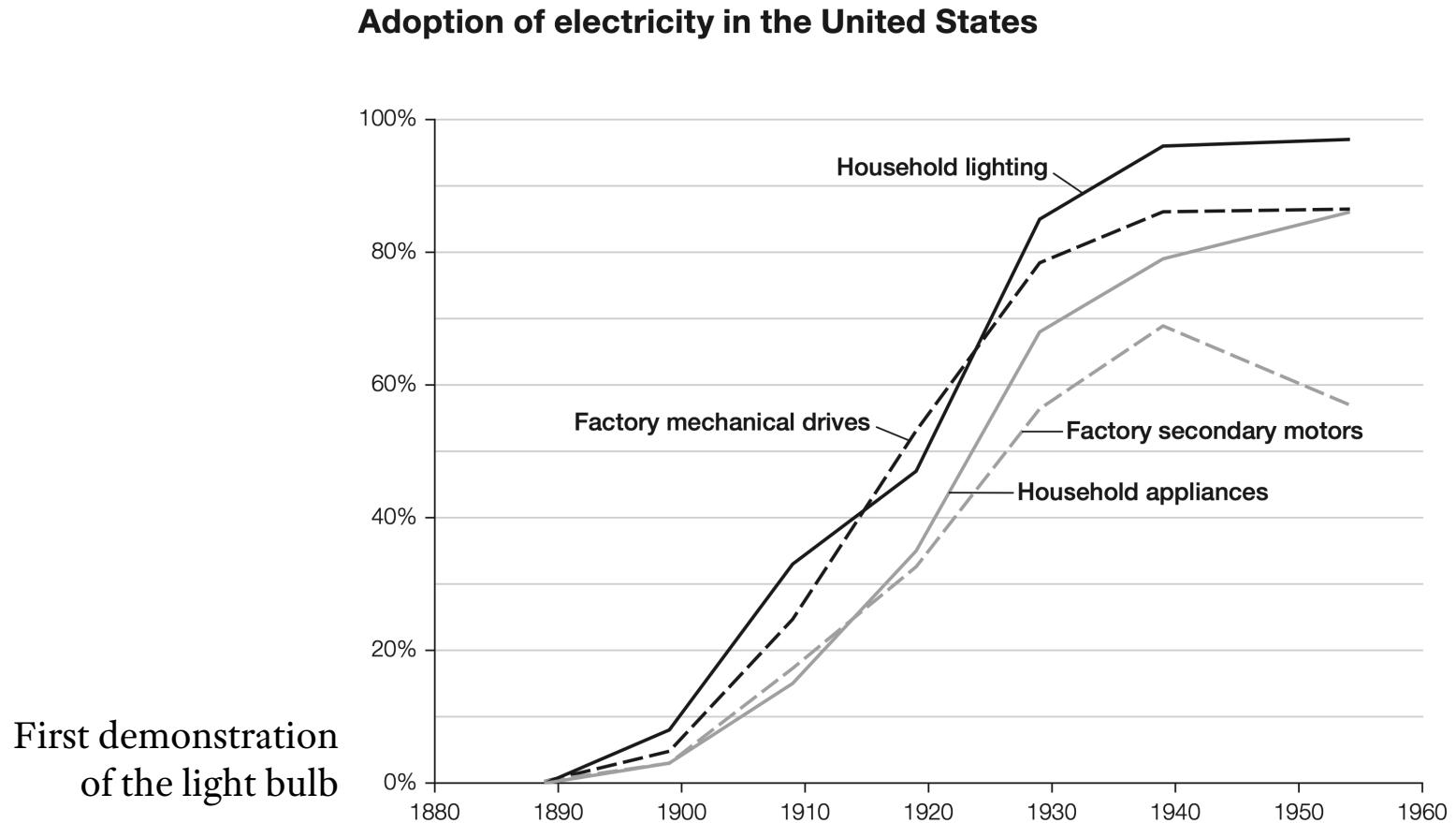


Strategy in Action: Investing the AI Dividend

- Point AI successes don't just save time or money, they create choice at individual and organizational levels
- Leaders provide the strategic narrative that reinforces purpose and guides the organization's choice
- Invest in exploration toward system innovation: what can humans do with AI?



