UiPath
Agentic automation

2025 UiPath Agentic AI Report

Preparing for the Agentic Era

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Executive Summary

The promise of enterprise AI—and particularly generative AI (GenAI)—has reached an inflection point. While demand for this technology has skyrocketed in the last few years, the applications for and value of GenAI as a standalone technology may have plateaued. Large language models (LLMs) can be useful for content creation but are limited in their ability to provide actionable intelligence to workers, integrate with other business applications and systems, and ensure governance, security, and trust. These complications make it clear that while AI is rapidly changing businesses, it needs further evolution to create meaningful impact. **Enter the agentic era, where AI agents, automation, and people combine to perform more complex autonomous business workflows.** But how will this new age of AI transform the enterprise? And are IT and business workforces prepared?

To understand this shift, we surveyed more than 250 U.S. IT executives at companies with revenue over $1 billion and held qualitative interviews with senior technology leaders regarding their awareness of and interest in agentic AI. The following report indicates excitement for agentic AI is palpable, and early adoption is underway—though there are risks that enterprises must consider to harness the full power of the technology.

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Key Findings

Glossary of terms

Agents – Agents are software robots that use new AI skills to accomplish more complex tasks by including abilities for task planning and autonomous decision making. Agents work behind the scenes and in collaboration with humans, robots, and other agents.

Agentic workflows – End-to-end process workflows that leverage agents to execute tasks and make decisions with minimal human oversight.

Agentic automation – The combination of AI, automation, and process orchestration to automate dynamic and complex processes with minimal human oversight.

93% of U.S. IT executives are extremely or very interested in agentic AI, with 32% noting they are planning to invest in the next six months or less

90% say they have business processes that would be improved by agentic AI

37% claim they are already using agentic AI

The top perceived benefits of agentic AI include:

- Improving oversight of business workflows **58%**
- Increasing integration among applications **53%**
- Automating complex business workflows **52%**

The top concerns of agentic AI include:

- IT security issues **56%**
- Cost of implementation **37%**
- Integration with existing systems **35%**

The top limitation of existing AI tools is a lack of integration with other business applications

87% say interoperability between different AI technologies is essential or significant to their organizations

The state of AI and automation today

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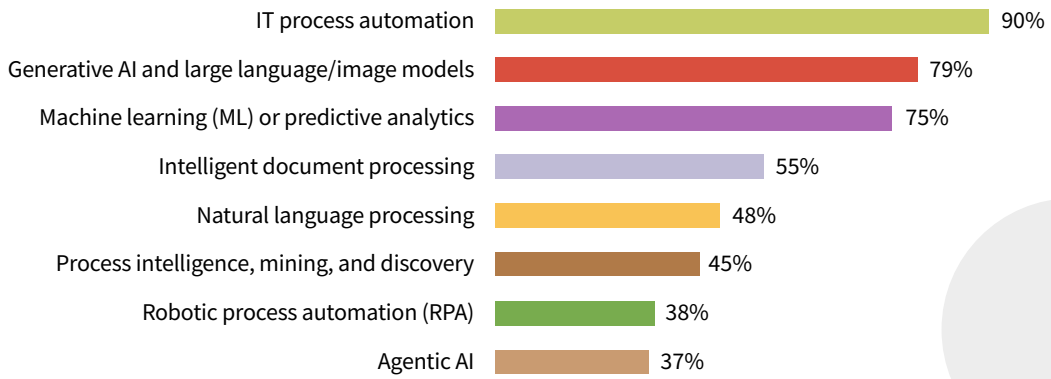
Before diving into the state and future of agentic AI, it's important to understand the extent to which AI and AI-adjacent technologies are currently being deployed in the enterprise. Not surprisingly, the most-used technology is IT process automation, according to 90% of respondents. IT leaders are also using GenAI and LLMs or large image models (79%) and traditional machine learning (ML) or predictive analytics (75%).

To measure the success of AI implementations, IT leaders prioritize metrics including process efficiency improvements (67%), cost savings (63%), and ROI (59%).

