

Emerging Tech: Research Roundup For Agentic AI

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Initiatives: [Emerging Technologies and Trends Impact on Products and Services](#)

Agentic AI is emerging as a transformative force in enterprise technology, poised to reshape how businesses operate. Product leaders have an opportunity to outmaneuver the vendor landscape, build emerging strategies for success, identify key challenges and shape the evolution of agentic AI.

Strategic Planning Assumptions

- Through 2027, over 40% of agentic AI projects will be canceled due to escalating costs, unclear business value or inadequate risk controls.
- By 2028, open-source agentic frameworks will power more than 75% of enterprise agent deployments, challenging the dominance of proprietary AI platforms due to customizability and cost.
- By 2030, 50% of enterprise application software offerings will include some agentic AI features, up from less than 5% in 2025.
- By 2035, more than 25% of the enterprise application software revenue will come from agentic AI products, up from less than 5% in 2025.

Analysis

Agentic AI represents a disruptive and transformative shift in the AI and enterprise software landscape. Agentic AI solutions, defined by their use of advanced reasoning, autonomous decision making and environmental interaction, are poised to deliver substantial operational efficiencies, unlock new business models and enhance competitive positioning across diverse industries.

However, many vendors are contributing to the agentic AI hype by engaging in “agent washing” (mislabeling basic automation or chatbots as “advanced agents”). Agent washing is leading to inflated and misaligned expectations and claims of products promising revolutionary outcomes but delivering underwhelming results.

To ground market expectations, through this body of research Gartner has established a clear distinction between the capabilities and functions of AI agents and AI assistants. (Also see [When to Use or Not to Use AI Agents](#).) Gartner believes enterprises will be best served by AI systems that blend multiple classical AI and generative AI (GenAI) techniques, allowing for pragmatic design of solutions that align needs, desired outcomes and cost constraints of the enterprise.

Definitions

Agentic AI refers to a class of systems developed using various architectures, design patterns and frameworks, encompassing both single-agent and multiagent designs. These systems are capable of performing unsupervised tasks, making decisions and executing processes.

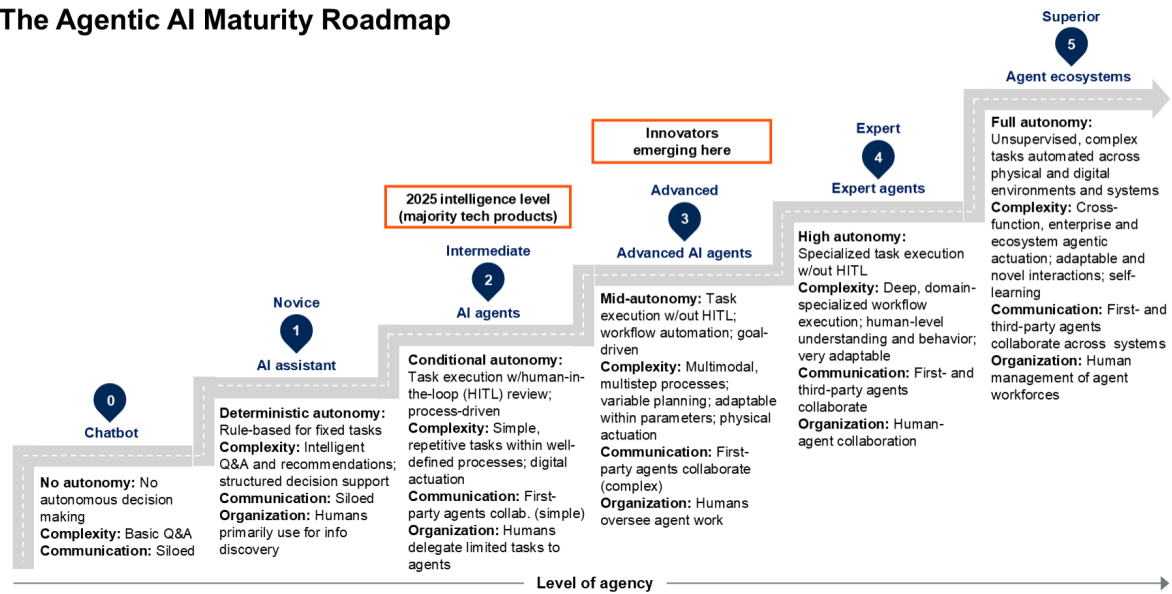
AI agents are autonomous or semiautonomous software entities that use AI techniques to perceive, make decisions, take actions and achieve goals in their digital or physical environments.

