

2025

Manufacturing Trends and Technology Report

North America | *Key Takeaways and Software Insights*



Welcome to our 2025 manufacturing trends report for North America.

As a global specialist in discrete and process manufacturing solutions, it's important that Aptean has its finger on the pulse of the market. We strive to lead discussions on critical industry issues and to help organizations meet challenges head-on and develop best practices for driving growth.

Our annual survey, which we commissioned B2B International to conduct, is a cornerstone of this commitment to industry insight.

In this report, we'll dive deeper into the data connected to each trend and provide actionable insights to support effective strategic decision-making in 2025 and beyond.

We hope you'll find our insights useful in shaping your strategy for the year ahead.

This year's results have identified five pivotal trends:

- 1** Manufacturers feel pressure to adopt new technologies.
- 2** Digital innovation will drive operational efficiency.
- 3** Technology will tackle workforce challenges.
- 4** Industry-specific solutions will drive higher revenue.
- 5** Artificial intelligence (AI) will increasingly influence manufacturing operations.





Who We Surveyed

225

Total Respondents

56% Discrete, 44% Process

C-suite, VP and director-level personnel across operations/production, IT, finance, executive management, product development, quality, procurement and supply chain.

Country



USA
86%

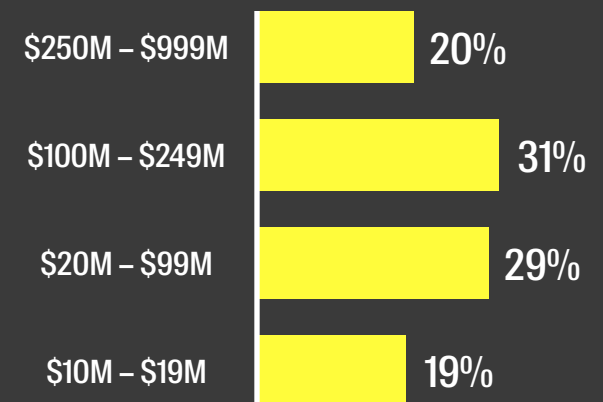


Canada
14%

Sub-Industries Represented

- › Industrial machinery
- › Pharmaceuticals
- › Personal care
- › Electrical equipment and electronics

Annual Revenue



Trend No. 1

Manufacturers Feel the Pressure to Adopt New Technologies

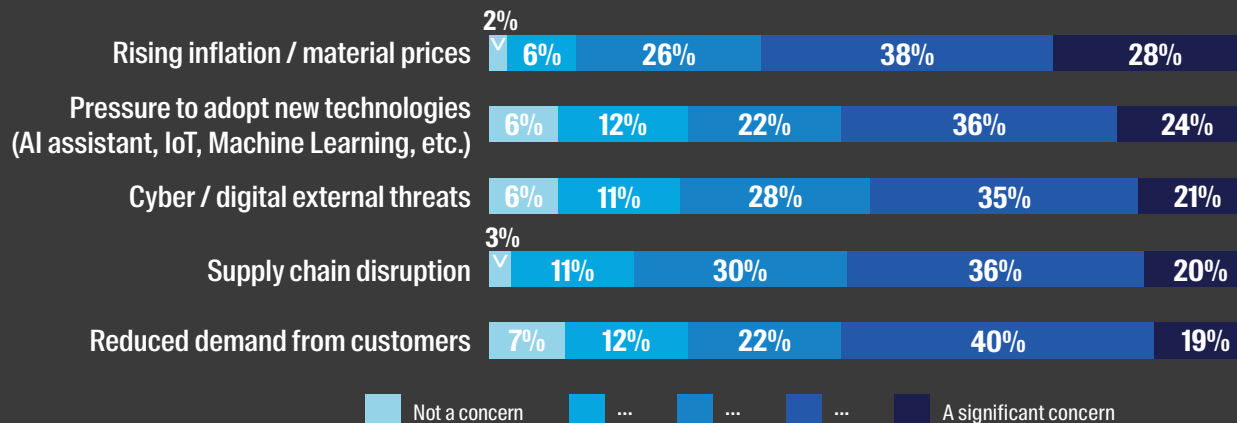
In our research survey, pressure to adopt new technologies emerged as one of the top concerns for 2025, second only to rising inflation and material prices. In fact, a quarter (24%) rate technology pressures as a “significant concern.”

In response, 52% of manufacturers plan to implement emerging technologies and data solutions over the next 12 months, while 48% want to update or integrate legacy systems and technologies.

Midsized companies are most keen to embrace automation, with 60% planning to adopt new technologies compared to 50% of larger companies and 42% of small businesses.



Top Five Challenges Manufacturers Want to Solve with Technology



Manufacturers' Top Five Barriers To Achieving 2025 Business Goals



Complex System Integrations Could Create Barriers

Manufacturers wanting to embrace new technologies face a digital dilemma, as one in three fear the complexity of system integrations.

A quarter are concerned about their ability to find the right solution, while the same percentage are worried about securing buy-in from senior stakeholders.



Why Are Manufacturers Feeling the Pressure To Innovate?

Customer demands are evolving, requiring manufacturers to be more responsive and provide better communication. Manufacturing organizations need real-time data and agile processes—which can't always be delivered by their current infrastructure—to meet these needs.

Many manufacturers (particularly midsize organizations) are facing increased expectations from investors to modernize their operations. Adopting new technologies helps to meet these demands and also positions manufacturers for scalable growth, making them more competitive and attractive to investors.

For companies looking to expand, modernization can open doors to new opportunities, including strategic mergers or acquisitions.

Internally, there is an increased drive for operational efficiency to offset the impact of inflation and rising material prices. Most manufacturers realize that automation is critical to maintaining a competitive edge—otherwise, they risk falling behind the production capabilities of rival companies.





Trend No. 1

Key Takeaways

- › Manufacturers feel pressure from customers, investors and competitors to adopt new technologies.
- › Many organizations are keen to increase automation in 2025 but are concerned about the complexities of system integrations.
- › Investing in emerging technologies can help manufacturers meet market demands and create a platform for growth, particularly within smaller and midsize organizations.

