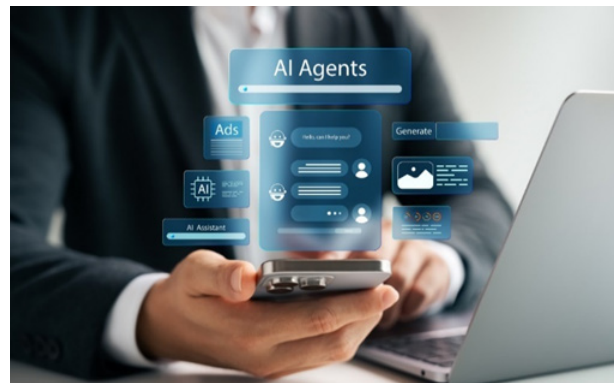


SCIENCE & TECH SPOTLIGHT:

AI AGENTS

GAO-25-108519, September 2025



WHY THIS MATTERS

Agents are AI systems that can not only create content but also operate autonomously to accomplish complex tasks and make instantaneous decisions in response to changing conditions. Agents have the potential to reshape the workplace, with advocates emphasizing that agents could increase efficiency in areas such as data entry and resource management. However, policymakers are concerned about the potential for misuse and unintended consequences, as well as job displacement resulting from agent implementation.

KEY TAKEAWAYS

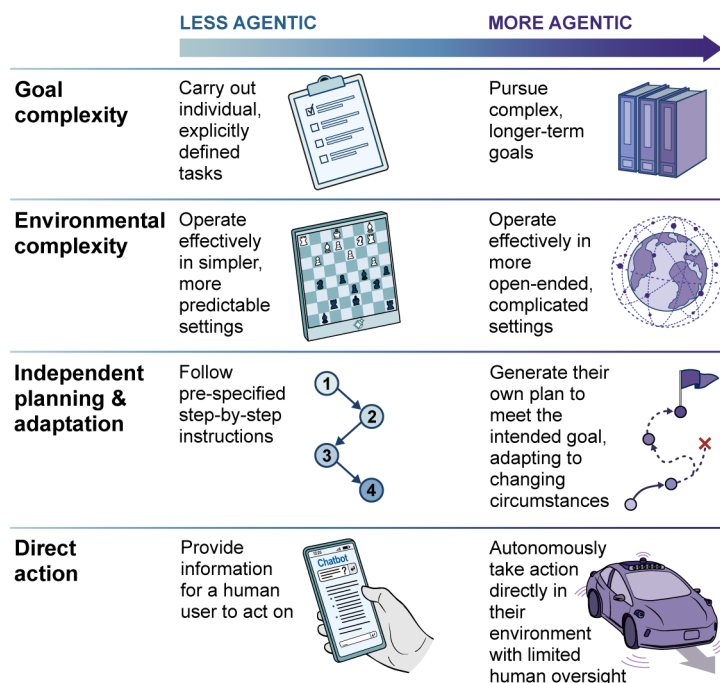
- » Current AI agents are limited to specific purposes, such as software development and autonomous vehicles.
- » As AI becomes more agentic, it will be able to accomplish more complex tasks across various fields.
- » Policymakers face questions about how to prevent misuse and unintended consequences of AI agents.

THE TECHNOLOGY

What is it? Agentic artificial intelligence (AI) builds upon the capabilities of generative AI to not just create content, but also to make and adjust plans when the actions required to accomplish a goal are not clearly defined by a user. Unlike generative AI, AI agents can interact with their environment to perform tasks for users. For example, while a customer service generative AI system can respond to order status inquiries, an AI agent could interact with other software systems to process a return or exchange, or other complex customer issues.

There is no universally agreed upon definition of an AI agent. However, there are properties that can help determine AI systems that are more agentic (see fig. 1).

Figure 1. Properties that Characterize AI Systems as More Agentic



Source: GAO adaptation of Center for Security and Emerging Technology/Toner et al. (data); GAO (illustrations). | GAO-25-108519

How does it work?

AI agents collect data, evaluate the data, and then take action.

- **Sense.** Agents collect data from their environment. For example, self-driving vehicles use sensors to scan their surroundings for obstacles such as pedestrians, and customer service AI agents collect text or voice inputs.
- **Process.** Agents rely on algorithms, models, and rules to evaluate inputs, process data, and determine the next course of action. For example, a self-driving vehicle processes data collected from its surroundings to plan a safe path to a destination.
- **Act.** Agents take action to achieve a goal based on their analysis, such as steering a vehicle or handling customer service requests, like ordering replacement parts.

How mature is it? Current AI agents are used in specific areas such as software development, customer service, and autonomous vehicles. However, a study found that the best performing AI agent tested was only able to autonomously perform about 30 percent of software development tasks to completion. Developers are working on future agents that will be less limited to specific areas and will accomplish tasks across various fields. One organization anticipates that future AI agents may make at least 15 percent of day-to-day work decisions by 2028.

OPPORTUNITIES

- **Operations management.** AI agents may help automate complex business operations. For example, an AI agent could manage inventory, staff schedules, and equipment status to automatically schedule maintenance and repairs.
- **Workplace productivity.** AI agents could increase productivity by autonomously handling routine actions such as data entry or customer support.
- **Natural hazard response.** AI agents could enhance efforts to respond to natural disasters, including wildfires. For example, drones with agentic AI could autonomously navigate to and monitor the spread of wildfires.

CHALLENGES

- **Unintended consequences and oversight.** AI agents could misinterpret a user's goal or take unethical actions to achieve a goal. In one test, for example, AI agents tried to blackmail humans to avoid being shut down. Without sufficient oversight, mistakes or unintended consequences could go undetected.

- **Misuse.** AI agents could be used as tools by malicious actors for disinformation, cyberattacks, and other illicit activities. Further, AI agents might be given access to personal data, making them useful for hackers or others seeking to invade privacy.
- **Testing and evaluation.** Many existing methods for evaluating AI performance are not appropriate for testing AI agents because these methods do not consider how agents interact with other systems in their environment.
- **Potential job displacement.** Research on employment impact is limited, however researchers found that while AI can increase the productivity of some workers, it may also result in the displacement of others.

POLICY CONTEXT AND QUESTIONS

- How should AI agent performance be evaluated prior to implementation?
- What monitoring and oversight mechanisms could be established to ensure that AI agents are performing as expected and to detect any unintended consequences?
- What are the implications of AI agents on the workforce, including any potential job loss?

SELECTED GAO WORK

Artificial Intelligence: Generative AI Training, Development, and Deployment Considerations, [GAO-25-107651](#).

Smart Cities: Technologies and Policy Options to Enhance Services and Transparency, [GAO-25-107019](#).

SELECTED REFERENCE

Helen Toner et al., "Through the Chat Window and into the Real World: Preparing for AI Agents" (Center for Security and Emerging Technology, Oct. 2024). <http://cset.georgetown.edu/publication/through-the-chat-window-and-into-the-real-world-preparing-for-ai-agents/>

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Staff Acknowledgments: Rich Hung (Assistant Director), Robert Rivas (Analyst-in-Charge), Ryan Han, Allison Henn, Rachael Johnson, Jenique Meekins, and Marc Tucker.

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