Today, agentic AI systems have demonstrated capabilities that move beyond simple task actions to automating the execution of simple tasks and/or complex process workflows — such as automating order-to-pay, revenue cycle management, employee and customer onboarding activities, or the monitoring, alerting and remediation routines to avoid fraud in financial systems.

Figure 1 illustrates the agency progression from Level 0 (L0) chatbots to Level 5 (L5) agent ecosystems over the next decade. As agentic AI evolves from “intermediate” to “advanced” to “expert” and, finally, “superior” agency capabilities, so too will the applications of agentic AI. This means that future agency stages represent both new technical achievements as well as new use-case opportunities.

Figure 1: The Agency Maturity Roadmap – Where We Are Now and Where We Are Going

The Agentic AI Maturity Roadmap



Source: Gartner
 Note: Agency level — Rating considers automation level, complexity of task support, collaboration capacity and human-machine work relationship.
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A majority of the market is currently at L2 – intermediate agency, as demonstrated by the proliferation of AI agent offerings. There are also emerging innovators with advanced AI agents and the beginnings of expert AI agent capabilities.

The rapid pace of evolution also introduces risks – both technical and strategic: agent washing, lack of customer trust, AI readiness, reliability, change management and solution complexity. The persistent difficulty vendors face in demonstrating proof of value and the customers’ misaligned expectations further add to the problem. The evolution of agentic AI – from conditional single-agent systems to include highly autonomous multiagent architectures – will be driven by technological advancements, increased R&D focus on outcome-based performance, and the skills and expertise of enterprise technology teams, including software engineering, data and analytics, and security.

Research Highlights

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Gartner conducted case-based field research on agentic AI from December 2024 through March 2025. This project involved outreach to 36 tech providers, out of which 27 vendors were interviewed (two interviews each) and over 150 adopter use-case studies were analyzed. The first interview focused on agentic products, technology capabilities, R&D roadmap and adoption challenges, among other things. The second interview focused on the case studies, to include the business problem addressed, the processes that were changed, the outcomes achieved and the unmet needs. This research collection encompasses the findings of the study.

Gartner research on agentic AI can be broadly classified into five main groups:

- Defining agentic ai for successful product positioning
- Differentiation in agentic AI requires vendor specialization: domain expertise and enterprise solutions
- Vendor strategies driving success and delivering value
- Navigating the challenges to drive adoption and unlock scale
- Roadmap to the future of agentic AI

Defining Agentic AI for Successful Product Positioning

Agentic AI represents a step-gap capability improvement over previous systems, unlocking new capabilities, and therefore automation and use cases. This includes both incremental improvements to existing use cases, as well as creating entirely new opportunities. Further, agentic AI refers to a wider spectrum of capabilities than that used for AI agents. Product leaders, therefore, need to understand what agentic AI is so they can ensure successful product positioning, investment decisions and use-case implementations.

Recommended reading:

[Emerging Tech: The Key Defining Characteristics of Agentic AI](#)

Gartner defines agentic AI by a set of key characteristics, including goal orientation, autonomy and learning, which distinguishes it from assistive AI that lacks these adaptive traits. This distinction is critical because an inadequate understanding of agentic AI can contribute to “agent washing” and result in a loss of credibility and missed opportunities for vendors in the race to automate process workflows.

Differentiation in Agentic AI Requires Vendor Specialization: Domain Expertise and Enterprise Solutions

The agentic AI market is rapidly growing, with significant future revenue at stake for the winners of this AI race. A diverse landscape of technology providers, from established players to startups, are developing agentic AI. The market's high-risk, high-reward nature is spurring innovation and progress. VC activity targets both scaling operations and market consolidation, as well as funding technology that offers high capital efficiency.