Trend No. 2

Digital Innovation Will Drive Operational Efficiency

We've established that many discrete and process manufacturers plan to embrace new technologies, but which processes are they most likely to address with technology?

Our research found that 59% of manufacturers plan to optimize inventory levels with technology, while 52% want technology to help them improve equipment performance and reduce unplanned downtime.

Scalability is another important influence, as 48% of manufacturers want technology to help them increase production to meet rising customer demand.

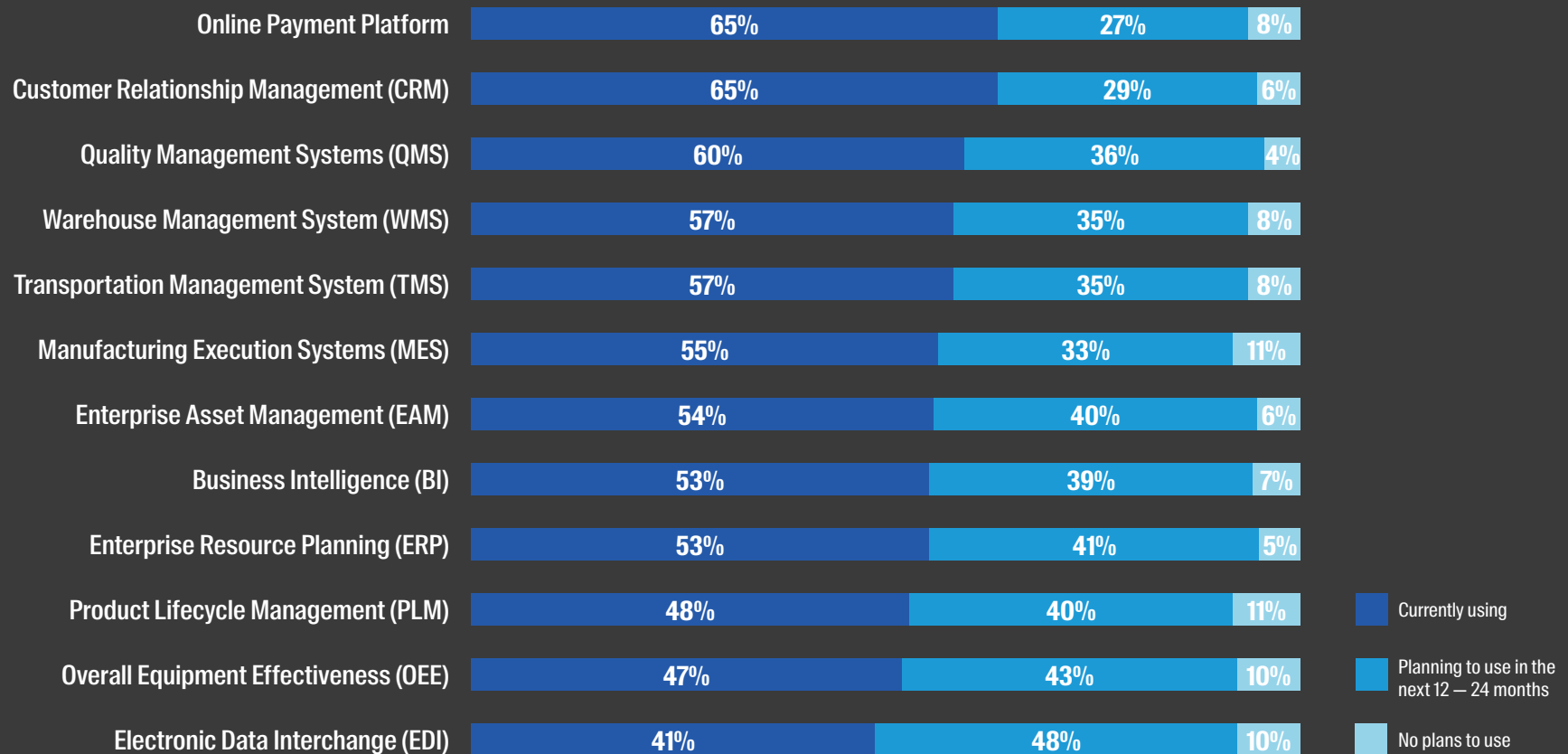
When we analyzed how manufacturers are currently managing these areas, there is clearly room for digital transformation. For example, half (49%) of organizations say their inventory management processes are partly or completely manual, opening the door for enterprise resource planning (ERP) software investment.

Additionally, 58% are still using partly or wholly manual processes for managing and monitoring equipment performance and servicing, rather than deploying overall equipment effectiveness (OEE) and/or enterprise asset management (EAM) software.

Top Five Challenges Manufacturers Want to Solve with Technology



What Solutions Are Companies Planning to Onboard Over the Next 12-24 Months?



Manufacturers' Top Tech Priorities for 2025

Manufacturers' top technology investments for 2025 are strategically aligned to address both external and internal pressures while supporting key operational goals.

For example, customer demands for faster communication and the need to scale production are driving increased interest in EDI. Additionally, managing inventory with the purpose-built features

of an ERP can enhance operational efficiency, while OEE and EAM software play a critical role in improving productivity and minimizing downtime.

For manufacturers ready to invest in new technologies, the bottom-line benefits are tangible. Our research found that for nearly all of these top five solutions, companies already using software are generating higher revenue than those still relying on manual processes.



Revenue Growth by Software Use

	Currently Using	Not Currently Using
Enterprise Asset Management (EAM)	10.0%	7.2%
Electronic Data Exchange (EDI)	9.6%	8.0%
Enterprise Resource Planning (ERP)	9.2%	8.0%
Product Lifecycle Management (PLM)	8.9%	8.6%
Overall Equipment Effectiveness (OEE)	8.5%	8.9%

Top Five Planned Software Investments for 2025

Solution	% Planning to Invest
Electronic Data Interchange (EDI)	48%
Overall Equipment Effectiveness (OEE)	43%
Enterprise Resource Planning (ERP)	41%
Product Lifecycle Management (PLM)	40%
Enterprise Asset Management (EAM)	40%

Companies already using software are generating **higher revenue** than those still relying on manual processes.



