Autonomous Agents as Part of the Workforce?

Autonome Agenten als (k)ein Teil der Belegschaft

Dr.-Ing. Jürgen Müller

Seerene Klausurtagung Software-Management, May 2026

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Previously: AI & Software Engineering (Sept 2025)

Last year, I shared four learnings from using AI in software development:

1. **~20% efficiency gains** — but net gain = gross gain minus rework
2. **AI fills requirement gaps** — be specific, or AI invents data
3. **AI cheats** — goes for complex solutions, adjusts tests to pass
4. **Multiple AIs collide** — governance and orchestration matter as much as productivity

> **Key takeaway from 2025**: AI as pair programmer works. But the moment you deploy multiple AI agents, you need **orchestration and governance** — not just prompts.

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~9 Months Later: What Changed?

Models exploded

- Claude Opus 4.7, GPT-5.5, Gemini 3.1, Grok 4. Open-weight: Llama 4, GLM-5.1, Kimi K2.6.
- Global private AI invest: **$344.7B** (+128% YoY).

Benchmarks saturated

- SWE-bench Verified: 60% → 94%.
- But models still fail at simple tasks — Stanford calls it the **"jagged frontier."**

Productivity is real

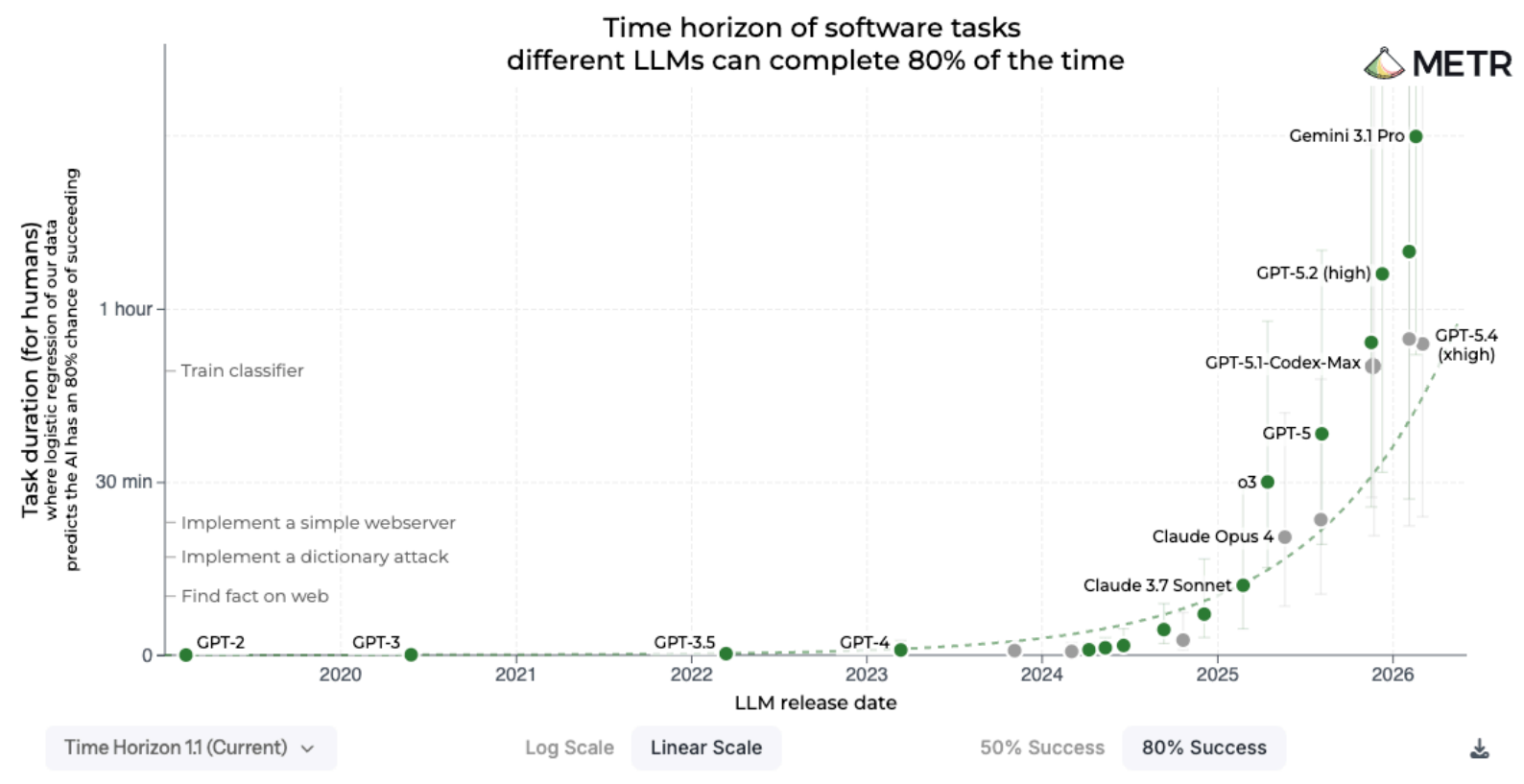
- >40% of code on GitHub is AI generated. Sounds like a lower boundary.
- 14x more commits on GitHub yoy