Although some outside observers have argued that AI has not created sufficient economic benefits to justify its cost to organizations, among IT leaders, satisfaction is high. IT leaders list increased operational efficiency and productivity (72%), improved accuracy and reduced errors (69%), and improved decision making (65%) as the top benefits of AI.

Almost all respondents (92%) said it is completely or very likely that their organizations will increase investments in AI or AI-adjacent technologies over the next year. IT process automation ranked as the top technology investment in 2025, according to 73% of respondents.

Which of the following AI or AI-adjacent technologies does your organization currently use?



What impact has the adoption of AI or AI-adjacent technologies had on your organization?

49% agree that the inability of current AI technologies to learn and adapt without human intervention is a problem

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Concerns with existing AI

While most IT leaders have seen value from their automation and AI deployments, they have also experienced challenges—namely, security, development complexity, integration, and data quality.

Their perceptions of the greatest limitations of current AI technologies include a lack of integration with other business applications (61%); an inability of AI tools to learn and adapt without human intervention (49%); and inaccurate results or hallucinations (31%).

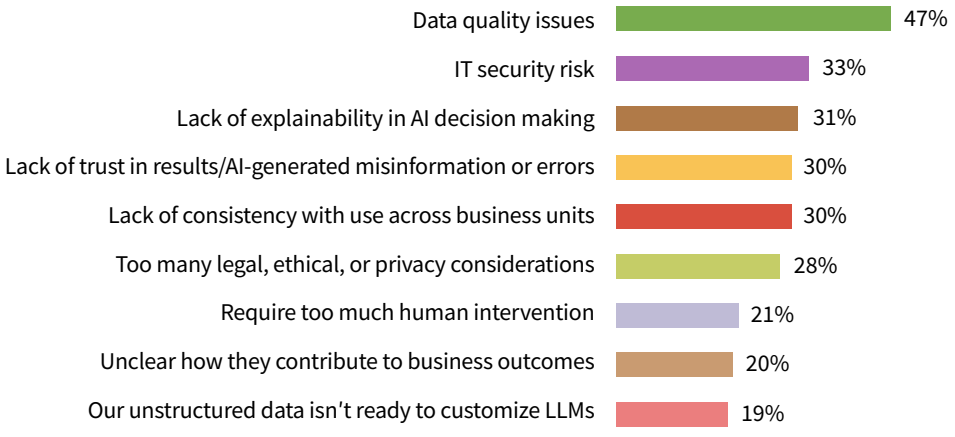
With GenAI and LLM solutions specifically, respondents said they were most concerned with data quality (47%); IT security risk (33%); lack of explainability of results (31%); and the related concern of lack of trust in results (30%).

Most notably, respondents are unclear on the role workers play in the success of AI in the enterprise. Only 21% say that GenAI requires too much human intervention, although exactly half agree that the inability of GenAI and LLMs to learn and adapt without human intervention is a problem.

What are the primary challenges you've encountered when implementing AI at your organization?

	Overall Rank
Security concerns	1
Complexity of development	2
Integration challenges	3
Data quality issues	4
Lack of skilled personnel	5
Difficulty measuring ROI	6
Regulatory compliance	7
Difficulty of production deployment	8
Lack of compute resources	9

What are your concerns, if any, with generative AI and LLM solutions from a business value perspective?



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Why technology leaders are turning to agentic AI

To address the concerns and challenges with traditional AI, many companies are exploring agentic AI—a groundbreaking advancement in artificial intelligence. A combination of different AI techniques, models, and approaches, agentic AI empowers a new breed of autonomous agents bestowed with cognitive abilities such as learning, problem solving, and decision making, which continually adapt and evolve to enhance their performance in automating tasks and complex operations. Technologies like robotic process automation (RPA), LLMs, and predictive analytics are complementary, and will be combined into agentic technology capable of autonomously making decisions and taking actions, enabling more intelligent automation, and performing more tasks with little or no human intervention.