Your Opportunity



Source: *The Modern Productivity Paradox in a Not-Too-Distant Mirror* by David, 1989

Going Further

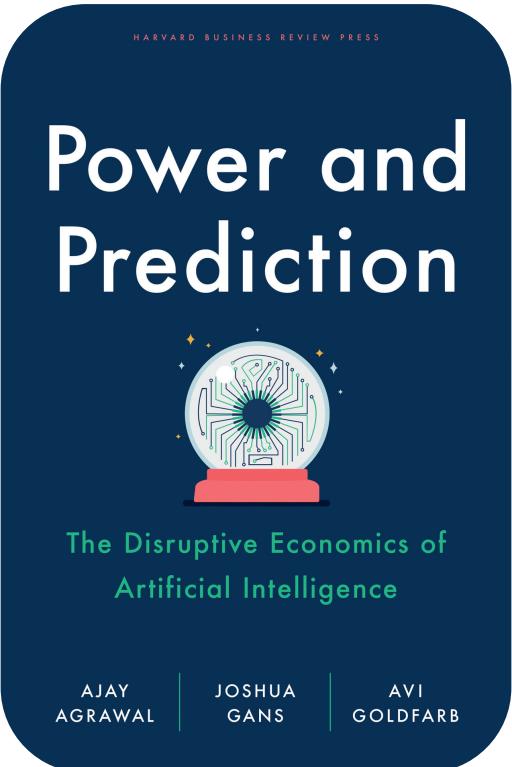
"Geoff's advice grew our market cap from \$750 million to \$12 billion."
—NAVEEN JINDAL, Chairman Jindal Steel & Power

The AI-Driven Leader

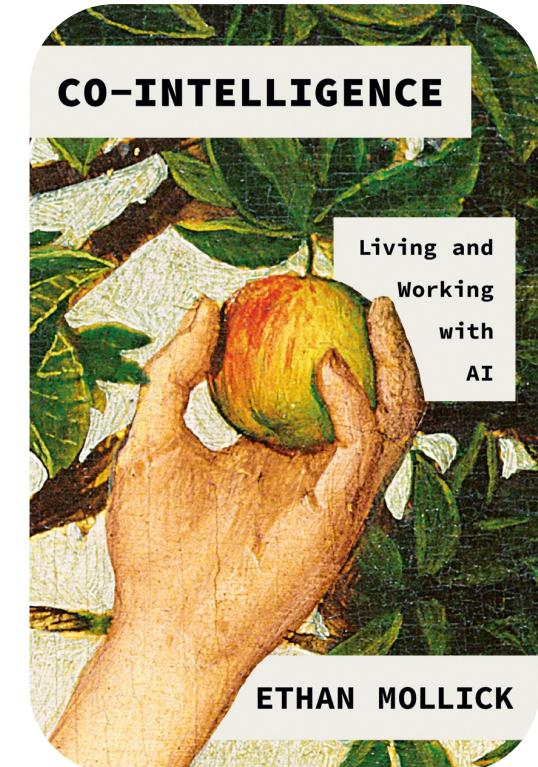
Harnessing AI to
Make Faster,
Smarter Decisions