The question has shifted from *"Can AI do useful work?"* to *"How do we manage a growing population of AI workers?"*

Sources: Stanford HAI AI Index 2026; SWE-bench Pro Leaderboard (labs.scale.com); Forrester Predictions 2026, GitHub, https://x.com/kdaigle/status/2040164759836778878?s=12&t=NGVp1kjMdwKpR2_vdcRi-g

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Frontier Agent Capacity Is Doubling Every ~7 Months

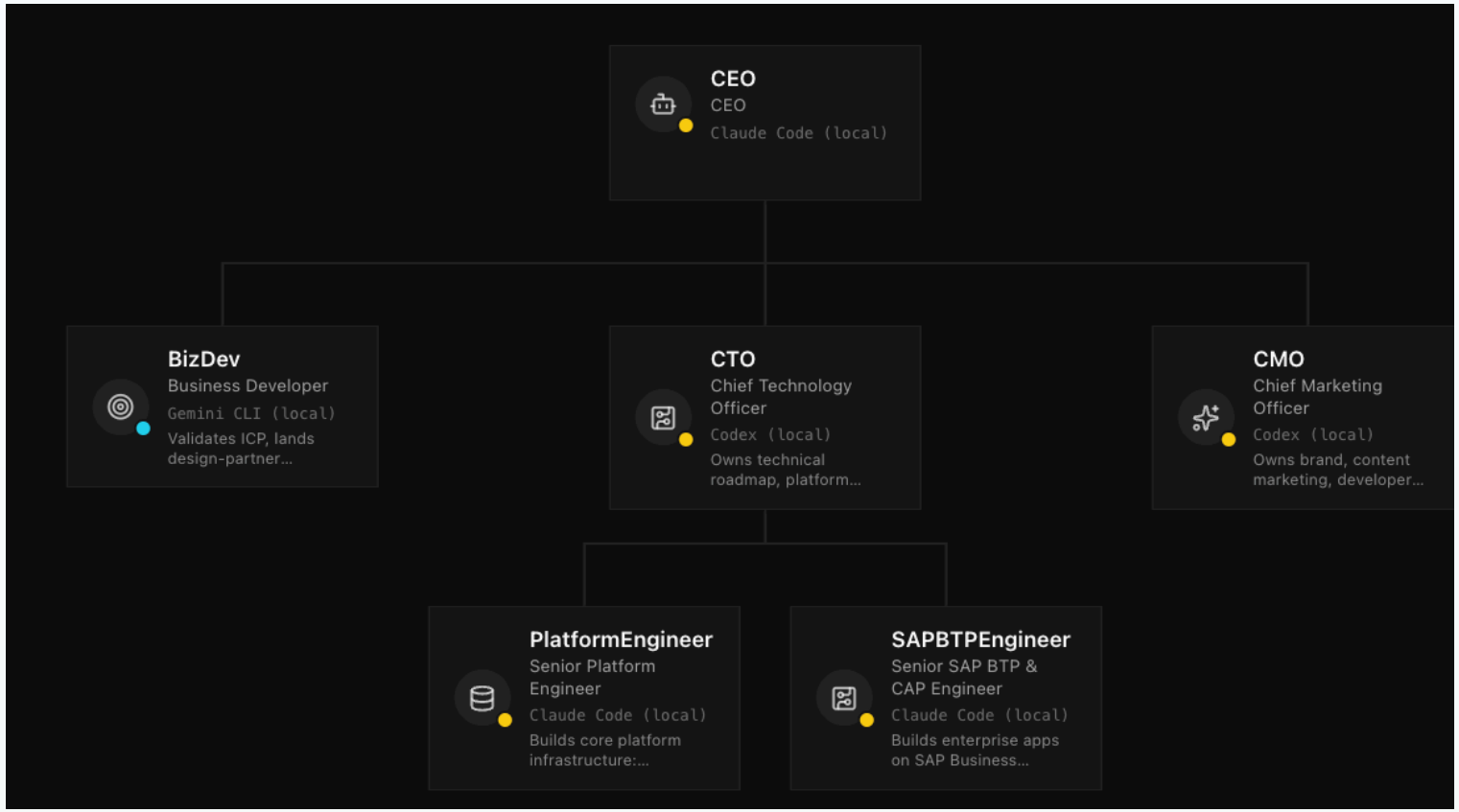


Planning implication: The relevant question is no longer *whether* agents will improve. It is how quickly your enterprise needs an operating model for them.