For our purposes, **the key components of agentic AI include the abilities to:**

Use AI skills to plan and carry out complex tasks and make decisions

Act autonomously with little or no human intervention

Perform a clearly specified task with speed and quality

Network with and orchestrate other agents and systems to enable dynamic and complex processes (using "agentic automation" capabilities)

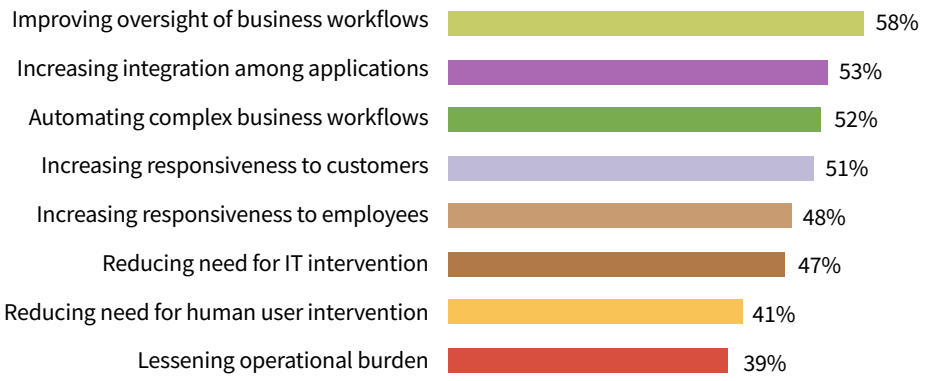
The survey shows that in many organizations, agentic AI is here today: 37% of respondents say they are already using the technology, and 93% are either extremely or very interested in exploring it.

Almost half of IT executives (45%) say they are ready to invest in agentic AI in 2025, with 32% predicting they will likely do so within six months or less.

Fiserv, the global fintech and payments company, has already developed an early agentic use case. **Sharbel Shaaya, the company's Director of AI Operations and Intelligent Automation**, described an application that can look up and assign merchant codes to companies doing business with Fiserv. The company's generative AI agent has three skills or components: it looks up information on the company to discover what industry it's in, another component interprets the research, and a third component assigns the merchant code. More than 99% of the actions require no human validation, which is a considerable improvement over human-only workflows. But Shaaya cautions that the company had to do all the hard work of creating and tuning prompts, structuring data, running tests, and making connections to search engines. In the future, he expects that much of this work will already be done by true agentic technology.

The strong interest in agentic is not surprising given these types of early results—and the anticipated value of the technology. When asked which benefits of agentic AI would be most appealing to their businesses, survey respondents named improving oversight of business workflows (58%), increasing integration among applications (53%), and automating complex business workflows (52%).

If you were to adopt agentic AI, which benefits do you think would be most appealing to your business?



Similarly, they found the most appealing capabilities of agentic AI to be increased automation (55%), improved problem solving (53%), and improved accuracy and reduced errors (53%). Ninety percent of respondents also say they have business processes that would be improved by agentic AI.

IT leaders are also receiving a push to fast-track deployments: 84% of respondents indicate that they feel somewhat, very, or extremely pressured to implement next-gen AI tech such as agentic in their organizations.

90%

of respondents also say they have business processes that would be improved by agentic AI

One veteran automation and AI leader is bullish on agentic. **Andy Fanning**, who until recently led GenAI, intelligent automation, business transformation, and technology R&D for Cigna and is now **leading an AI startup, Optura.ai**, views agentic systems as a natural progression in computing. He explains that AI agents represent "just another layer of abstraction," and asserts that we are already witnessing their emergence. Fanning envisions a near future where:

> "Agents will act as experts and orchestrators, determining the best execution methods to complete a task. When APIs aren't available, tasks may be delegated to RPA bots. For instance, in healthcare, we might have an AI agent specializing in GLP-1 drugs, equipped with knowledge of government reimbursement rules, insurance policies, and company contracts. While the agent manages the overall workflow and decision making, specific actions, like entering or retrieving data from a contract management system, could be handled by RPA bots. These bots would effectively function as tools for the agent, available as needed to support its objectives."
>
> - Andy Fanning, Optura.ai

Fanning, whose work has centered on the highly regulated healthcare industry, believes that AI agents will thrive in such environments due to the abundance of structured, documented information that can be readily processed by AI. However, he cautions that safeguards will be necessary to build trust and ensure responsible use.

