KPMG

The Automation Advantage

From Operational Efficiency to Strategic Transformation

In a business environment defined by fiscal constraints, staff reductions, and dynamic change, automation is essential for organizational efficiency and technological edge. However, in the rush to adopt AI, many organizations fail to realize its potential because they lack foundational readiness. Automation delivers immediate benefits by reducing manual labor and error rates. More importantly, it serves as a gateway to achieving the data discipline and process maturity required for a successful AI implementation, creating a structured path to realizing its transformative potential.

Automation, a mature technology developed since the 1960s, has long been a transformative force in manufacturing. Its expansion into professional and administrative services has been comparatively slow. The recent emergence of automation capabilities based on Large Language Models (LLMs), which can understand natural language and self-improve, represents a fundamental change that dramatically expands its applicability. This new generation of automation can benefit the entire range of business operations, from marketing and sales to HR and finance. The aggregate effects of these applications are twofold. First, they produce direct cost savings and operational efficiencies. Second, they enable the reallocation of employees from routine tasks to higher-value strategic work. This adoption fosters more data-driven decision-making and increases the organization's adaptability to market changes.

The Four Tiers of Automation

Automation algorithms are computer programs designed and used to operate or control equipment, processes, or systems with minimal human effort. These algorithms can be categorized into three broad categories of aims: the complete substitution of human labor (**full automation**), the augmentation of human capabilities (partial automation aka **augmentation**), and the improvement of efficiency by streamlining workflows and reducing manual effort (**process automation**). These algorithms can be further classified into four tiers of task complexity, representing increasing levels of algorithmic sophistication and degrees of autonomy. The tiers are described below, with some examples.

Our approach is guided by the KPMG Trusted AI framework, helping to ensure that all automation solutions are responsible, trustworthy, and explainable.

Tier I: Augmentation

These tools assist humans with specific, repetitive, or complex tasks to enhance efficiency and accuracy. By handling functions like document summarization or data entry, augmentation tools free up employees to focus on more strategic work.

Tier II: Process Automation

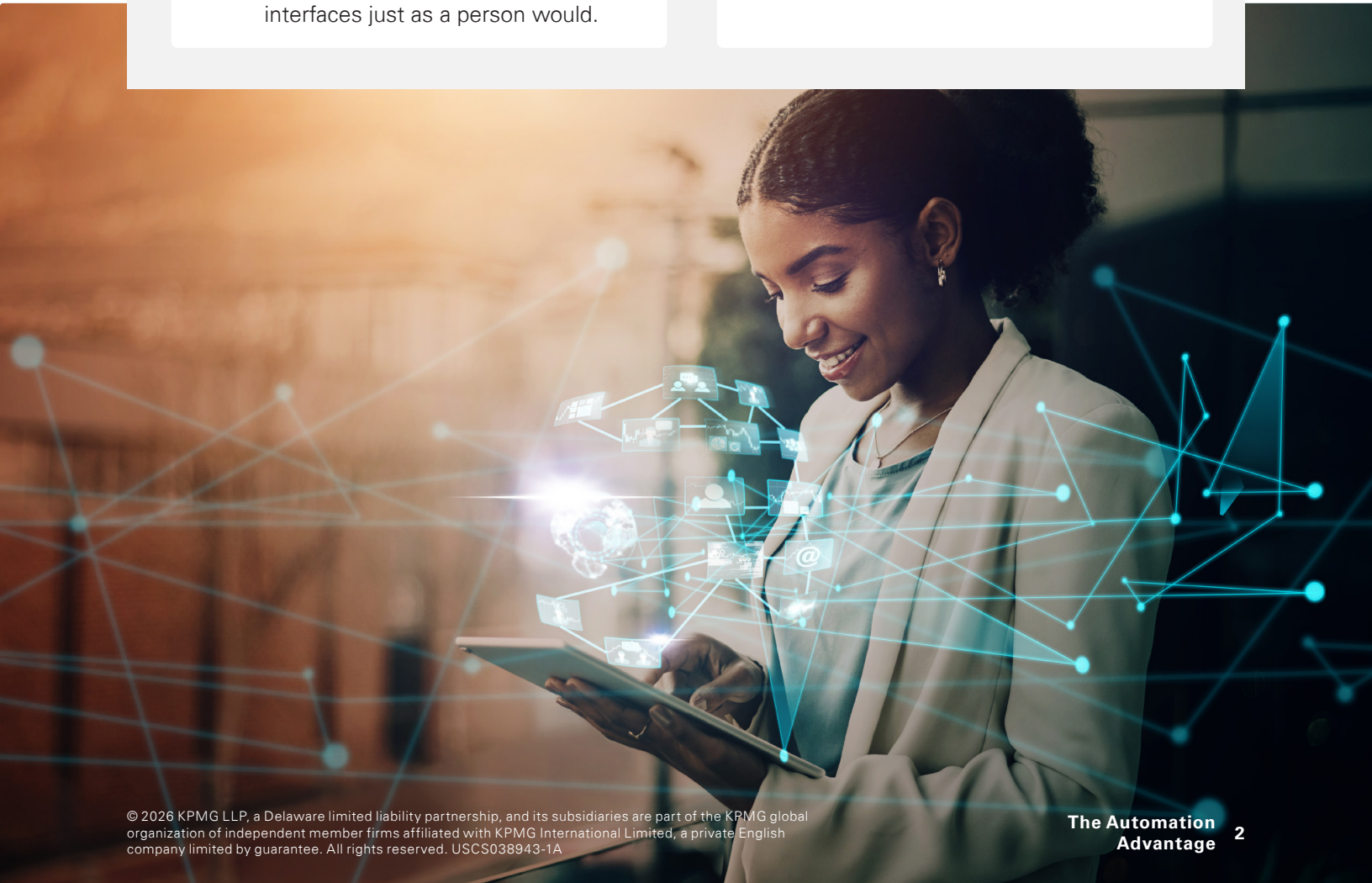
These algorithms automate entire multi-task workflows, such as invoice processing or order fulfillment. By integrating across different systems, process automation orchestrates complex sequences to achieve a specific business outcome with greater speed and reliability.