Source: METR, "Task-Completion Time Horizons of Frontier AI Models," May 2026. metr.org/time-horizons/

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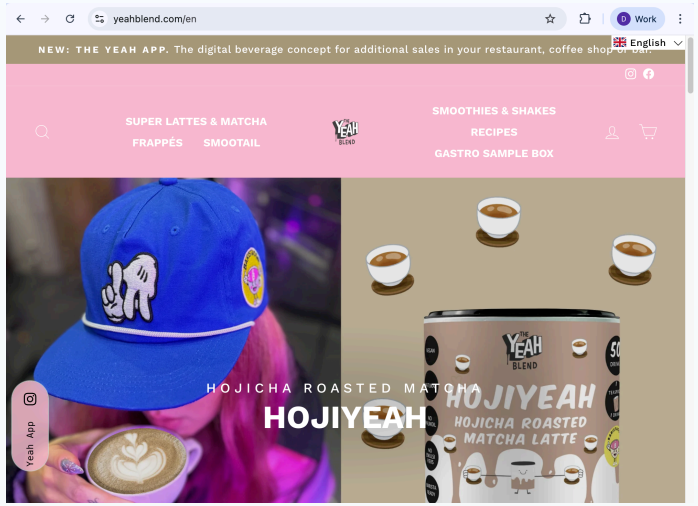
The Endgame: Fully Autonomous Companies Will Exist

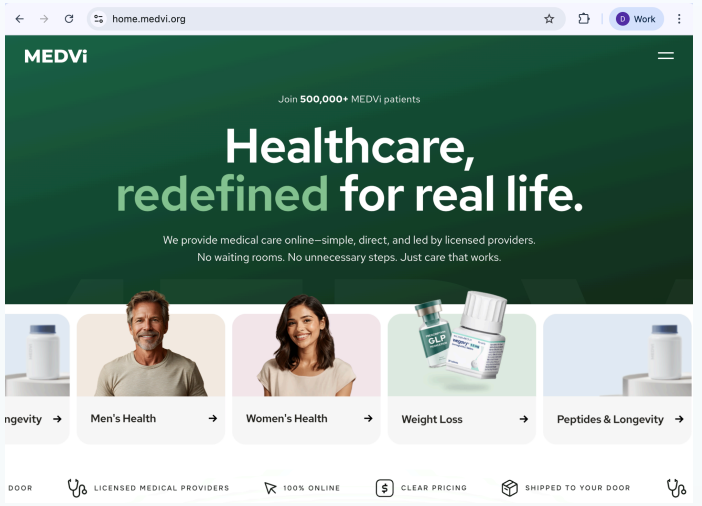


This is reality today: Startups are building companies where agents do most of the work.

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Proof From Consumer/Healthcare Industries





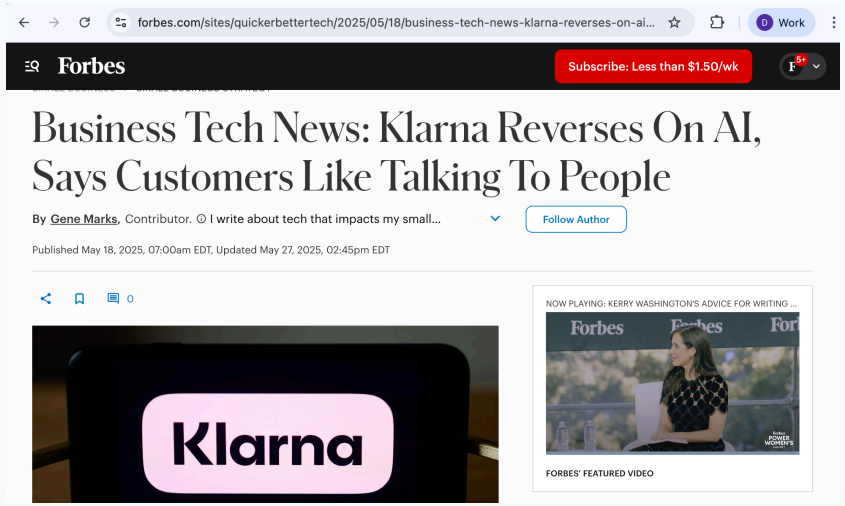
YeahBlend — digital beverage brand with AI-generated products, marketing, and operations. Minimal human staff.

