

Automotive
Edition

2025

State of Smart Manufacturing Report

10TH ANNUAL



expanding human possibility™

Welcome

Global manufacturers in the automotive, tire, and battery industries share how harnessing **smart manufacturing and emerging technology** drive long-term business impact, operational efficiency, quality, innovation, and workforce potential.

About the Research

This report is based on responses from 130 managers and executives at automotive and tire manufacturers, original equipment manufacturers (OEMs), engineering procurement companies (EPCs), and system integrators across 15 countries.

It is part of [Rockwell Automation's 10th annual State of Smart Manufacturing report](#), which surveyed more than 1,500 decision makers across various industries.

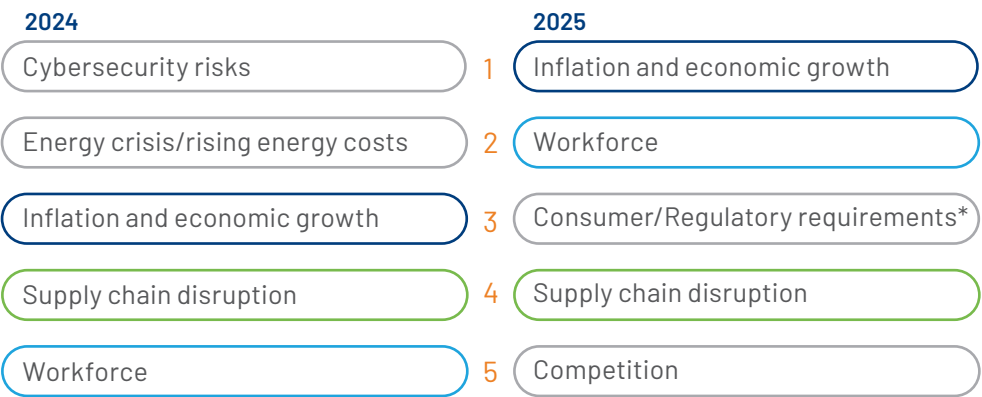
Obstacles and outlook for Automotive

Inflation, economic growth and workforce concerns are the primary external barriers to growth for automotive manufacturers, followed by consumer and regulatory requirements.

A notable shift compared to last year's Automotive report is the rise of workforce concerns and the drop in cybersecurity as external challenges.

Overcoming workforce pressures, driven by retiring expertise and the demand for new data science skillsets, will be key to helping automotive and tire manufacturers outpace competition and effectively deploy new technologies for long-term business impact.

External obstacles



*Sustainable/ESG practices, cybersecurity, EV/battery

Internally, the top 4 constraints to growth include:

- Deploying, integrating, and connecting new or smart manufacturing technologies
- Attracting employees with the right skillsets
- Managing internal budget constraints
- Using data effectively to improve business results

Technology investment remains strong

Automotive, tire and battery manufacturers **continue investing in AI, production monitoring and cybersecurity.**

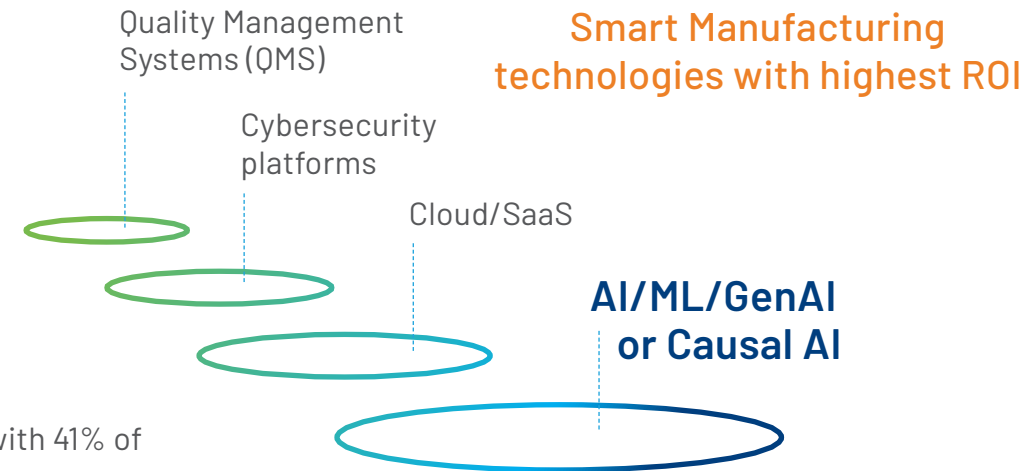
Over 62% of respondents cited long-term business impact as the primary driver of technology investment, followed by expansion or increased capacity (58%), aligning with 2025's overall findings. To mitigate both external and internal risks, automotive and tire manufacturers are prioritizing:

- workforce development (reskilling/upskilling existing talent, and hiring new talent)
- formal change management
- smart manufacturing technologies
- AI adoption

AI ranks highest among smart manufacturing capabilities expected to drive the greatest business outcomes.

Despite cost reduction being a primary goal, initial investment remains high, with 41% of respondents citing cost as the top obstacle. Overcoming this financial hesitancy is a critical challenge that organizations must address to fully realize the benefits of smart technology.

32% report **deploying + integrating new technology** is the biggest internal obstacle to growth



AI builds momentum

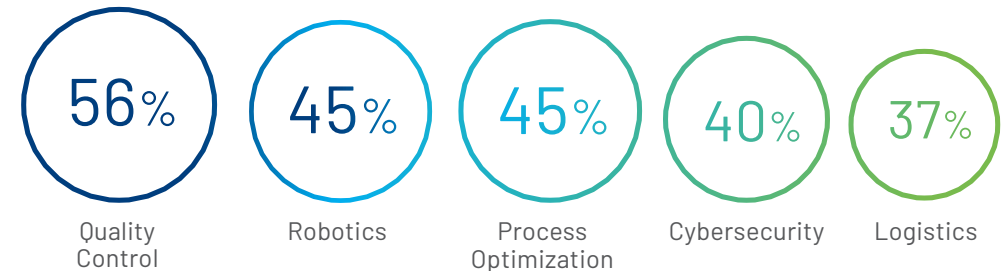
Automotive industry leaders see less risk in AI adoption, up 10 points since 2023. Quality control, robotics and process optimization are emerging as top use cases. **Automotive companies lead all industries surveyed in planned investment for generative AI, robotic process automation (RPA) and digital tools.**

For automotive and tire manufacturers, quality control (56%), process optimization (45%), and robotics (45%) are the top three AI applications:

- Helping reduce errors and production anomalies and downtime
- Lowering operating costs
- Improving efficiency and production flexibility
- Supporting workforce development

Using AI for quality control ranks higher in the automotive sector than other industries (56% vs 50%), while robotics replaced cybersecurity in the top three. This shift may reflect the sector's strong focus on cybersecurity last year, suggesting manufacturers may be ahead of the curve in adopting cyber technology.

Top uses for AI/ML over next 12 months



Business outcomes drive transformation

The top goals of tech adoption remain consistent year over year – **improve quality, reduce costs and lower risks** related to safety, cybersecurity and compliance.

The automotive and tire industry is notably higher than the overall average of 31%, and experienced a 6% increase from last year.

However, there is inefficiency in how data is used across all industries, only 9% of overall respondents report using more than 75% of their collected data effectively. In automotive, that figure drops to 5%, though 37% report using more than 50% effectively.

While the gap between data collection capabilities and the sector's ability to leverage this data for decision making and operational improvements is trending in the right direction, there remains room for improvement.



How the data collected is being used

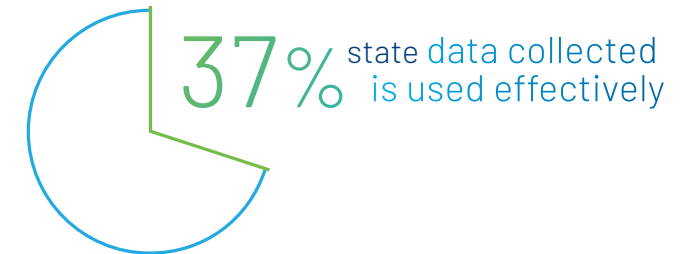
Improve/monitor product quality 48%

AI/Applied AI/GenAI/ML 40%

Production planning/scheduling 37%

Process optimization 36%

Cybersecurity protection 32%



Workforce skills shift well underway

To fill the projected 7.9 million worker gap projected to exist by 2030*, manufacturers are not only investing in automation but also seeing **more workers with AI experience and soft skills** like communication, adaptability and analytical thinking.