Geoff Woods

Deploying AI in
Organizations

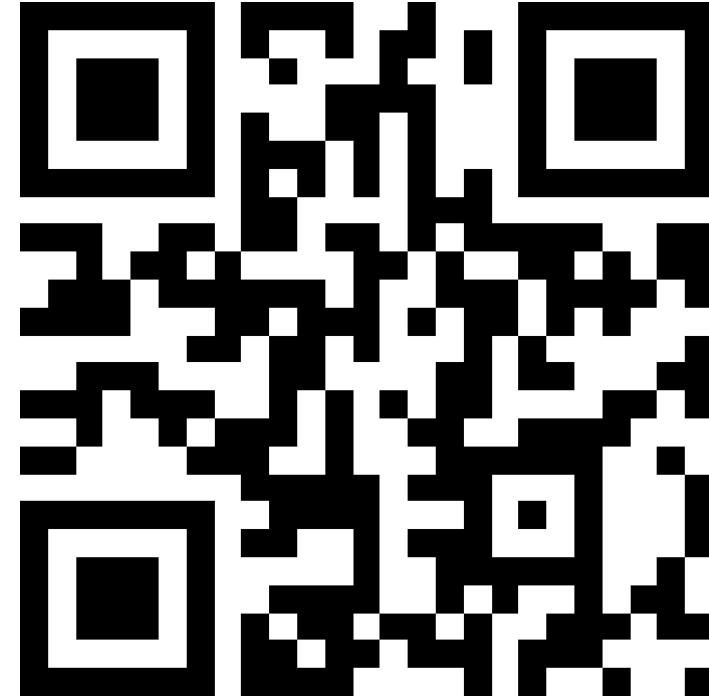
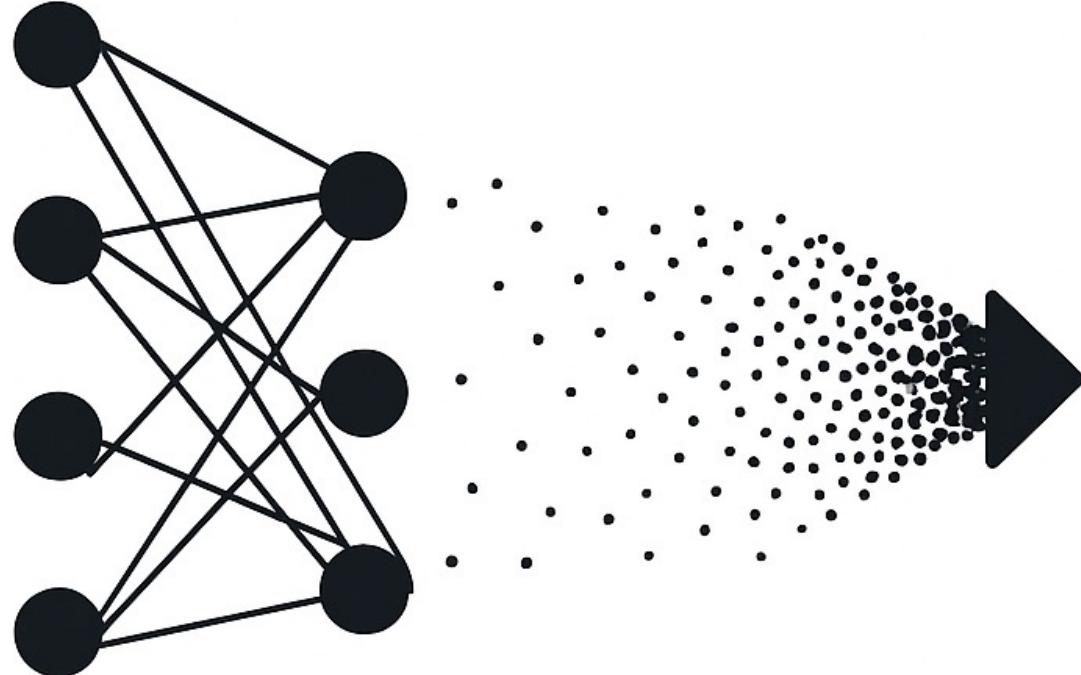


Point and System
Strategies for AI



Using Generative AI
Effectively

tinyurl.com/ewawls



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CRAIG
INTELLIGENCE

Addendum: Simple Action Plan

- Make appropriate AI tools available to your organization to surface point innovations
 - Start your map of the frontier: get hands-on with AI if you're not already
- Launch point-innovation pilots for high-leverage use cases
 - Set baselines, define success, and measure performance
- Scale successful pilots alongside your redeployment narrative
- Initiate quarterly system innovation labs: “What can we do now?”

Addendum: Quarterly Strategic Review Prompt

Interview me with one question at a time to conduct a quarterly strategic review of my business. The questions should focus on these four drivers.

- 1. Strategy:** What competitive advantage are we building in the long term through the actions we are taking in the short term?
- 2. Execution:** What progress have we made toward our strategic plan so far this year? What changes do we need to make?
- 3. People:** Are the right people in the right seats doing the right things and growing in the right direction?
- 4. Technology:** How might we harness technology to help our people do higher-quality work in a fraction of the time, increase efficiency, and deliver more value to customers?

Start with strategy and continue through each driver in order. Then, give me feedback on what I'm doing well and where you see potential holes in my thinking, and list the top things I should consider focusing on in the next ninety days.