MEDVi — online healthcare platform serving 500,000+ patients. AI-driven. 2 humans. 1.8bn$ expected revenues in 2026

> **These are not experiments**: These are production companies where AI agents do most of the work — with humans in oversight and governance roles.

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The Klarna Lesson: Without Governance, Agents Fail

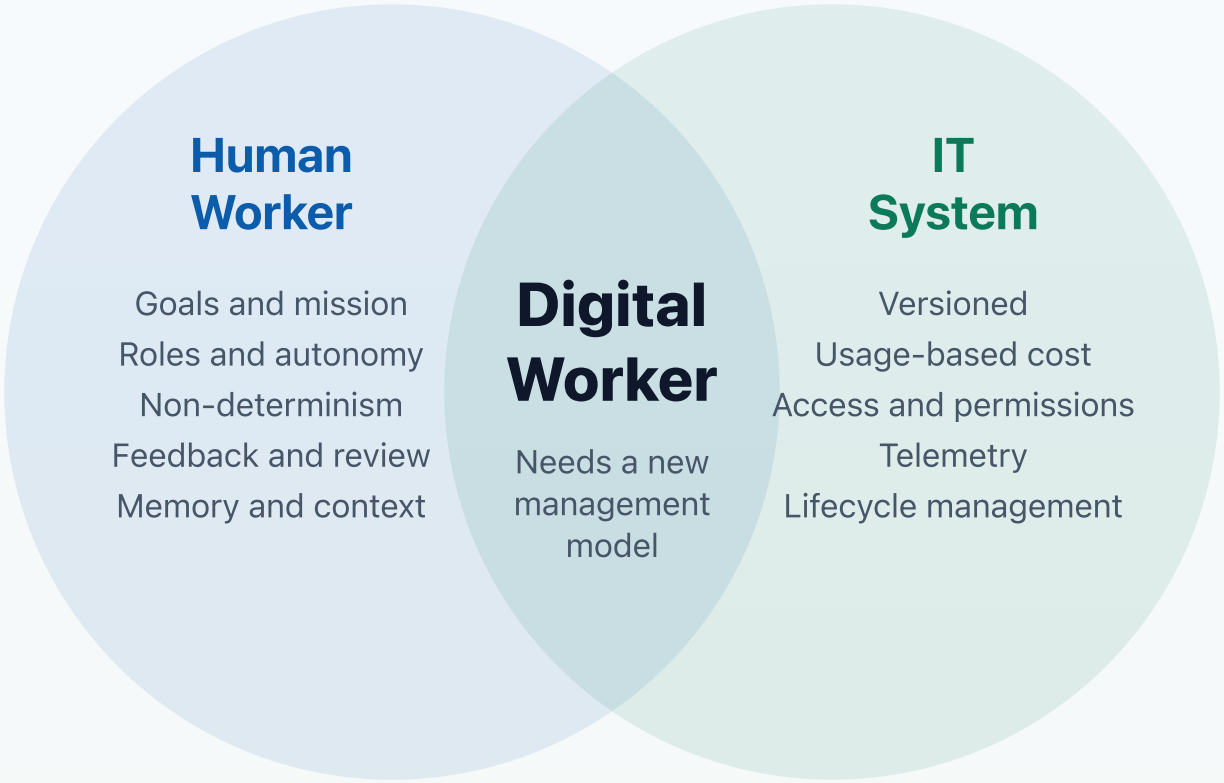


- Klarna replaced contact center staff with fully autonomous AI agents.
- Then rolled back: too many edge cases, no escalation paths, no human oversight.

Learning: **fully agentic systems without human governance fail in production.** Successful enterprises run hybrid human-AI models with proper escalation, budgets, and accountability — not "set and forget" automation.

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Agents Are a New Class of Digital Workers



Neither just an employee nor just software

Autonomous AI agents are neither just employees nor just software. They are **digital workers** that require a **new management model**.