Recommended readings:

[Emerging Tech: Tech Innovators in Agentic AI](#)

The tech innovators featured in this report are tackling challenges in workflow design, agent collaboration, performance and autonomy. Orby AI agents spot workflow inefficiencies, while Glean addresses agent sprawl with its orchestrator. Lyzr AI focuses on responsible AI and hallucination management for reliable outcomes. XMPPro and Airrived use composite AI for more autonomous, specialized agents. Differentiation is emerging through innovative features that solve key scaling challenges.

[Emerging Tech: Top-Funded Startups in Agentic AI](#)

This research analysed 55 agentic AI startups that raised over \$1.6 billion in venture capital from January 2023 to January 2025. The funding focused on no-code agent platforms, developer platforms and domain-specialized agents. Agentic AI is advancing through solutions that democratize access, emphasize trust and transparency, and deliver integrated value to enterprises. Usability, trust, integration and collaboration are key pillars driving successful adoption, as seen in product innovation and VC trends.

[Emerging Tech: Top-Funded Startups for Domain-Specialized Agentic AI](#)

This research examined 74 domain-specific agentic AI startups that received over \$2.3 billion in venture capital funding from January 2023 through January 2025, focusing on domain-specialized agents in security, software development and business process automation. Security agents are automating threat detection and response and compliance, shifting organizations to proactive defense. Software development agents are streamlining coding, testing and deployment, moving developers to supervisory roles. Business process automation agents are enabling scalable, industry-specific workflows, but solutions remain fragmented, highlighting the need for better interoperability and integration.

Vendor Strategies Driving Success and Delivering Value

Agentic AI is transforming enterprise operations and delivering measurable value across industries. Automation of tasks like claims processing, invoice reconciliation, help desk ticketing and document management allows organizations to process information faster and shift staff to higher-value work, fostering innovation and growth. Vendors are accelerating adoption by differentiating their solutions and targeting high-potential industries.

Recommended readings:

[Emerging Tech: Top Use Cases for Agentic AI](#)

Gartner's case-based research (CBR) on agentic AI revealed that customer service is the top use case in 20% of the cases in order to improve customer experience and engagement, increase automation and cost-efficiency. This was followed by knowledge management use cases for information search and summarisation. There are other emerging use cases identified in this research, such as SDLC, SO,C and simulation, etc. Within cybersecurity, an AI security operations center (SOC) agent is an emerging use case of agentic AI amid the overwhelming number of complex and multifaceted threats to enterprise security.

[Emerging Tech: Provider Strategy Trends for Winning With Agentic AI](#)

CBR research highlights that leading agentic AI tech providers are differentiating themselves by focusing on three key areas: ease of use, innovation and trust. User operability features such as low-code/no-code environments and comprehensive integration support are democratizing AI development, reducing the need for specialized technical skills and lowering operational costs. Enhanced security and innovation are key to delivering long-term strategic value to enterprises. On the other hand, the top customer challenges impeding adoption are change management (52%), customer immaturity (36%), lack of AI-ready data (32%) and solution characteristics (33%).

[Emerging Tech: Customize Agentic AI Solutions to Unlock New Market Opportunities](#)

Gartner's CBR indicates that agentic AI is being adopted most rapidly in communications, manufacturing, and financial services. In communications, the emphasis is on AI-driven customer support, intelligent call routing and sentiment analysis that plug in to existing CRM systems. In manufacturing, leaders are investing in predictive maintenance, AI-powered quality inspection and supply-chain optimization backed by explainable AI. Financial services organizations are deploying agentic AI for risk assessment, fraud detection and advisory services, while demanding robust compliance, data governance and transparency.

To succeed, product teams must deliver seamless integration, deep industry expertise and AI architectures designed for auditability and regulatory adherence.

Navigating the Challenges to Drive Adoption and Unlock Scale

Despite promising advances, agentic AI systems are still in their nascent stages, and several challenges must be addressed to realize their full potential. Trust is a key inhibitor to GenAI adoption, and this is amplified for agentic solutions, which require progressively higher levels of agency to deliver on their value propositions. Lack of AI-ready data is another challenge. However, research shows that AI agents can be made to work with incomplete or messy data. This set of research discusses the critical accelerators and inhibitors to AI adoption, followed by strategies that product leaders can leverage to mitigate them.