> "We won't fully trust AI agents right away. Trust will develop in phases, with incremental thresholds over time. We'll need mechanisms to prevent unintended actions and ensure oversight. If an agent encounters a task it can't handle, it will delegate that task to a human."
>
> - Andy Fanning, Optura.ai

For some potential users of agentic AI, taking humans out of processes is an attractive capability of the technology. At an Asian bank, for example, **the Head of Intelligent Process Automation** feels that agents, in conjunction with or orchestrated by RPA, will be able to handle document processes, data automation, workflow, and many other tasks. He commented:

> "That's when we will realize the full value from RPA—it will be like an intelligent automation suite with a generative AI brain. We'll be able to train a bot in natural language to read documents, summarize them, extract structured data, put it in a system, and take an action based on it."
>
> – Head of Intelligent Process Automation, Leading Asian Bank

Enterprise workflows in the agentic era

At its best, agentic AI and agentic automation fuse existing enterprise AI technologies (including analytical and GenAI, RPA, intelligent document processing, and process mining) with more conventional IT programs like application program interfaces (APIs) to support a variety of workflows. By this looser definition, even more organizations are practicing agentic. Seventy percent of respondents said that they were already integrating APIs, robots, and AI agents to achieve process transformation either significantly (52%) or extensively (18%).

This "do it yourself" agentic approach, of course, requires integration, and 87% of respondents affirmed that interoperability between different AI technologies is essential or significantly important to their organizations. But most IT executives don't seem to be challenged by this integration; 68% say that it's extremely (18%), very (31%), or fairly (19%) easy to integrate AI with existing IT infrastructure. All respondents believe that scaling AI is either essential (40%), significantly important (47%), or important (16%) to their organizations.

For large enterprises, the challenge is to scale agentic on top of existing and trusted automation platforms, like the RPA platforms already in place across most enterprises. Several of the executives interviewed noted that this problem will be handled to some degree by enterprise technology vendors. For startup businesses, there may be fewer concerns about integration with existing IT architectures, but they also must integrate with the data and technologies their customers use.

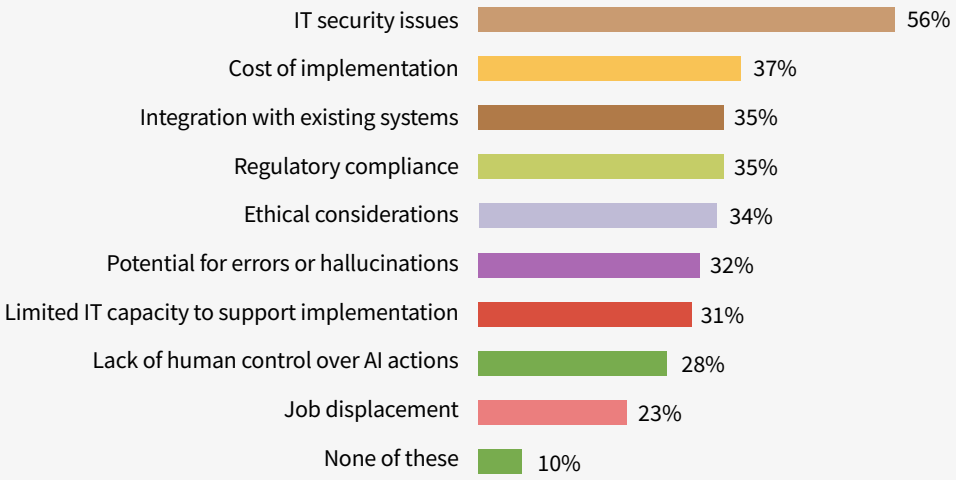
Arteria AI is a successful Toronto-based startup in the document-based workflows space that was named one of three Gartner® "Cool Vendors™" in financial services AI. Its customers are large banks like Citi, Goldman Sachs, and Scotiabank. **Amir Hajian, the company's Vice President of Data Science**, explained the appeal of agentic approaches, which they are already using to extract key data from financial documents:

> "LLM-based agentic workflows for document understanding can significantly streamline the process of extracting and processing information from complex documents. By breaking down tasks into specialized components handled by different agents, the system can efficiently navigate intricate processes, from data extraction to calculation and verification. This approach not only enhances accuracy but also reduces the need for extensive programming, making it possible to adapt to various document types and information requirements. It enables us to do even more complex tasks with the same system that generalizes well to unseen cases. Agentic systems are going to be one of the most exciting things of our time, and how we build software and intelligent systems is changing dramatically."
>
> - Amir Hajian, Vice President of Data Science, Arteria AI

Preliminary concerns with agentic AI

Though agentic technology is of considerable interest to survey respondents and interviewed executives, they do have some concerns about it. IT leaders cite IT security (56%), cost (37%), and integration with existing systems (35%) as primary areas of concern, with those in heavily regulated industries most concerned about compliance.

What concerns do you have about adopting agentic AI?



> “There are many regulatory constraints in insurance related to tasks like adjudicating claims, recommending products, and underwriting. Agentic technology could help in interpreting a member’s request in these areas, but there would definitely need to be a human in the loop to complete the task.”
>
> - Ramnik Bajaj, Chief Data Analytics Officer, USAA

The issue of human oversight was a concern to other interviewed executives as well.

At an Asian bank, **the Head of Intelligent Process Automation** didn't emphasize the need for human review. However, his colleague, who manages process transformation for the bank, was less enthusiastic about the potential of agentic AI to eliminate the need for humans. She noted, "We have found that our processes are very complex. If you eliminate humans from them, you will break a lot of things."

Among all respondents, when asked what capabilities will be critical to effectively implement agentic AI workflows, the top-ranked item was to "ensure safety and privacy." It was followed in order by "ensure ethical and regulatory compliance," and "seamless integration with existing systems." Respondents were also concerned about upskilling employees with agentic, demonstrating ROI, and getting buy-in from the executive suite.

> "We use a lot of automation in our processes, and we are moving from providing information to decision support and expert solutions. It's possible that agentic AI could help us do that. But most of our products for customers involve either regulated activities or substantial amounts of money in business transactions. We have generally found that human review is critical, and I don't see that going away."
>
> – Abhishek Mittal, Global Head for Data Analytics and Operational Excellence, Wolters Kluwer

What do you think will be critical to effectively implement agentic AI workflows?

	Overall Rank
Ensure the safety and privacy of using this technology	1
Ensure ethical and regulatory compliance of this technology	2
Seamless integration with existing systems	3
Training to upskill employees	4
Capability to demonstrate ROI	5
Buy-in from the executive suite	6

Key considerations for agentic implementation

While agents offer tremendous potential for businesses, implementation comes with challenges and considerations that require careful attention.

Maintaining data privacy and security

Agents will be part of processes involving sensitive data, making data privacy and security a top concern. As these systems become increasingly interconnected with enterprise applications and infrastructure, implementing stringent security measures is a must-have. This includes encryption, access controls, and regular audits to safeguard data and maintain compliance with regulatory requirements. Building a secure foundation for agentic AI initiatives is crucial for protecting operations, reputation, and customer information.

Navigating complexity

The complexity of agentic AI, with its integration of AI, automation, and machine learning models, can pose challenges during setup and integration. However, partnering with experienced vendors can significantly streamline the process. Enterprises should collaborate with experts who understand the nuances of agentic technology and their specific business needs to navigate the complexities with confidence and deliver a smooth implementation.

