The Autonomous Enterprise

Confidently reshape the future with agentic AI and SAP®

EY

Shape the future with confidence

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Reimagining the enterprise in a new era of technology innovation

Welcome to the future where a manager named Maya at a large consumer products company is part of the company's new RiskAI Hub – an AI-powered centralized control tower responsible for coordinating third-party risk management (TPRM) across the global enterprise. Maya receives an alert from Orion, her AI assistant. Orion is picking up a spike in negative social media sentiment related to a critical tier-2 supplier in southeast Asia. As it tracks the spike, driven by local news coverage of a chemical spill, Orion's predictive analytics model continuously updates the growing likelihood of a major supply chain disruption. Maya asks Orion to keep monitoring the situation and gather data to identify the root causes of the incident, including any lapses in compliance, performance or oversight. As the situation deteriorates, Orion works directly with Vega, its agentic AI counterpart at the supplier, to draft a remediation plan for human review.

This future is becoming a reality at an unprecedented pace. A future of 24x7 real-time monitoring based on sophisticated market sensing using a wide spectrum of data. It's a world in which the use of artificial intelligence (AI) agents enables enterprise processes to be streamlined and centralized as never before. And it's only one of many impactful use cases.

Technology innovations are reshaping the future and redefining how enterprises operate, compete and grow. The ambition of the Autonomous Enterprise integrates AI-centric automation, machine learning, chatbots and predictive analytics to enhance operational efficiency, allowing human users to concentrate on high-value strategic activities rather than routine, manual processes.

The Autonomous Enterprise envisions a future where the ecosystem is seamlessly orchestrated by AI, reducing reliance on manual inputs and increasing responsiveness, accuracy and overall agility. By shifting toward a fully automated and predictive system, organizations can streamline their operations, improve decision-making, enhance employee experiences and foster a more dynamic and efficient business environment.

With today's AI technology advancements, the true promise of robotic process automation is now possible through LLMs (large language models). RPA (robotic process automation) required hard-coding specific steps in a process. Now, AI agents can be prompted with an end goal, for example, schedule a meeting, and then take actions to complete the task. In addition, the AI agents can be empowered to make changes. It's a new level of intelligent automation which can be applied across any enterprise process.

Artificial Intelligence offers an unprecedented opportunity for value creation, extending well beyond operational efficiency to reshape business models and enhance customer experiences," said Julie Teigland, Global Vice Chair for Alliances & Ecosystems at EY. "Organizations must recognize that their transformation journeys will have to integrate AI capabilities as a key enabler for unlocking new revenue streams, boosting customer engagement, and developing unique employee skills. This shift is not just about embedding automation - it is about running technology-driven business transformation with humans at the center to drive business value."

Beyond individual process automation, the emergence of AI agents orchestrating other AI agents enables a truly intelligent enterprise ecosystem. These agents can interact across multiple platforms and systems, drawing insights and data from diverse sources. This agentic workforce extends enterprise capabilities beyond traditional enterprise boundaries, connecting disparate systems and driving smarter business decisions. With AI-driven orchestration, organizations can create a fluid and dynamic operational model where data integration, automation, optimization and value creation occur seamlessly.

However, despite the speed of technology innovation and organization ambition, real-world examples are limited in functionality and capability under today's technology landscape. The levels of true reimagination in the market with agents today require breakthroughs in technology. Ahead of agentic AI, we are still seeing organizations struggling with applying generative AI in the enterprise while orchestration in complex system architectures is fragmented. Therefore, organizations need to adopt multi-horizon strategy and progressively harness the full potential of AI, navigating the challenges of integration and governance while delivering immediate value.

Transforming the enterprise with agentic AI and SAP

SAP® is a global leader in enterprise applications and business AI. SAP HANA® Cloud provides the ideal foundation for embedding AI-driven automation at its core. AI agents natively integrated within SAP S4/HANA® Cloud Edition can execute transactions, analyze real-time data, and optimize workflows, significantly reducing the need for human intervention in operational processes. Finally, there are solutions like SAP® Business Data Cloud (BDC) that unify, harmonize and govern SAP and non-SAP sources of enterprise data, providing a solid foundation for reliable AI integration that makes decisions grounded in the context of your business.