Tier III: Robotic Process Automation (RPA)

RPA are algorithms that can control the mouse and keyboard input to mimic human interactions with digital systems. These algorithms can execute complex, multi-step processes like data extraction, payments verification, and records reconciliation by navigating user interfaces just as a person would.

Tier IV: Agentic AI Automation

Powered by Large Language Models (LLMs), these advanced AI agents can learn, adapt, self-improve and make decisions autonomously. Capable of understanding context, reasoning through ambiguity, and solving novel problems, agentic AI represents the frontier of intelligent automation.



Our experience

We highlight a few processes and activities we have automated for our clients:

Process/Functionality	Project Description
Recognition and document intelligence	**Physician handwriting recognition** for a federal agency: We developed a Tier I automation tool to accurately digitize and interpret physician handwriting from medical records. This solution significantly reduced manual data entry errors and accelerated claims processing, allowing the client to handle a higher volume of information with greater accuracy and efficiency. The system leverages machine learning to improve its recognition capabilities over time, ensuring sustained performance.
Forecasting	**Revenue and cost forecasting** for a state agency: Our team implemented a Tier I predictive analytics model to help the agency forecast revenue and operational costs with greater precision. By analyzing historical data and market trends, the tool provides leadership with data-driven insights for strategic planning and budget allocation. This has enabled more confident decision-making, planning, and better management of financial resources.
Workforce data analytics	**Automated labor market information extraction** for a state labor department: We are deploying a sophisticated Tier II and III system to automatically extract, analyze, and report on labor market information from diverse sources. This solution provides the department with real-time, actionable intelligence on employment trends, skill gaps, and economic indicators. The agentic capabilities allow the system to adapt to new data formats and sources autonomously.
Automated Intake and Customized Assistance	**Automated program intake and customized participant assistance** for a state employment agency: This ongoing Tier II and IV project involves creating an intelligent system to automate the intake process for employment services. In addition, the algorithm uses applicant work history, matches it against real-time labor market information, and creates a customized employment plan that meets the local labor market demand for specific skills.

Contact us

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