Safeguarding reliable decision making

The very essence of agentic AI lies in its ability to make autonomous decisions, but with this autonomy comes responsibility; ensuring the accuracy and safety of those decisions is paramount. The dynamic nature of agentic AI means that agents must be rigorously tested and validated in diverse scenarios to identify and address potential biases or errors. A robust validation process, along with keeping a human in the loop, is necessary to control and manage AI-powered systems, assuring stakeholders that decisions are sound and reliable.

Prioritizing ethical AI practices

The deployment of any AI solution raises important ethical considerations. Ensuring transparency in agentic AI decision-making processes, addressing potential biases in models, and maintaining accountability are all critical for responsible implementation. Businesses must prioritize fairness, equity, and ethical practices to build trust with customers, employees, and stakeholders.

To address the safety, privacy, ethical, and regulatory concerns that IT leaders have with agents, orchestration will be key.

Max Ioffe, Director of the Global Intelligent Automation Center of Excellence at Wesco Distribution, a leading global supply chain solutions provider, highlighted the importance of automation-enabled orchestration in creating successful agent deployments:

> "I expect that RPA will orchestrate the agents. For larger-scale processes—at least in a Fortune 200 company like ours—your need clear orchestration and governance, and that means a deterministic technology like RPA. The risk goes up exponentially if a probabilistic AI orchestrates a set of probabilistic agents. And the smaller the task, the better the likelihood that the agent will do it well."
>
> - Max Ioffe, Director of the Global Intelligent Automation Center of Excellence, Wesco Distribution

The benefits of agentic automation

Leveraging process understanding and orchestration capabilities, agentic automation provides AI with the needed foundation to intelligently plan and synchronize actions across robots, agents, people, and systems to understand, improve, and automate all kinds of workflows. Agentic automation maintains a human in the loop—meaning the agents are intentionally limited in their ability to take certain actions that would require human intervention (for example, approving a home loan). Agentic automation can also incorporate deterministic decision making when necessary. Over time, agents' capacity for trusted decision making and action will continue to improve.

Given the capabilities of AI and automation today, businesses should take a phased approach to agentic technology. Start with an internal, medium-scale process or two that pose little risk from financial, cybersecurity, or data privacy standpoints. Integrate agents with existing systems and other agents to become familiar with that set of challenges.

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Conclusion

Agents expand the automation potential of all organizations by placing focus not just on individualized tasks, but entire end-to-end processes. By harnessing the collective power of agents, robots, and people, businesses can accelerate to a future where a single employee can achieve the work of many.

While IT leaders should take a thoughtful approach to implementing agentic technologies, early adopters will have a considerable advantage; being a "fast follower" is likely to be challenging and potentially arduous. The area of agentic where IT and business leaders can make the most meaningful impact will be with use cases that require agents to connect to multiple systems to collect the data required to make a decision, all within enterprise-grade governance and security.

Visit uipath.com to find out more about how automation will deliver on the promise of agentic in the enterprise.

Methodology

This report describes a research project in which 252 U.S. IT executives were surveyed in October 2024. They all worked at companies above $1B in revenue and had roles as VPs and directors of IT, and 100% said they were familiar with AI and automation. We also interviewed eight IT and AI leaders who were particularly familiar with these topics to learn more about their thinking about agentic AI.

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Tom Davenport is the President's Distinguished Professor of Information Technology and Management at Babson College, Bodily Bicentennial Professor of Analytics at the University of Virginia Darden Business School, and a researcher and senior lecturer at MIT. He is the author or co-author of 25 books on AI, analytics, and technology-enabled business change, including the best-sellers Process Innovation, Working Knowledge, Competing on Analytics, and All In on AI. His most recent book is **All Hands on Tech: The AI-Powered Citizen Revolution** with Ian Barkin. He has been a partner or senior consultant at several consulting firms, including McKinsey & Co., Accenture, and EY. He has written over 300 articles for *Harvard Business Review* and *MIT Sloan Management Review*.

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