The top four capabilities automotive and tire employers seek include knowledge of emerging technologies like AI (77%), as well as key soft skills:

- communication and teamwork (84%)
- analytical thinking (82%)
- flexibility/adaptability (80%)

respondents said
84% analytical thinking +
communication/teamwork
are the most important skills
when recruiting the next generation

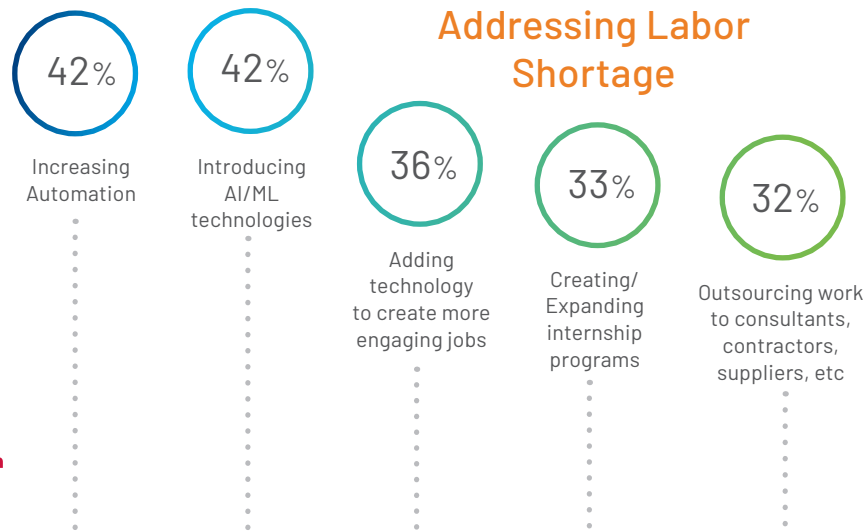
As the industry faces geopolitical and economic instability, growing competition from new entrants, and shifting regulatory demands, innovation and agility are essential to long-term success.

Upskilling Gains Urgency

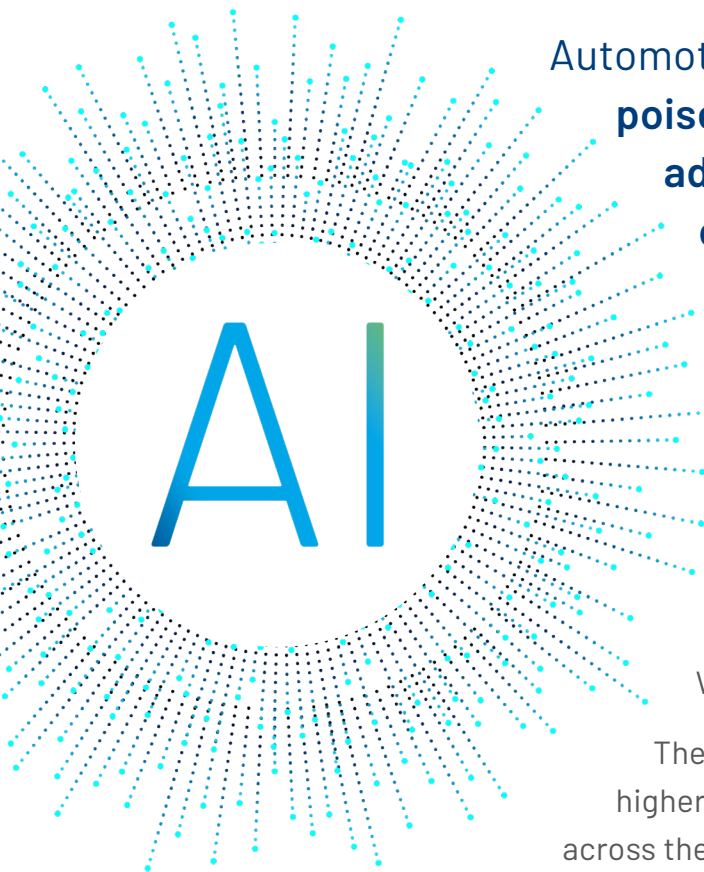
Manufacturers recognize that bringing their workforce along on the digital transformation journey is critical. For automotive and tire manufacturers, **the top workforce-related challenge over the next 12 months is change management (37%)**, ensuring employees and departments effectively adopt new technology and processes. Other key concerns include:

- employee retention (33%)
- the rising cost of skilled workers (36%)
- difficulty finding new employees (31%)

Korn Ferry Study



AI leads Automotive technology investments



Automotive and tire manufacturers are **poised to outpace other sectors in adopting Generative/Causal AI over the next 12 months**, with 34% of manufacturers planning to invest, compared to the overall average of 31%.