EY professionals have developed an approach that starts by generating value from immediate AI capabilities and extends toward a transformative roadmap, helping companies identify potential actions, initiatives and AI capabilities across three horizons. This approach differentiates based on business processes and the existing application landscape, delivering a tailored and strategic AI adoption journey for now, next and beyond.

''We are helping clients modernize their SAP technology environment to take advantage of the transformational impact that AI can deliver for improving customer and employee experiences, operational efficiencies, competitive advantage and growth strategies,'' said Armin Kaltenmeier, SAP Global Ecosystem Relationship Leader. ''With our pragmatic approach for AI adoption, clients realize value faster through incremental milestones along the journey while protecting their SAP investments.''

The foundation

Establishing the clean core ERP, where EY teams help to define the processes that should remain in the core for standard SAP functionality.

Horizon 1 Now

Developing applications that can be achieved with today's AI capabilities, focus on immediate value creation through efficiency gains.
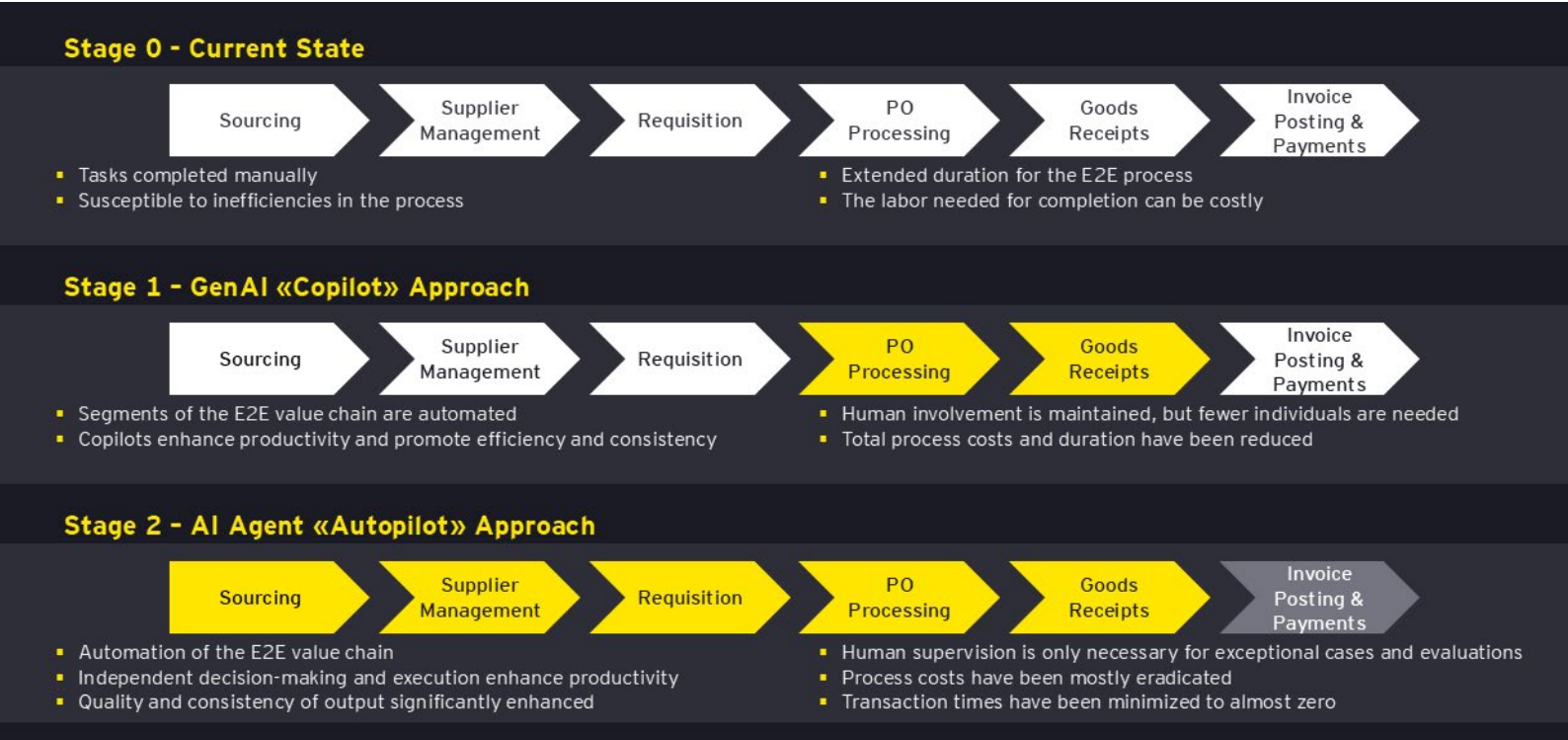
Horizon 2 Next