Cloud Will Play a Decisive Role in 2025 Technology Strategies

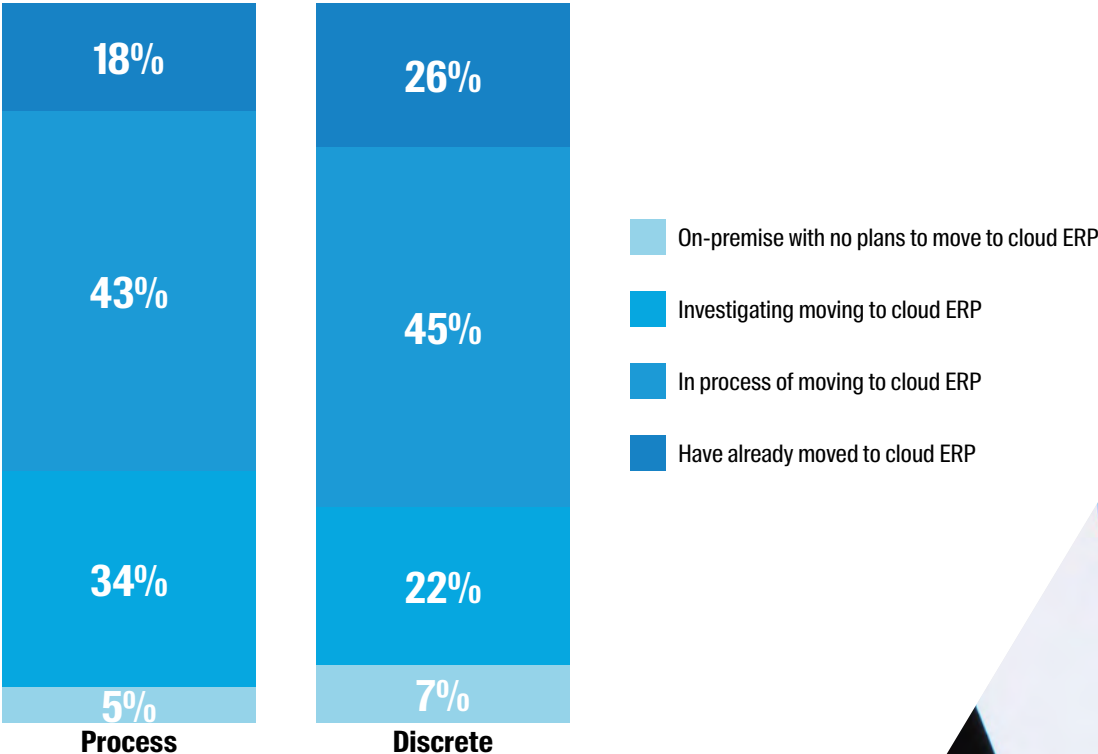
When we asked manufacturers about their approach to cloud ERP software, 66% said they are either in the process of moving to the cloud or have a cloud ERP solution already.

Interesting to note, discrete manufacturers are more likely to be using cloud ERP software than their process manufacturing counterparts.

When it comes to motivations for cloud migration, the No. 1 reason for investing in cloud-based software is improved security and risk mitigation (36%), followed by lower operational and maintenance requirements (31%) and easier system integration (31%).

There is also a financial benefit: manufacturers using cloud ERP software predict higher revenue and profit growth in 2024-25 than those who have not yet transitioned.

Manufacturers' Attitude Toward Cloud ERP



Revenue and Profit Predictions for Cloud ERP vs. Non-Cloud Users

	Currently Using	Not Currently Using
Cloud transition not started	9.6%	8.7%
Cloud transition started / complete	10.5%	9.3%

However, the path to cloud adoption is not without challenges. Some manufacturers, particularly those in rural locations where network connections are less reliable, are concerned about potential downtime affecting their operations.

To address these concerns, manufacturers are investing in better internet connectivity as they transition to cloud-based systems, and technology vendors are optimizing their applications to make them as lightweight as possible.



Trend No. 2

Key Takeaways

- › Manufacturers are prioritizing solutions that will help them to optimize inventory and improve equipment performance.
- › Organizations investing in automation are increasing their revenue faster than those still relying on manual processes.
- › Many manufacturers will invest in new technologies as part of their cloud transition, seeking to improve security and reduce system maintenance.

Trend No. 3

Technology Will Tackle Workforce Challenges

In addition to improving operational efficiency, manufacturers want digital transformation to enhance workforce productivity in 2025.

Our research found that 46% of organizations plan to invest in technology to overcome staffing and skills shortages—an ongoing challenge for the manufacturing industry. In August 2024 alone, there were **506,000** manufacturing job openings, and The Manufacturing Institute predicts **1.9 million roles** will be unfilled by 2034.

