



# Agentic AI

The future of  
autonomous  
intelligence



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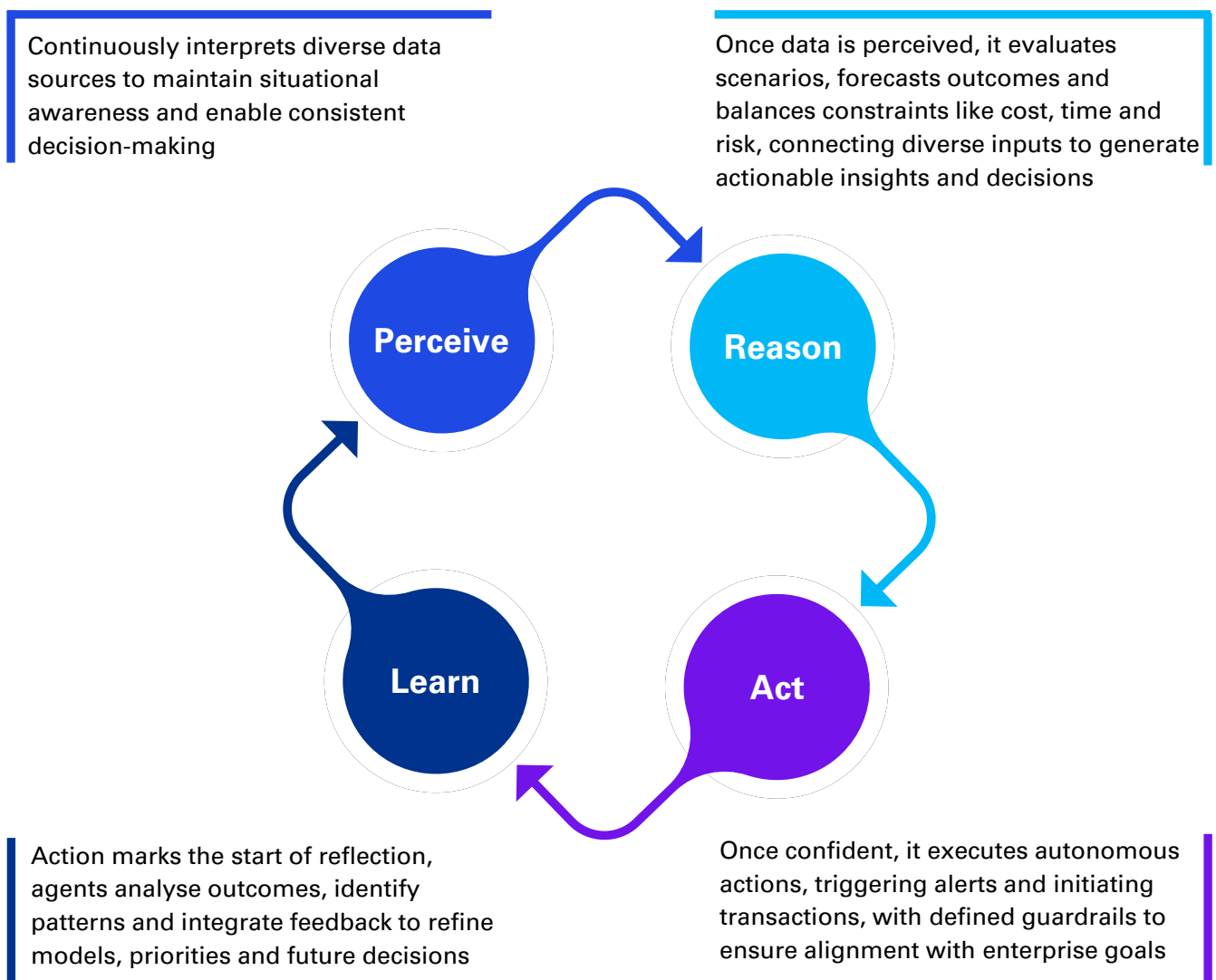
Artificial Intelligence (AI) has evolved significantly beyond its early applications in automation and predictive analytics, entering a transformative phase characterised by intelligent autonomy. At the forefront of this shift is agentic AI, a framework of intelligent systems comprising autonomous agents designed to make decisions, initiate actions and adapt in real time to dynamic operational conditions.