Building on the success of initial AI implementations by exploring more advanced and integrated AI applications. This includes the adoption of machine learning models for predictive analytics, enhancing decision-making processes and optimizing operations.

Horizon 3 Beyond

Innovating beyond traditional business models by embracing disruptive AI technologies such as agentic AI. This stage envisions a future where AI agents orchestrate complex processes across the enterprise, enabling a fully autonomous and intelligent business environment.

Example
Procure-to-Pay AI agents automating an end-to-end value chain, unlocking as much as 90% process efficiency

Stage 0 - Current State

Sourcing → Supplier Management → Requisition → PO Processing → Goods Receipts → Invoice Posting & Payments

- Tasks completed manually
- Susceptible to inefficiencies in the process
- Extended duration for the E2E process
- The labor needed for completion can be costly

Stage 1 - GenAI «Copilot» Approach

Sourcing → Supplier Management → Requisition → PO Processing → Goods Receipts → Invoice Posting & Payments

- Segments of the E2E value chain are automated
- Copilots enhance productivity and promote efficiency and consistency
- Human involvement is maintained, but fewer individuals are needed
- Total process costs and duration have been reduced

Stage 2 – AI Agent «Autopilot» Approach

Sourcing → Supplier Management → Requisition → PO Processing → Goods Receipts → Invoice Posting & Payments

- Automation of the E2E value chain
- Independent decision-making and execution enhance productivity
- Quality and consistency of output significantly enhanced
- Human supervision is only necessary for exceptional cases and evaluations
- Process costs have been mostly eradicated
- Transaction times have been minimized to almost zero

Example
End-to-end invoice processing through an agentic AI invoice operator

Agentic E2E Invoice Processing
- Automated extraction of data from manual invoices
- Smart validation of invoice data against POs and contracts
- Prevention of duplicate invoice submissions
- AI-generated audit trails for improved transparency and compliance in invoice processing

Invoice Operator – AI Agent
- 14 distinct agents communicating with an AI Supervisor Agent
- Integration with SAP for invoice posting
- Human involvement for handling exceptions

The journey to becoming an Autonomous Enterprise

The success of an Autonomous Enterprise hinges on a structured **transformation framework** that helps organizations derive maximum value from AI-driven automation. This framework is built on six key pillars:

1. **Value creation** – Reimagining business processes, reducing system complexity, and maintaining a "clean" enterprise core to facilitate AI adoption.

2. **Reskilling and upskilling** – Help equip employees with the necessary skills to manage and oversee AI-powered enterprise systems, transitioning from operational tasks to strategic roles.

3. **Data readiness** – Implementing effective data management and using synthetic data are crucial for AI because they deliver higher-quality, more diverse and more reliable bias-free training data sets while protecting privacy, enabling better model accuracy.