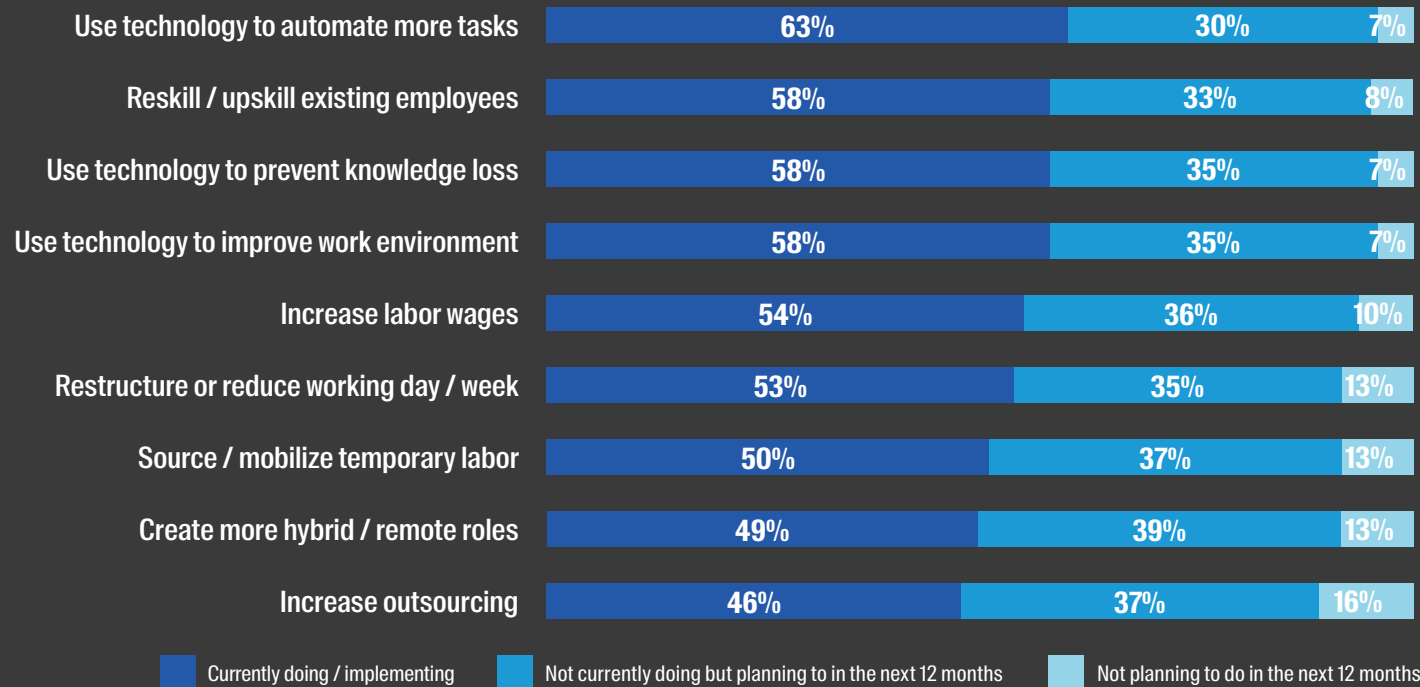
Automation is the most popular strategy to combat workforce challenges, with 63% of manufacturers using technology to automate more tasks, and a further 30% planning to implement more software in 2025.

Manufacturers that increased automation in response to staffing and skills shortages grew their revenue by 9.6% on average in 2023-24, compared to 7.1% among manufacturers that took no action.

Other key technology-driven responses to productivity issues include preventing knowledge loss—a critical response to staff churn and the aging workforce—and improving the work environment.



Manufacturer Responses to Staffing and Skills Shortages



Process vs. Discrete: Response to Workforce Challenges

	Process	Discrete
Use technology to automate more tasks	56%	69%
Reskill / upskill existing employees	54%	62%
Use technology to prevent knowledge loss	64%	54%
Use technology to improve work environment	54%	62%
Increase labor wages	47%	59%
Restructure or reduce working day / week	49%	56%
Source / mobilize temporary labor	52%	48%
Create more hybrid / remote roles	48%	49%
Increase outsourcing	42%	50%



Discrete Manufacturers Reacting

Similar to their faster cloud adoption, discrete manufacturers are more proactive in addressing workforce productivity challenges compared to process manufacturers.

Our research shows discrete organizations consistently score higher in key areas, particularly around improving operational efficiency. However, there are further opportunities to use technology for preventing knowledge loss and managing temporary labor more effectively.

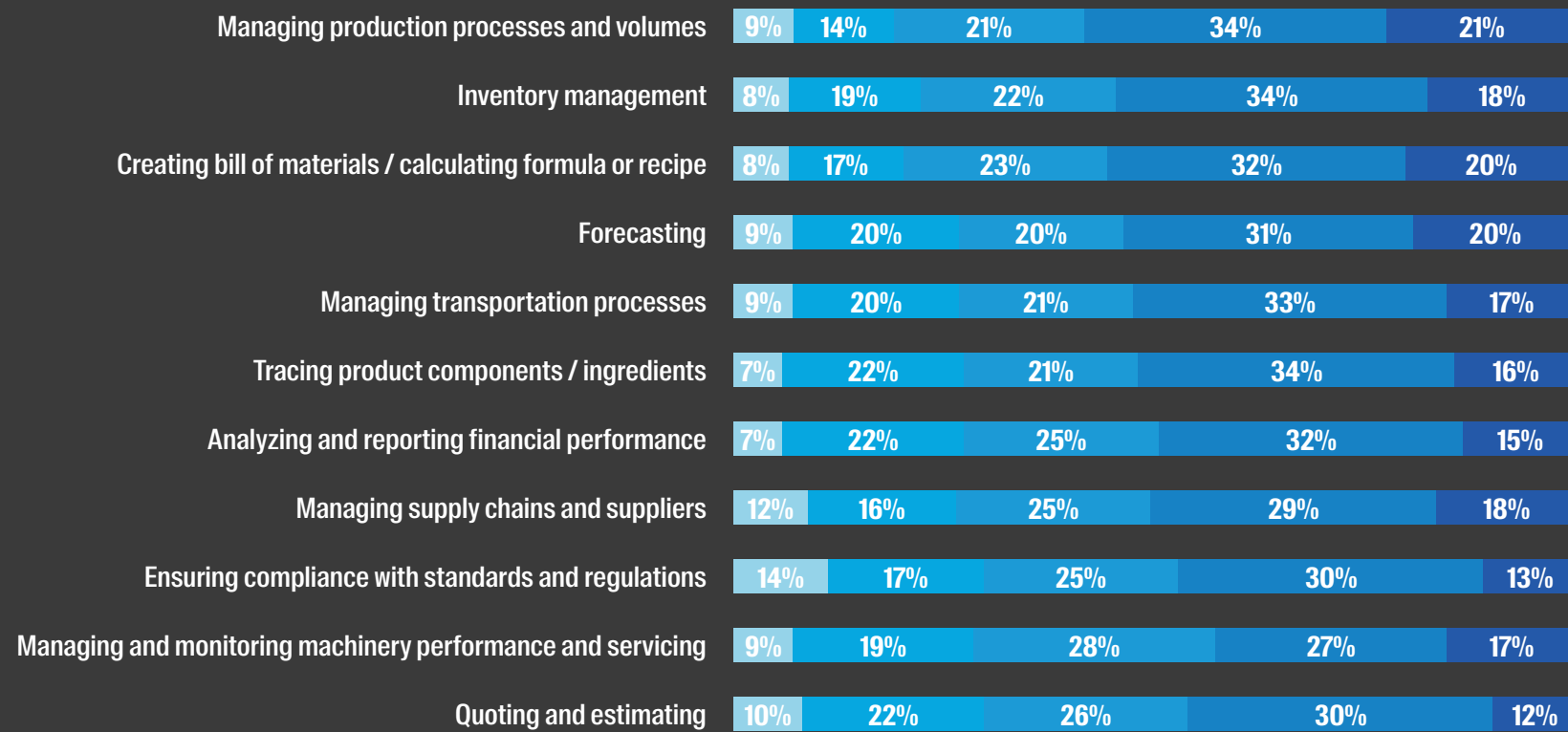
Where Can Automation Enhance Productivity?