Unlike earlier models that depended on constant human intervention, these agents operate independently, continuously learning and executing tasks with minimal oversight. Their persistent availability and rapid responsiveness position them as powerful enablers in fast-moving business environments where agility and precision are critical to success.

This evolution is not just conceptual; it is actively reshaping enterprise strategy. According to the KPMG AI Quarterly Pulse Survey: Q2 2025, which surveyed 130 U.S.-based executives and business leaders, the transition from experimentation to enterprise-scale AI implementation is gaining momentum. Around 55 per cent of senior leaders are actively planning deployments of AI agents from trusted tech providers, signalling a decisive move towards operational integration.

## Cognitive engine behind agentic AI

What distinguishes agentic AI and makes it truly transformative is its ability to emulate the way humans make complex decisions at machine speed and scale. This is powered by the perceive, reason, act and learn (PRAL) loop, a cognitive framework that enables agents to operate with intelligence, accountability and adaptability. This iterative loop transforms AI from static automation into dynamic, memory-driven intelligence, capable of evolving alongside business needs.



# Deploying purpose-built agents across the enterprise

As organisations begin to operationalise agentic AI, they are deploying specialised agents tailored to distinct business functions. These agents are not one-size-fits-all; they are purpose-built to address distinct challenges and opportunities across the enterprise. These varied AI agents can be broadly classified into four key categories<sup>1</sup>:

- **Taskers** achieve specific objectives by breaking them into structured steps, making them easy to implement, scale and manage
- **Automators** handle broader, cross-departmental goals by connecting workflows and streamlining entire business processes
- **Collaborators** work alongside people in real time, understanding conditions, learning from interactions and refining recommendations to enhance decision-making
- **Orchestrators** operate across networks of other AI agents and humans, coordinating complex tasks, adapting to change and scaling operations by seamlessly aligning systems.

Together, these agents form a distributed intelligence layer that enhances responsiveness, resilience and strategic agility.

## Reimagining industry operations with agentic AI

Agentic AI is no longer a concept of the future. It is actively reshaping how industries operate today. From optimising financial operations to augmenting healthcare diagnostics, agentic AI systems are transforming business processes, enhancing decision-making and delivering measurable outcomes across sectors.



### Banking and financial services

- Agentic AI is reshaping modern banking by functioning as a digital relationship strategist rather than just a technological tool
- In India, some private banks have deployed AI agents capable of managing a wide range of operations from know-your-customer (KYC) validation to smart loan underwriting
- These systems dynamically adjust the customer's credit limits based on spending patterns, detect fraud in milliseconds by identifying cross-channel anomalies and even initiate pre-approved loan offers tailored to significant life events such as salary increases or EMI completions.



### Insurance

- The technology is redefining the sector by acting as a real-time risk assessor and claims processor, learning from every claim and policy data, customer interactions and fraud indicators
- Indian insurers are using these agents to automate motor and health claims, with some settled in minutes. The system reasons through risk volatility and evolves its claim triage logic with every new policy, fraudulent activity and real-time market shifts
- Additionally, it offers real-time premium adjustments and personalised coverage suggestions to insurers.

1. AI governance for the agentic AI era, KPMG LLP, July 2025



## Healthcare

- In the health ecosystem, physicians manage diagnosis, treatment options, insurance constraints and patient history
- Agentic AI enhances clinical workflows by organising patient records, prioritising urgent cases and recommending diagnostics, while integrating with electronic health systems
- It flags anomalies, suggests second-line tests, schedules interventions and monitors health parameters, improving care pathways, responsiveness and outcomes.



## Logistics and supply chain

- The sector operations face fluctuating demand, limited visibility and shifting delivery expectations
- Agentic AI enhances agility across the supply chain by interpreting live telemetry, route disruptions, weather, port congestion and fleet status
- Supplier negotiations, procurement adjustments and contingency simulations optimise warehousing and distribution. It anticipates disruptions and initiates escalation protocols to resolve issues such as customs delays in real time.