Recommended readings:

[Emerging Tech: Maximize Opportunities While Managing Risks of Agentic AI on Enterprise Software](#)

Agentic capabilities will increasingly be incorporated in existing software offerings over the next 10 years – their penetration in existing software increasing from less than 5% in 2025 to more than 60% by 2035. The best-case scenario spending on agentic AI-enabled software offerings will cross \$450 billion in 2035, up from approximately \$5.5 billion in 2024, at a compound annual growth rate (CAGR) of 45%. Agentic AI revenue will account for approximately 30% of the enterprise app software revenue by 2035, up from approximately 2% in 2025. The research shares key signposts of the impact of agentic AI on the enterprise application software market, including improving user experience, emerging security vulnerabilities and lack of standard protocols, among others.

[Emerging Tech: Customer Trust Is a Critical Barrier to Agentic AI Adoption](#)

Massive competition and emerging revenue opportunities abound in the agentic AI market. However, customer trust will remain the foremost barrier to agentic AI adoption through 2025. Providers should evaluate how they can offer trusted agencies to drive agentic adoption. Several vendor approaches to establish trust are observed, including offering observability and reliability controls, combining classical and GenAI techniques, and embedding flexibility in agentic solutions.

[Emerging Tech: 'Time to Trust' Is the New Vital Agentic AI Metric](#)

Gartner research findings revealed that agentic AI product leaders are not measuring the amount of HITL utilization in use in their products today. Time to trust (TTT) is a new metric to measure trust in agentic systems that uses decreasing HITL as a proxy for increasing trust. Product leaders can use the advantages of measuring TTT in their products to derive actionable insights and identify opportunities.

[Emerging Tech: Enabling Agentic AI Adoption With a 'Trustworthy-by-Design' Strategy](#)

With the emergence of DSLM-powered agentic solutions, general large language models (LLMs) are no longer the only generative “power” sources for agentic AI. However, technology and service providers still must proactively address more profound ethical, security, and trust challenges to ensure responsible innovation and market acceptance. Product leaders must pursue a hybrid approach to agentic AI reasoning and planning in the near term. This involves combining the strengths of LLMs and other generative models with an increasing number of more-structured techniques.

[Emerging Tech: Design AI Agents to Work With Messy Data](#)

Agentic AI systems are transforming digital work by using data “in situ” – accessing and analyzing information where it resides and in its current state, much like human workers do. Effective agentic AI system design balances certainty and scope by strategically combining deterministic and probabilistic AI methods, ensuring robust performance even with messy, disparate enterprise data. Product leaders must build agentic AI systems architected to accomplish work using imperfect, incomplete and disparate data, similar to how humans work – or risk losing business and adoption to solutions that do.

Roadmap to the Future of Agentic AI

Agentic AI is a rapidly changing and evolving market. Product leaders need a map to help navigate it and inform their investments and capabilities. The R&D investments you make today will determine future differentiation and whether or not you will survive the AI race. The Maturity Roadmap research explores agentic AI's capability evolution from "novice" to "superior" agency over the coming decade, while the "future of" research explores how and when agentic capabilities will evolve from AI assistants to agent ecosystems. These insights will help you identify upcoming AI agent stages and understand the key technologies to compete. Product leaders can use this to plan and prepare for the significant changes yet to come in the agentic AI technology landscape.

Recommended readings:

[Emerging Tech: Agentic AI Maturity Roadmap](#)

Gartner's Agentic AI Maturity Roadmap charts the evolution of AI agents from basic "novice" capabilities to highly autonomous "superior" agency over the next decade. Each stage represents a significant leap in capability, integration and business impacts. Currently, most AI agents in the market operate at an intermediate stage featuring conditional autonomy and handling simple, repetitive tasks. Future agents will be highly autonomous, specialized and collaborative. Product leaders must understand how AI agents will mature to prioritize investments, build differentiated capabilities and future-proof for upcoming change.