To ascertain which operational areas are burdening manufacturers the most, our survey asked respondents to state which of their processes are currently automated, and which are still manual.

We discovered that many everyday tasks are manual for a significant percentage of manufacturers.

For example, a third (32%) of organizations say their quoting and estimating process is still mostly or completely manual, while 29% rely on manual reporting and analysis. A quarter (25%) are manually calculating bills of materials or formulas, and 23% are manually managing production processes and volumes.

How Automated Are Manufacturers' Processes?



Completely manual
 Mostly manual
 Partly manual, partly automated
 Mostly Automated
 Completely Automated

Automating these areas can enhance productivity, liberating employees to focus on higher value activities and enhancing production capabilities without having to expand the workforce. Reskilling staff members will play a critical role in maximizing the value of current employees as technology takes over their previous workload.

Automation also allows manufacturers to standardize processes and formally capture information. This is crucial as the manufacturing industry experiences a generational shift, recruiting a younger workforce that has grown up in the digital era and expects a seamless technology experience.





Trend No. 3

Key Takeaways

- › Automation is the primary response to staffing and skills shortages.
- › The key aims of implementing technology are preventing knowledge loss and improving work environments.
- › Manufacturers who accompany their digital transformation with a reskilling program will maximize the value of their current employees.

Trend No. 4

Industry-Specific Solutions Will Drive Higher Revenue

As we established in the first trend, finding the “right solution” is a major barrier to growth for discrete and process manufacturers.

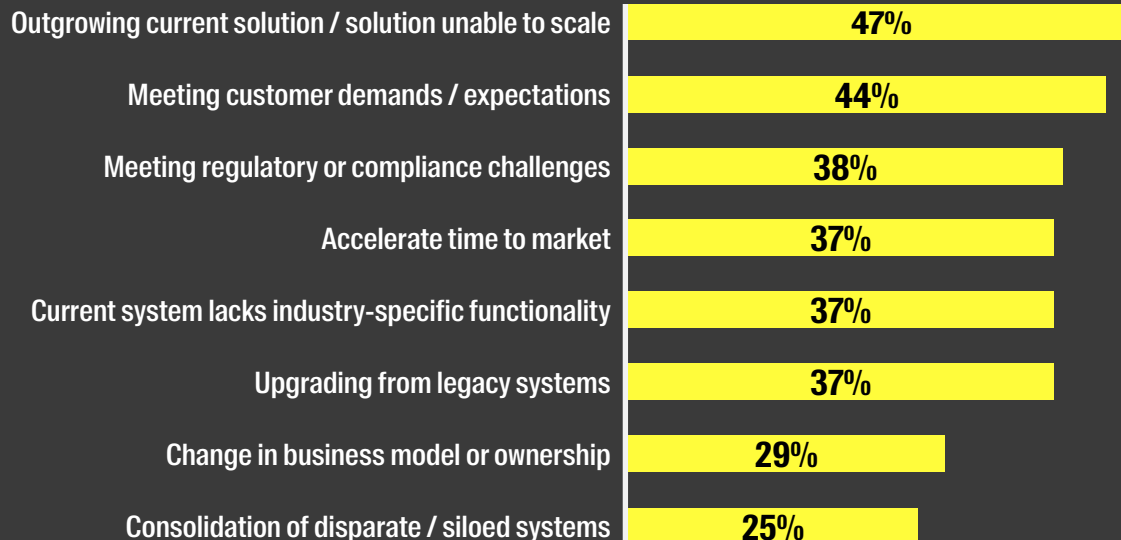
With embracing emerging technologies a high priority in 2025, organizations are looking to drive value from their investment, and industry-specific software is likely to yield better ROI than horizontal solutions.

Our research found that less than half of manufacturers are currently using industry-specific software. While some solutions have higher uptake than others—46% of manufacturers are using specialist EAM software, for example—the majority are still using horizontal or homegrown systems.

However, there is a significant business case for moving to an industry-specific setup. Our study found that manufacturers using specialist software are outperforming horizontal software users when it comes to revenue generation.

For example, manufacturers using industry-specific business intelligence (BI) software generated 9.7% revenue growth in 2023-24, compared to 8.4% among organizations using horizontal software and 6.6% among those using a homegrown solution.

