

How Is AI Shaping Industries of the Future?

An Exclusive Look Into How Al Is Transforming Organizations Across Industries

An IDC eBook for Technology Leaders



In this eBook, you'll get an exclusive look into the future state of various industries and how they're evolving with AI, paired with guidance and actionable insights that help inform IT investment priorities and implementation strategies.

Table of Contents

How AI is Transforming Industries	3
RETAIL INDUSTRY	
The Al Shift in Retail	4
The Time Is Now for AI-Embedded Retail Tools	5
MANUFACTURING INDUSTRY	
The Big Al Industry Shift in Manufacturing	6
Simplifying the Product Lifecycle With AI	7
NATIONAL GOVERNMENT	
National Governments' Most Strategic Asset: Al	8
Augmenting Citizen Experience Journeys With AI	9
In Conclusion	10



How AI Is Transforming Industries

The next several years will be dominated by an AI pivot across industries - and within all organizations that aspire to become digital businesses. How effectively enterprises set priorities, make decisions, and address barriers will decide if they are ready to fuel business growth on an AI foundation or if they will be racing to catch up years from now. A key area of focus will be developing an AI-fueled business operating plan unifying strategy, governance, and workforce development efforts. It will also require adoption of an AI-ready technology operating model for apps, data, AI platforms, and infrastructure that ensures cost effective and secure scaling of AI capabilities anywhere.

Technological advancements are enabling disruptive business models and transformative digital experiences and foresights across industry verticals.



The AI Shift in Retail

Retailers have spent 2024 cautiously monitoring inflation and global threats to business, and as a result, slowed some capital investments. That said, if the value to profit or future growth was significant enough, investments continued. Our research indicates optimism is rising and technology investments are being made to improve customer experience, reduce the cost of operations, and become more agile and resilient. The retail industry is continuing to transform before our eyes, successfully navigating new dynamics that require technology investments to support resiliency and agility in the coming years.

The excitement about the potential of GenAl in retail has accelerated investment in advanced analytics, Al, ML, and natural language processing (NLP) as retailers strive to shift from being data-rich to data-driven. New revenue and growth initiatives including Media Networks, Marketplaces, and Fulfillment Services are gaining traction, as retailers work to seize more value from real-time, contextualized engagement. In the back-office, human capital management is being transformed with Al and GenAl to improve recruiting, training, labor forecasting, scheduling, and task management.

Omni-channel commerce continues to thrive as customers seek choice, value, and convenience in all phases of the experience (Discovery, Purchase, Fulfillment, Returns, and Service). AI and Gen AI enabled Voice, AR/VR, and Robotics will improve search, personalization, content creation, data accuracy, and customer service management.

Source: IDC FutureScape: Worldwide Retail 2025 Predictions

"Retailers are not investing in small step changes to their portfolios — they are digitally transforming and investing in the massive scale and speed of digital, cloud-based, connected, Aldriven, and sensor-driven automation. We are in the middle of a customer-led, technologyenabled revolution in retail."

Leslie Hand

Group Vice President IDC Retail and Financial Services

The Time Is Now for AI-Embedded Retail Tools

By 2026, 90% of retail tools will embed AI algorithms. Over 30% of these algorithms will use standalone AI or modular, agnostic AI models that can be swapped out for suitable retail-specific models.

While AI continues to proliferate and captivate the general public, we see the importance of flexibility coming to the forefront for retailers. With so many variants of AI and machine learning, plus the heavy competition introduced by the largest companies in the world, such as Google, Meta, Amazon, IBM, and others, there is an overflow of AI technologies. For retailers there is an inherent need to build modularity, flexibility, extensibility, and scalability into retail AIbased applications. This means infrastructure will require modular, tech-agnostic modeling. Also, with the rapid pace at which AI technologies continue to advance, with new algorithms every month, retailers must be able to swap out older capabilities for those that are state-of-the-art.

IT Impact

IT teams will seek deeper relationships with existing partner vendors who embed AI capabilities in their tools. Teams will also build or extend relationships with 3rd party partner organizations that have experience and expertise in AI. 58.27% of retailers will be looking for 3rd party support in building AI/ML solutions for the next 2 years.