[Emerging Tech: Agentic AI Innovation Will Foster Autonomous Business](#)

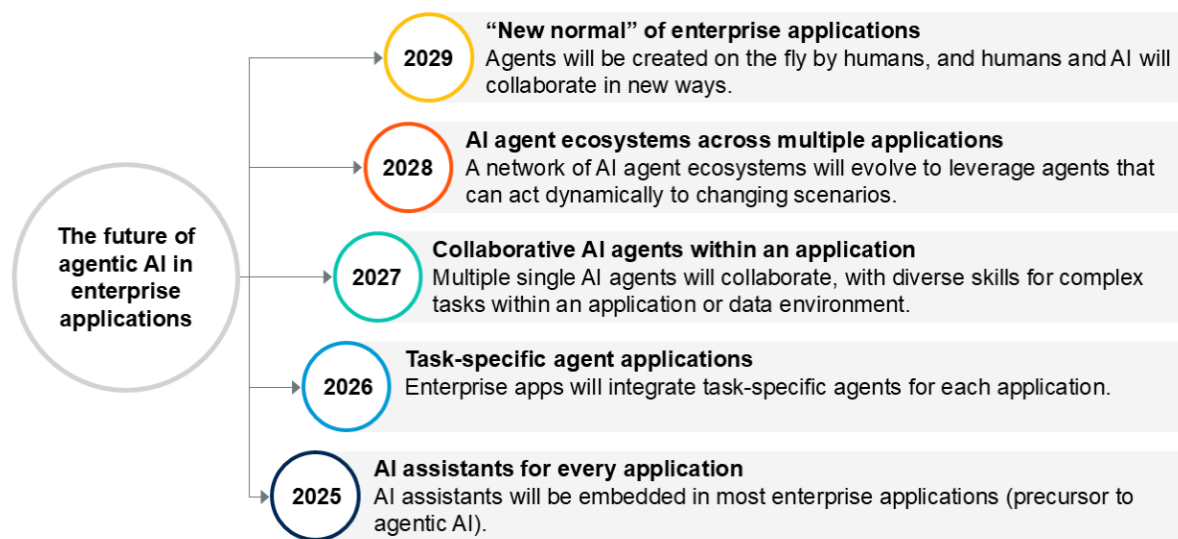
Upcoming shifts in the agentic AI market will drive the development of more autonomous solutions, which are expected to become a critical enterprise capability over the coming decade. This research considers the market implications, use-case evolution and enabling technology associated with the AI agency's maturation over the next decade. It evaluates how agentic AI will automate simple and complex tasks and describes the key, foundational technologies enabling agentic AI's capability progression.

[Emerging Tech: The Future of Agentic AI in Enterprise Applications](#)

The research outlines how agentic AI will transform enterprise applications over the next five years, analyzing the timing and impact of each stage (see Figure 2). To begin with, AI assistants will be embedded in most software by 2025, enhancing user experience but relying largely on human input. By 2026, task-specific agents will be autonomously performing complex, domain-focused tasks, followed by the rise of collaborative agents by 2027 that will work together alongside humans to solve multifaceted problems. In 2028, agentic AI will mature into dynamic ecosystems of specialized agents orchestrating end-to-end solutions across applications, fundamentally shifting user experiences and business models. By 2029, the “new normal” will see at least half of knowledge workers skilled in creating, governing and collaborating with AI agents, making continuous learning and adaptation essential for organizations to thrive. Understanding this progression is vital for product leaders to prioritize investments and remain competitive as agentic AI becomes integral to enterprise operations.

Figure 2: The Future of Agentic AI in Enterprise Applications

The Future of Agentic AI in Enterprise Applications



Source: Gartner
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Evidence

Gartner's agentic AI case-based research project ran from December 2024 through March 2025. As part of this research, 27 vendors participated in two interviews each. The first interview focused on the agentic products, technology capabilities, R&D roadmap and adoption challenges, among other things. The second interview focused on the case studies, to include the business problem addressed, the processes that were changed, the outcomes achieved and the unmet needs. This document was informed by insights from both interviews.

Recommended by the Authors

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[Emerging Tech: Avoid Agentic AI Failure: Build Success Using Right Use Cases](#)

[Emerging Tech: Where Generative AI Works, Will Soon Work, and May Never Work](#)

[Executive Briefing on Emerging Technology: Agentic AI](#)

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