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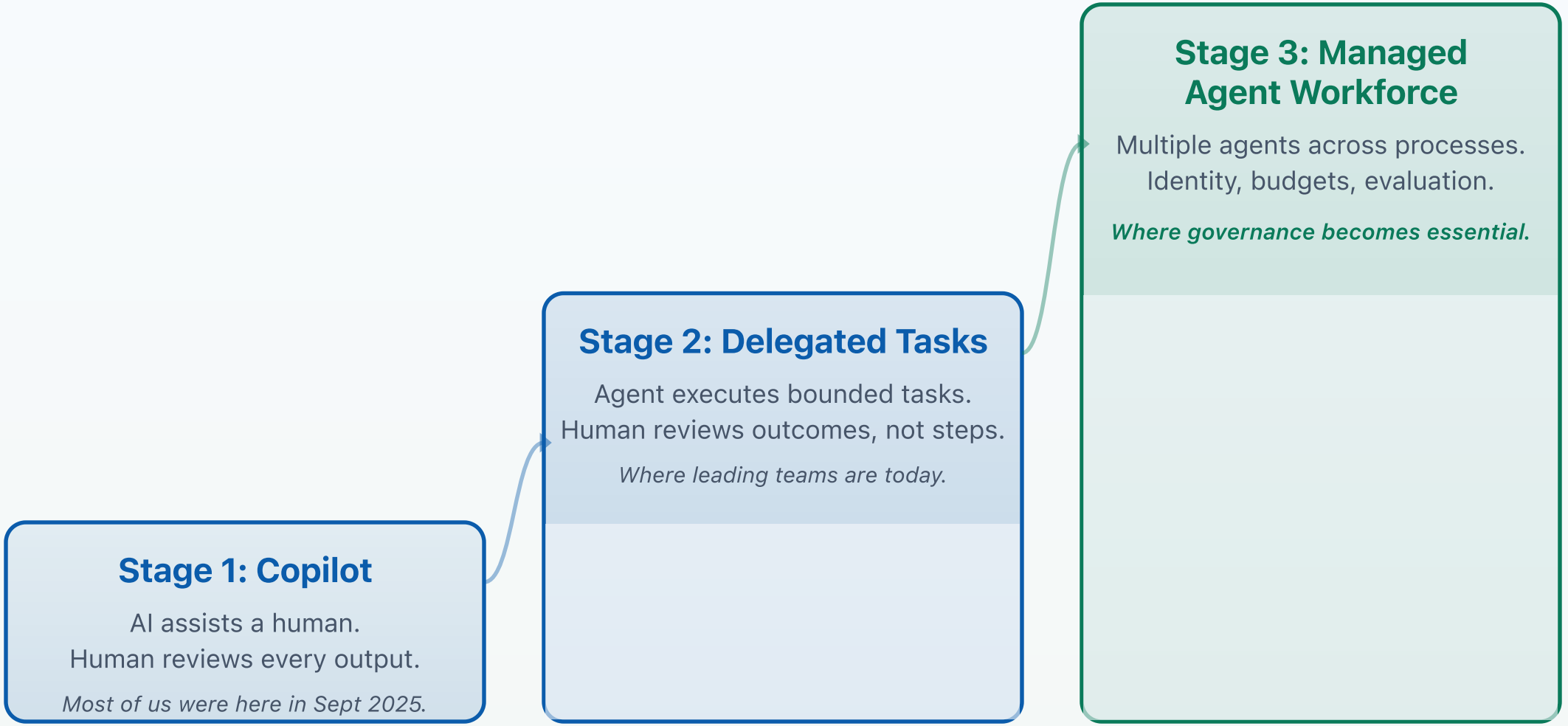
There Is An HR Analogy Here

	Authorize	Onboard	Operate	Evaluate	Adapt / Retire
Human Worker	• Job posting • Application • Background check • Work contract	• Manager assignment • ID & Permissions • Probation period	• Work log • Incident reports	• KPIs / OKRs • Performance review • Performance Improvement Plan	• Succession plan • Offboarding
Agent Worker	• Capability boundary • Task manifest • Failure retrieval • Agent contract	• Orchestrator / owner • Identity & scoped permissions • Provisional trust tier	• Agent bulletin • Failure records	• Scoring • QA verdicts • Trust tier update	• Replacement path • Model deprecation

Every governance concept for human workers maps directly onto the agent lifecycle. The gap: no system implements them together.