IT teams will focus on in-house development, especially applying bespoke and custom development for highly retail specific use cases with proven application and value - including hiring/staffing talent with the up-to-date AI/ML and GenAI skill sets. Over 50% of retailers will be investing in in-house development of AI/ML solutions for the next 2 years.

Guidance

- options.

Source: IDC FutureScape: Worldwide Retail 2025 Predictions

• Mainstreaming applications using AI will require full understanding of multiple platforms and cross-platform integration. Both the new platforms and integration of the same will need expertise that is scarce. Don't skimp on talent hiring or consultative engagement to ensure you have the best

• Don't lock into a single platform vendor – should you decide to leverage platforms vs in-house module development. The rapid change can easily make your investment and future objectives obsolete if the platform vendor or software vendor doesn't keep up with the latest AI technology. • Consider building a Center of Excellence (COE) for both evaluation and innovation with new AI algorithms and models.



The Big Al Industry Shift in Manufacturing

There is a big shift in the manufacturing industry toward digital transformation and a growing demand for automation and intelligent systems in complex manufacturing environments. Generative AI has the potential to significantly improve productivity in the manufacturing sector.

The manufacturing industry continues to deal with high levels of change and both challenges and opportunities abound. IDC sees three main challenges:

- How and when to best transition to the cloud and leave behind highly customized, legacy on-premises applications.
- How to best meet emerging sustainability regulation and more from reporting to embedding sustainable practices into the way 'we run the business'.
- How best to both adopt and adapt to decision and process automation technologies like AI and GenAI while preserving the critical roles for people and accelerating 'time-to-expertise'.

Key themes woven into our worldwide manufacturing industry predictions for the future include the focus on supply chain management, product quality, talent gaps, sustainability, and the evolving role of GenAl. These predictions span the manufacturing value chain, as DX continues to be embraced by all parts of the business. "The manufacturing industry continues to experience high levels of disruption, thus putting a premium on change and the adoption of new technologies to drive both efficiency and resiliency. While the predictions highlighted touch upon many areas of the business, the main theme can be tied back to having the proper digital infrastructure in place to serve as the foundation for meeting challenges and taking advantage of opportunities."

Simon Ellis

Group Vice President IDC U.S. Manufacturing/Energy Insights and Global Supply Chain

Simplifying the Product Lifecycle With AI

By 2027, 70% of G2000 manufacturers will be leveraging GenAl to automate product quality management and improve development time/cost by 10%.

GenAl can collect, organize, and summarize large quantities of structured and unstructured data, which simplifies gathering quality data from across the product life cycle (including design, manufacturing, supply chain, distributors, customers, and service/support). Once the data sets have been rationalized/contextualized, other forms of AI can be employed to interpret the data, identify areas of risk, and provide decision support for various courses of action. GenAl will help identify relevant quality metrics for each department, provide visibility across the enterprise regarding the quality status of each product, and ensure complete and accurate simulations in accordance with product requirements and customer expectations.

IT Impact

Product quality initiatives require data sources to be integrated across engineering, manufacturing, sourcing/procurement, and service/support via a bi-directional digital thread.

Appropriate AI applications and training will be necessary to help line-ofbusiness users confirm data is contextually accurate and complete prior to AI/ML processing.

Training for line-of-business users to be self-sufficient in interpreting AI results and constructing new dashboards to uncover cause-effect correlations.

Guidance

- wisdom/standard practices).
- applications.

Source: IDC FutureScape: 2025 Manufacturing Predictions

• Manufacturers should establish a prioritized "wish list" of high value, product quality use cases (think out of the box and ignore conventional

• Manufacturers should press for enterprise software vendors to clearly define the GenAI use cases that will be deployed within software

• Manufacturers should be developing internal GenAI tools, especially around dashboarding of disparate data sources (build experience to control expectations and expenses).



National Governments' Most Strategic Asset: Al

National governments consider AI a strategic asset. They want to be able to harness AI capabilities within national borders to drive opportunities for the AI innovation ecosystem, and secure data and technical independence by implementing sovereign AI controls. AI and GenAI will make a more pervasive impact on government across missions, use cases, processes and systems. The disruptive impact of these technologies, compounded by geopolitical volatility, technical debt, digital sovereignty concerns, and regulatory changes will require government leaders to approach innovation holistically. The acquisition and implementation of new technologies will not be enough. Realizing the benefits of AI, cloud and industry platforms will require revisiting governance, risk management, culture and competencies' building to accelerate innovation.