Main Drivers for Purchasing ERP

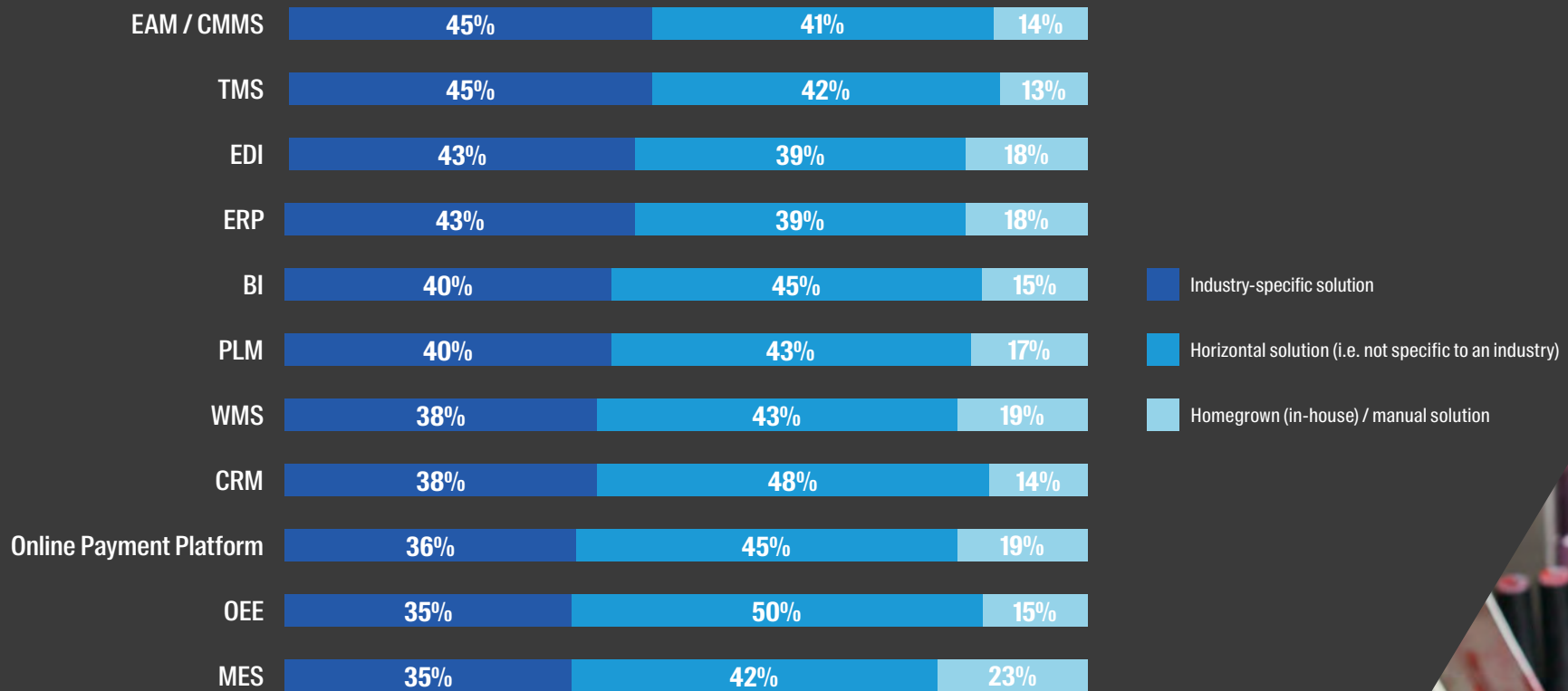


Is It Time for an ERP Upgrade?

Many manufacturers are considering investment in industry-specific ERP software because their current horizontal solution can't deliver the functionality and value they need.

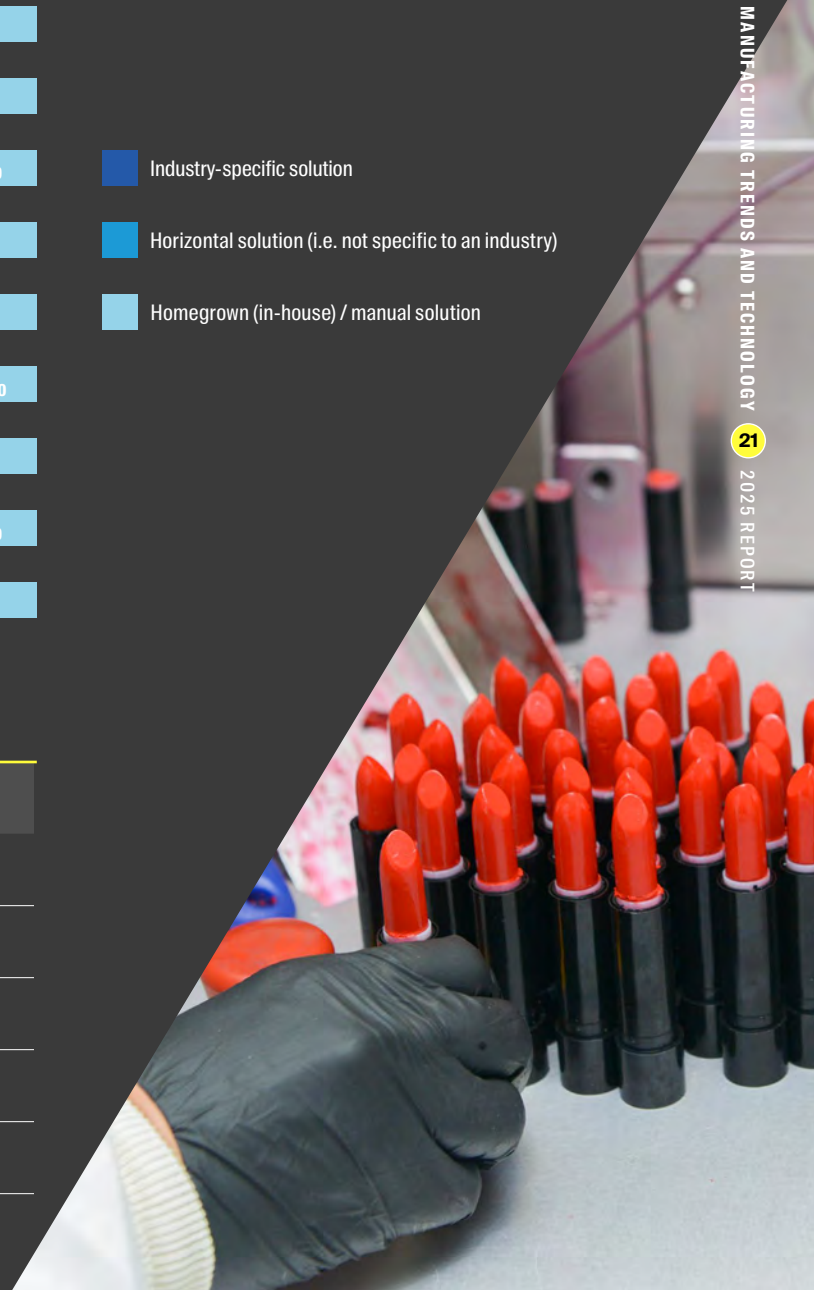
When we look at what's motivating ERP upgrades, scalability is the number one driver. Other key reasons to embrace an industry-specific ERP include better support with meeting customer demands, compliance changes and accelerating time to market.