4. **Responsible AI** – Applying strong governance frameworks to safeguard security, compliance, and ethical AI usage within the enterprise. Geopolitical risks and regulations are shaping AI architecture design, deployment, and investment decisions, requiring organizations to adopt a multi-jurisdictional strategy that balances compliance, security, and innovation while minimizing geopolitical exposure.

5. **Architecture and orchestration** – Designing a robust enterprise architecture that supports seamless AI integration and cross-system orchestration, leveraging cloud platforms. Sustainability and energy considerations are critical to minimizing environmental impact while maintaining efficiency, key aspects to focus on are energy efficiency in AI infrastructure, renewable energy integration, sustainable data management, decentralized AI processing.

6. **Total cost-of-ownership (TCO)** – Optimizing costs associated with enterprise transformation and aligning automation investments with sustainable financial benefits.

Organizations that embrace this transformation framework will gain a significant competitive advantage, unlocking new levels of productivity, agility and innovation. The Autonomous Enterprise is not just about automation-it is about creating a business environment people and processes, augmented by AI, work in harmony to drive unparalleled business value.

How EY is helping clients on their journey

Our EY team helped **Accelleron, a spin-off from ABB,** build an operating model fit for the future. The company needed to rapidly establish a finance and tax function across more than 40 countries by rolling out a global enterprise resource planning system based on SAP S/4HANA® within 12 months. The goal was to deliver an intelligent, connected finance function that would help Accelleron get closer to its global customers, understand their needs and drive the innovation that boosts revenue. Accelleron's seamless transition to SAP S/4HANA® safeguarded business continuity in a growing environment that protected revenue and mitigated business and compliance risks; providing the foundation to uplift performance even further through AI. Read the full case study here.

EY helped **Bridgestone Corporation** migrate its legacy SAP® ECC back-end system to SAP S/4HANA® Cloud Private Edition to meet its strategic objectives for becoming a more agile enterprise. It also unlocked new value from streamlined and modernized operations and processes. The modernized digital environment now supports core business functionalities and paves the way for next-generation operations. This platform integrates the latest technological standards for data retention and facilitates a significant shift in the workforce—from operational roles to more strategic and tactical positions. It has set the stage for more cohesive and efficient business operations, significantly enhancing Bridgestone's agility in responding to market fluctuations, achieving sustainability objectives and managing a complex global supply chain effectively. Read the full case study here.

Eversource Energy engaged the EY team to help with its digital transformation to upscale its systems and support future customer-focused innovations. The journey entailed integrating 50 disparate systems and building an enhanced Customer Information System (CIS) on the SAP S/4HANA® Cloud Private Edition. The CIS function is now equipped to help ensure that all the data is flowing smoothly and accurately among systems. With the improved technology infrastructure, Eversource employees can deploy products and services more quickly and effectively. The real win is for the energy consumers who will receive better service. Read the full case study here.

Getting started

- Build **data** that is AI-ready to create insight and value along the process.
- Reimagine the **processes**, don't just "AI" them.
- Undertake a fundamental **change program** and assessment across functions/processes.
- Prioritize processes that represent **true business value** and **ROI**.
- Establish a **target state architecture** (including data mastering and quality).
- Understand the **future AI landscape** focused on what will be done/mastered in which platform/technology.
- Work with the **SAP® roadmap** for the most capable orchestration framework to succeed in the enterprise.
- Establish an **"AI Engine Room"** that delivers AI at scale and at speed.
- Give the AI Engine Room **unlimited authorization** to automate at speed.
- For more information, contact **Jessie Qin**, Global Consulting AI & Data Markets Leader.

EY | Building a better working world

EY is building a better working world by creating new value for clients, people, society and the planet, while building trust in capital markets.

Enabled by data, AI and advanced technology, EY teams help clients shape the future with confidence and develop answers for the most pressing issues of today and tomorrow.

EY teams work across a full spectrum of services in assurance, consulting, tax, strategy and transactions. Fueled by sector insights, a globally connected, multidisciplinary network and diverse ecosystem partners, EY teams can provide services in more than 150 countries and territories.

All in to shape the future with confidence.

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