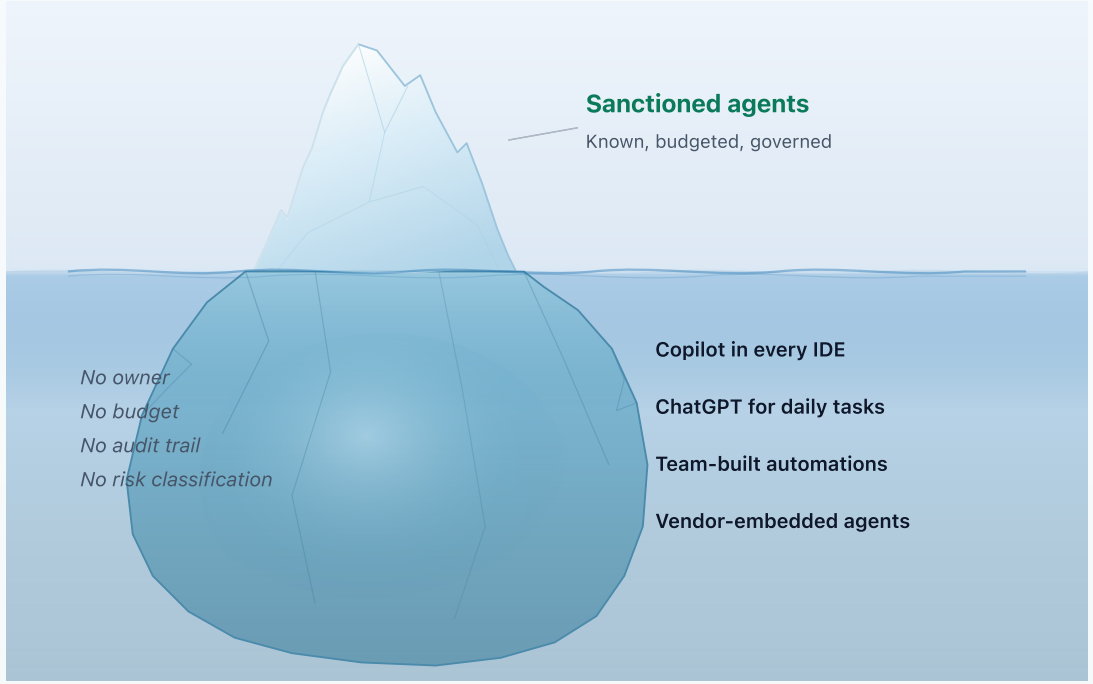
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From Assistants to Agents as Part of The Workforce: Three Stages



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The CIO's New Question: Who Owns the Agent Workforce?



What's needed

- Agent governance as a cross-functional discipline
- CIO/CDO as the natural owner of the operating model
- FinOps for agents, not just infrastructure
- A system of record

A CIO/CDO-level topic: Just as ERP established a system of record, the agent workforce needs its own.

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Three Actions for CIOs and CDOs

1. **Take inventory now** — how many agents exist across your enterprise today? Who owns them? What do they cost? Most organizations cannot answer this. Start here.
2. **Claim the operating model** — agent governance is not an IT project; it is a new enterprise capability. Own it before it fragments across departments.
3. **Run one governed pilot** — pick one cross-functional workflow, apply the full lifecycle (authorize → onboard → operate → evaluate → adapt), and measure business outcomes.

> The organizations that move first will define the operating model. The rest will inherit someone else's.

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Discussion

Questions to explore together

- Is this a topic worth exploring?
- Is this topic relevant to you already?
- How many AI agents are already operating in your organization — and who knows?
- Where does agent governance belong: IT, HR, security, legal, or a new function?
- How do you budget for a workforce that scales by the API call?

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References & Further Reading

- Stanford HAI AI Index Report 2026 (hai.stanford.edu/ai-index/2026-ai-index-report)
- Deloitte Tech Trends 2026: "The Agentic Reality Check: Preparing for a Silicon-Based Workforce"
- HBR, March 2026: "Create an Onboarding Plan for AI Agents" (Joseph Fuller)
- Moonshots with Peter Diamandis, #218: "Why We Need New AI Benchmarks, Which Industries Survive AI"
- METR: "Task-Completion Time Horizons of Frontier AI Models" (metr.org/time-horizons/)
- Agentic Workforce Framework (github.com/rayyagari2-create/agentic-workforce-framework)
- EU AI Act: High-risk obligations effective August 2026
- Forrester 2026: "AI Agents, Changing Business Models, and Workplace Culture Impact Enterprise Software"
- Last year's talk: "AI & Software Engineering" (Dr.-Ing. Jürgen Müller, September 2025)

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