## Smart manufacturing

- Agentic AI is emerging as an invisible supervisor in smart factories, learning from sensor data, machine logs, production outcomes and operator feedback to predict failures, optimise schedules and manage energy use
- Advancing towards intelligent orchestration, the system autonomously adjusts machine settings, initiates micro-maintenance, reallocates resources and triggers upstream alerts
- Each action refines its understanding of what improves yield or reduces downtime, evolving into a strategic partner that continuously enhances operational efficiency.



## Telecom

- With millions of network events per second and the rollout of 5G, telecom providers face rising complexity in service assurance and churn management
- Agentic AI is being deployed to manage traffic, optimise spectrum allocation and enhance customer service bots. Outage detection, traffic rerouting, usage-based learning and autonomous load balancing ensure seamless connectivity
- On the consumer front, the service failures are escalated with the refund being initiated and technician visits rescheduled with contextual awareness. In India, telecom providers are exploring dynamic pricing and retention offers, hyper-tailored by segment, location and usage intent, adapting strategies in real time to individual subscriber behaviour.

As adoption expands, the ability of agentic AI to orchestrate cross-functional operations is becoming a key differentiator. By combining autonomous decision-making with continuous availability and real-time responsiveness, agentic AI unlocks a new frontier of operational excellence. Unlike conventional systems that rely on human intervention or scheduled workflows, agentic AI operates as a persistent digital workforce, monitoring, adapting and executing tasks across time zones and business domains.

Recognising this potential, 69 per cent of organisations in the U.S. are prioritising workforce enablement to maximise the value of autonomous AI agents<sup>2</sup>. A key focus is on equipping employees with prompt engineering skills which are essential for effectively interacting with and guiding AI agents. This investment reflects a broader shift in how agentic AI is perceived, from just a technological upgrade to a core capability for enterprise resilience and growth.

2. KPMG AI Quarterly Pulse Survey: Q2 2025, KPMG LLP, 26 June 2025

# Scaling responsibly for long-term impact

While the promise of agentic AI is compelling, its integration into enterprise systems requires thoughtful execution. As these systems become more autonomous and embedded across business functions, establishing robust operational controls is essential to ensure responsible deployment. This includes implementing guardrails for autonomous actions, conducting ethical risk assessments and maintaining continuous model validation.

To support this, the KPMG Trusted AI framework provides a structured approach to managing risks responsibly. It enables organisations to embed ethics and governance throughout the AI lifecycle from design to deployment and ongoing oversight.

The following considerations provide a practical blueprint for managing complexity and mitigating risk in an evolving AI landscape<sup>1</sup>:

Assess agent risk through impact assessment and understand the risk level

Determine human oversight requirements within the decision-making and action process

Define clear objectives and establish default scope boundaries

Reveal the agent's reasoning through intermediate steps leading to conclusions

Assign unique identifiers to help trace all actions and decisions

Implement immutable logging and monitoring and establish automated anomaly alerts

Design multi-agent systems to help prevent cascading failures

Build fail-safe and fallback protocols to shut down the agent based on set thresholds

Deploy AI red-teaming to continuously test agents against the firm's responsible principles

Apply periodic evaluations and feedback to prevent performance drift.

Agentic AI remains in its early stages, with many organisations still exploring its potential. To scale these systems responsibly, they must modernise their digital infrastructure, safeguard sensitive assets through encryption and train models using inclusive, representative datasets. Just as critical is embedding governance frameworks that ensure ethical integrity, regulatory compliance and readiness for real-world deployment.

These foundational steps are essential to unlock the full transformative value of agentic AI while mitigating potential risks.

## Charting the path ahead: Outlook

As agentic AI gains greater autonomy, human judgment remains indispensable, not as a constraint, but as a safeguard. Human-in-the-loop oversight fosters trust, ensures contextual relevance and grounds innovation in accountability. The real opportunity lies in designing frameworks that combine rapid, data-driven decision-making with principled human oversight.

With growing integration, strong governance and comprehensive risk management become essential to ensure responsible deployment. Building trust, maintaining transparency and aligning AI behaviour with business values are key to unlocking sustainable value. By aligning intelligence with integrity, organisations can scale agentic AI ethically and set global benchmarks for adoption in complex environments.

1. AI governance for the agentic AI era, KPMG LLP, July 2025

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