Other planned investments include Digital Thread (43%), Robotic Process Automation (39%), Digital Twins, Simulation/Emulation (39%) and Wearables (36%).

These technologies also ranked significantly higher in the automotive and tire sector than across the broader manufacturing landscape (32%), for the second consecutive year.

95% have either invested in or plan to invest in AI/ML and GenAI or Causal AI in next five years



AI adoption in the manufacturing sector is outpacing other industries, especially among companies with over \$1B in revenue.

Omdia
2025 Trends to Watch: Manufacturing Technology

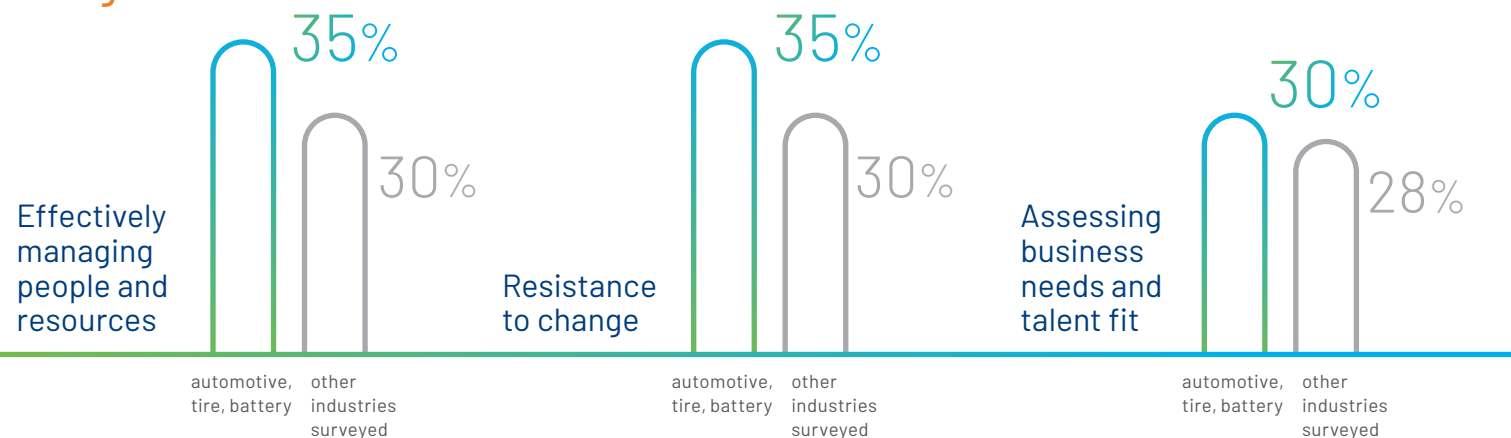
What the next 12 months may bring





The top four challenges identified by automotive, tire, and battery industry leaders for the year ahead **mirror those seen across the broader manufacturing industry**, with some shifts in priority and emphasis.

The leading concern is **identifying and implementing new technologies (38% vs 28% overall)**, followed closely by three workforce challenges: resistance to change (35% vs 30%), effectively managing people and resources (35% vs 30%) and assessing business needs and talent fit (30% vs 28%).

The sector is prioritizing strategies to retain, upskill, and support the workforce to drive stronger business outcomes. Technologies that enhance human contributions – such as smart manufacturing tools, AI, and automation – paired with expanded employee training and formal change management programs, are seen as key to navigating the road ahead.

Leading workforce challenges



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AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2663 0600

ASIA PACIFIC: Rockwell Automation SEA Pte Ltd, 2 Corporation Road, #04-05, Main Lobby, Corporation Place, Singapore 618494, Tel: (65) 6510 6608

UNITED KINGDOM: Rockwell Automation Ltd., Pitfield, Kiln Farm, Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800

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