Industry-Specific vs. Horizontal Software



Top Five Industry-Specific Solutions Driving Higher Revenue

Solution	Industry-specific	Horizontal	Homegrown
QMS	10.4%	8.2%	7.1%
MES	10.3%	8.8%	8.0%
EAM	9.9%	8.7%	7.1%
CRM	9.9%	8.7%	7.3%
BI	9.7%	8.4%	6.6%



How Can Manufacturers Maximize the Value of Industry-Specific Software?

The major differentiator between industry-specific and horizontal technology is that the latter requires customization to make it fit for purpose.

Solutions developed for the discrete and process manufacturing sectors have built-in functionality to support industry-specific processes—sometimes even subsector-specific processes. For example, an industrial manufacturing ERP solution may include level one traceability, directly linking the serial number of an assembly to the serial number or lot number of purchased components or raw materials.

Generic ERP software may require standard product definitions to sell and manufacture goods. In contrast, some industry-specific solutions allow custom engineer-to-order items to be quoted, sold and built without standard product definitions.

Even if a solution requires customization, that customization process runs smoother with a technology vendor who has deep understanding and expertise in a specific manufacturing industry.

Vendor partnerships are just as important as the solution, as industry specialists bring deep knowledge and best practices that improve support and functionality.

With an industry specialist, manufacturers don't need to spend the first few months of the relationship teaching the vendor their business, resulting in faster time to value.



Trend No. 4

Key Takeaways

- › Industry-specific software consistently outperforms horizontal solutions in revenue generation.
- › Many manufacturers are still using outdated systems that limit scalability.
- › Industry-specific solutions offer built-in functionality and faster time to value, along with the expertise of specialist technology vendors.

Trend No. 5

AI Will Increasingly Influence Manufacturers' Growth Strategies

No technology trends report is complete without discussing AI, and it comes as no surprise that the number of manufacturers exploring AI has increased year on year.

Just over a quarter (27%) of the manufacturers we surveyed are already using AI tools, while a further 44% are in the process of implementing AI capabilities.

Approaches to AI are also impacting financial performance, with those implementing AI growing their revenue and profit by 9.1% on average in 2024—compared to 7.3% revenue growth and 7.6% profit growth among manufacturers who are not exploring AI.



Manufacturers' Attitudes Toward AI

	2023	2024
No plans to leverage AI	10%	4%
Investigating AI	36%	25%
In process of implementing AI	36%	44%
Already using AI	18%	27%

What's Motivating AI Exploration?

Improved efficiency, productivity and quality are the top perceived benefits for using AI in manufacturing. However, there are some interesting differences in attitude to note among key stakeholders.

For example, operations and supply chain decision makers are interested in AI's capacity to reduce operational costs, whereas IT leaders are more focused on insight generation. Executive management want to explore how AI can enable faster, more accurate data analysis and increase their competitive advantage, whereas finance and procurement personnel are more curious about its enhanced innovation capabilities.

AI's Impact on Revenue and Profit

AI Strategy	2024	Expected Revenue Growth	Expected Profit Growth
Already using AI	27%	10.0	10.0
In process of implementing AI	44%	9.6	9.6
Investigating AI	25%	9.6	9.6
No plans to leverage AI	4%	9.6	9.6

In Their Own Words: Use Cases for AI

"We're planning to use AI to help us automate more technical tasks, for example logistics and reports. That way we can reduce our staff number and assign them to other areas that require manual labor."

Transportation Equipment Manufacturer, Canada

"We leverage AI to analyze data trends, improve decision-making processes and optimize our services for a better user experience."

Electrical Equipment and Electronics Manufacturer, USA

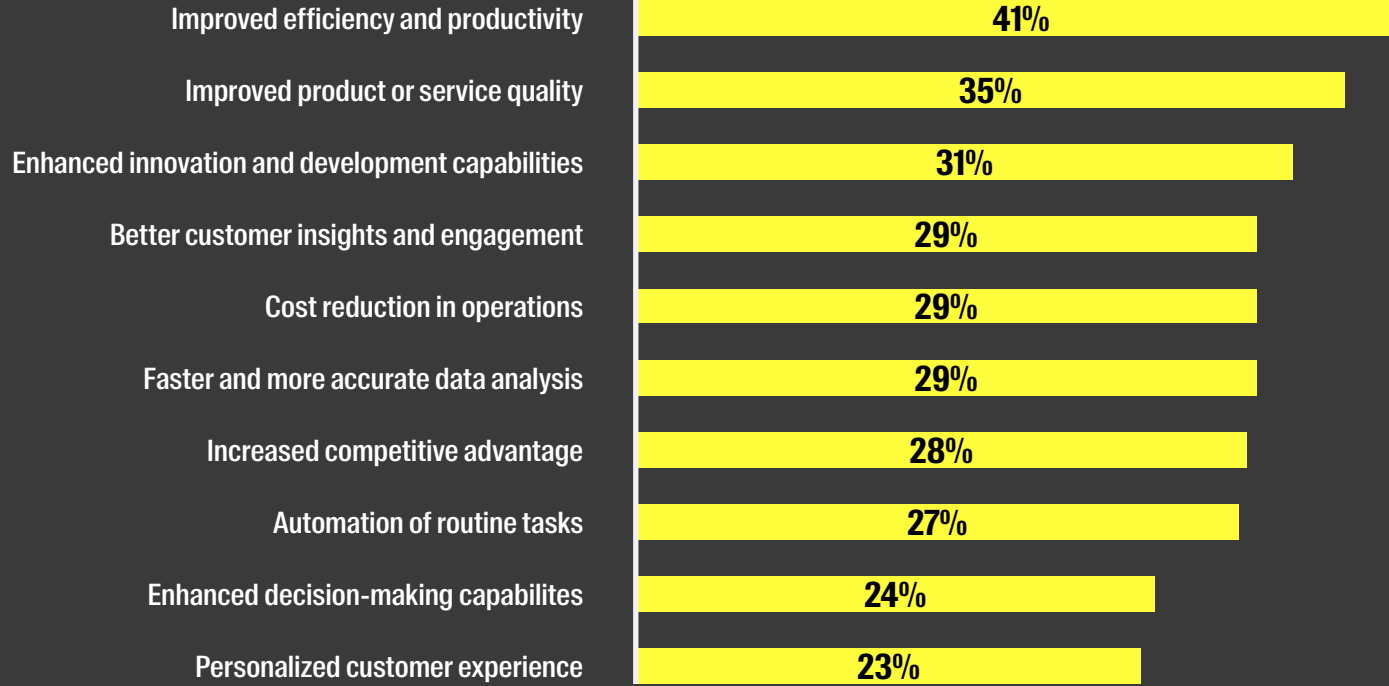
"We will apply AI to customer support, data analysis, predictive maintenance and inventory management."