Today, nearly half (48.5%) of national government employees said GenAI will be critical to dramatically improved outcomes for nation state threat management, according to IDC's Industry Tech Path Survey 2024.

As governments plan to use AI and GenAI more pervasively across innovative and sometimes sensitive use cases, in public service and benefits, public security, or to power multi-vigilance strategies and improve national threat intelligence and survivability, they are expected to embed more sovereignty requirements in AI procurement.

Source: IDC FutureScape: Worldwide National Government 2025 Predictions

"Government CIOs and CTOs, and new appointees, such as chief artificial intelligence officers, must collaborate to identify early wins in AI and GenAI, and, in parallel, prepare their organization to realize the benefits at scale. They will have to develop trustworthy collaborative approaches to threat intelligence and critical infrastructure protection, establish responsible AI governance, embed sovereignty principles in product and service procurement and implementation, and apply FinOps best practices and tools to control the cost of innovation."

Massimiliano Claps

Research Director IDC Government Insights

€IDC

Augmenting Citizen Experience Journeys With AI

By 2025, 35% of national governments will pilot multiagent AI and GenAI to hyper personalize digital citizen experiences that will make the bureaucracy invisible

Al will augment citizen experience journeys. Increasingly, citizens expect to interact with systems through conversational interfaces that can recognize their language, accent, tone of voice (e.g., pick up a sense of urgency or frustration), instead of having to scroll through screens and fill forms. To achieve this level of automation, governments need to re-engineer processes and systems so they can apply algorithms that recognize changes in their constituents' circumstances, identify the root causes, and trigger operational workflows or dynamically reconfigure services and programs to meet constituents' evolving needs and preferences. This will require a combination of agents, some of which may be machine learning models, other large language models, and other small language models that will have multimodal capabilities to process text, rule, images and will be orchestrated to deliver intended outcomes across end-to-end workflows.

IT Impact

Al tools are rapidly becoming more mature in areas such as machine learning for flagging anti-fraud cases, generative AI (GenAI) for knowledge summarization, and conversational chatbots. As agencies look to apply AI to new use cases, they will have to make available quality data for training and inferencing.

The ethical implications of using AI/GenAI to automate and personalize services must be considered to avoid negatively affecting people's dignity, safety, security, and social inclusion.

Guidance

- cases.
- group of use cases.

Source: IDC FutureScape: Worldwide National Government 2025 Predictions

• Design a strategic roadmap that defines the appropriate levels of automation, types of algorithms, and deployment models for different use

• Evaluate the maturity of tools, the availability of good-quality data to train algorithms, and the ethical implications of automation for each use case or

• Develop clear guidelines for ethical and explainable use of autonomous agents, particularly in the case of multiple agents that are orchestrated to deliver the intended services and outcomes.

• Communicate transparently with the public, define policies that enable citizens to opt-in or opt-out of autonomous services, and proactive notifications, and set up processes to deal with complaints.



In Conclusion

GenAl has had a significant impact on a variety of industries, going beyond simple implementation. Al-powered chatbots in customer engagement are becoming more sophisticated, using sentiment analysis and emotional intelligence algorithms to tailor responses based on the customer's mood. In the financial sector, generative Al creates complex financial models that respond in real time to market fluctuations, challenging traditional risk assessment paradigms and regulatory frameworks. In product design and development, generative Al is not only speeding up the ideation process but also fundamentally changing the creative landscape. Al systems can generate designs based on abstract concepts or emotional inputs, which calls into question our understanding of authorship and intellectual property rights.

GenAl is not only evolving; it is transforming entire industries. With a projected increase from \$2.8 billion in 2023 to \$39.6 billion by 2028, this technology is transforming everything from customer engagement to product design. **As organizations rush to acquire the necessary skills and address accuracy concerns, those who successfully navigate these challenges will unlock unprecedented growth and innovation.**



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