Personal Care Manufacturer, Canada

"We want to use AI to automate financial forecasting models."

Synthetic Fibers Manufacturer, USA

Benefits of Using AI in Manufacturing Operations



Barriers To Leveraging AI

	Primary Challenge	Process	Discrete
Complexity of AI technologies	38%	30%	45%
High implementation and maintenance costs	35%	38%	32%
Data privacy and security concerns	34%	29%	39%
Lack of skilled personnel to manage AI systems	30%	29%	32%
Dependence on high-quality data	30%	29%	31%
Integration with existing systems and processes	29%	27%	32%
Ethical concerns regarding AI decisions	28%	32%	25%
Regulatory and compliance issues	24%	27%	22%
Uncertainty about ROI	24%	33%	15%
Resistance to change within the organization	21%	22%	20%



Where Does AI Fit Into Manufacturers' 2025 Strategies?

While AI holds exciting potential, most manufacturers are in a state of cautious exploration.

For those experimenting with AI tools already, we can expect to see applications focused on enhancing decision-making processes and operational efficiency in 2025. Early use cases include reporting and business intelligence, where AI-powered systems can use text searching and data analysis to provide deeper insights and guidance.

Company size may also shape AI strategies. For example, smaller manufacturers with fewer resources may focus on AI's potential for solving specific operational challenges rather than large-scale, disruptive implementations.

But for all the buzz around AI, there are still barriers to overcome. Many manufacturers are concerned about the complexity of AI solutions (particularly discrete manufacturers), along with uncertainty about ROI, data privacy and security.

Ultimately, AI tools should be at the top of the technology pyramid, as they rely on high-quality, accurate and well-organized data to generate effective results. This data can only be extracted with the right solutions and a fully integrated infrastructure.

The next step towards harnessing the power of AI is implementing foundational systems and complementing them with good data capture, good process management and good BI.

Some technology partners can deliver all these things in a single solution, with AI functionality baked in as part of a full-stack approach. However, it's important to beware "AI-washing" from providers that make buzzword promises without addressing the digital foundation that lies underneath.





Trend No. 5

Key Takeaways

- › AI adoption is growing rapidly, with manufacturers already using AI tools experiencing higher revenue and profit growth than those behind the curve.
- › Manufacturers believe AI can improve efficiency, productivity and quality, but worry about its complexity, privacy and ROI.
- › Organizations that build a strong data foundation and integrated infrastructure will be best positioned to successfully implement AI solutions.



Top Six Action Points From Our 2025 Research

Aptean's industry research has revealed deep insights into the challenges and priorities of North American discrete and process manufacturers. But it's impossible to implement all our key learnings at once.

Here are our top six technology takeaways to influence your 2025 business development strategy:

- 1** **Manufacturers are under increasing pressure to adopt new technologies, but many fear the complexity of system integration.**

Action: Create a phased implementation plan that prioritizes solutions based on your pain points and goals, focusing on quick wins to build momentum.
- 2** **Inventory optimization and equipment performance management are the top priorities for manufacturers' 2025 technology strategies.**

Action: Conduct a thorough audit of your current processes to identify areas where technology can deliver the most immediate and impactful benefits. If you're unsure where to start with evolving your digital infrastructure, invest in ERP and OEE/EAM solutions that offer advanced inventory management and predictive maintenance capabilities.
- 3** **Cloud migration is gathering momentum as manufacturers seek to improve security, reduce maintenance and facilitate easier system integration.**

Action: Develop a comprehensive cloud migration strategy, including robust backup and redundancy plans to address potential downtime concerns.
- 4** **Automation is the primary response to workforce challenges, including staffing shortages and skills gaps.**

Action: Identify which everyday processes can be automated to save your workforce time and stress. Implement a reskilling program to maximize the value of your current workforce and address emerging skills requirements.
- 5** **Industry-specific software consistently outperforms horizontal solutions in revenue and profit generation.**

Action: Evaluate your current software and replace generic solutions with industry-specific alternatives. Many manufacturers are using outdated ERP systems that limit scalability and lack industry-specific functionality.
- 6** **AI exploration is growing rapidly, with early adopters experiencing higher revenue and profit growth.**

Action: Start with small-scale AI pilots while building a strong data foundation and integrated infrastructure. Ensure your approach to AI is cross-functional to address the diverse needs of different departments and align overall business objectives.

Working With a Recognized and Reliable Partner

At Aptean, we know manufacturing. Our dedicated professionals and internal experts have first-hand knowledge of the market and deep experience with discrete and process manufacturing operations.

More than just a vendor ready to sell you a product off the shelf, we're dedicated to achieving mutual success and helping you achieve maximum ROI. We're proud to be a "by-your-side partner" for the long term.

We offer a comprehensive suite of industry-specific software including:

Learn More

ERP

Learn More

EAM

Learn More

OEE

Learn More

EDI

Electronic Data Interchange

Learn More

TMS

Transportation Management System





About Aptean

Aptean is a global provider of industry-specific software that helps manufacturers and distributors effectively run and grow their businesses. Aptean's solutions and services help businesses of all sizes to be Ready for What's Next, Now®. Aptean is headquartered in Alpharetta, Georgia and has offices in North America, Europe and Asia-Pacific.

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About The Research

The insights in this report are from original industry research conducted by Aptean and B2B International in August 2024. B2B International is a global, full-service market research firm, specializing in researching B2B markets. Statistics included in charts and cited in text have been rounded.

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