Alithya 2026

Manufacturing Trends and Analysis Report

Industry Advancements and Challenges:

Success prompts optimism, despite ongoing risks and obstacles



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Introduction

Manufacturers are entering a decisive phase of digital transformation where automation, data intelligence, and AI-enabled production models are rapidly becoming core operational strategies. The 2026 Alithya Manufacturing Trends and Analysis report uncovers how organizations are prioritizing new technologies, modernizing production environments, and preparing workforces for a digitally empowered future. The results highlight a sector focused on scaling proven capabilities, strengthening operational resilience, and driving measurable value realization from data-driven systems and AI-powered automation.

About the report

This report is based on a survey conducted across North America with more than 150 respondents representing a range of manufacturing subsectors and operational maturity profiles. Participants completed a structured assessment spanning business priorities, technology and automation strategy, digital and AI maturity, operational and workforce modernization, and barriers to scaling. The results provide a meaningful snapshot of manufacturing leaders' current outlook and readiness for the next three years.

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Top takeaways



Manufacturers are optimistic about their ability to adapt, yet clear obstacles remain.

Leaders cite capital costs, legacy system constraints, and workforce skill gaps as their most significant barriers.

Future-ready skills

including artificial intelligence and machine learning (AI/ML), cybersecurity, and advanced data analytics, are emerging as top workforce needs, signaling a sector preparing for a more technologically intensive operating environment.

The **ISM Manufacturing PMI index**, which tracks five core components: new orders, output/production, employment, supplier delivery times, and inventories, has been mostly **below 50% for the past two years**, indicating a shrinking sector and continuing challenges for manufacturers. Despite this, those responding to our survey are optimistic that

new technological advancements will allow opportunities for real impact on their business.

AI disruption and cybersecurity risks

are seen as the most underestimated forces shaping the industry's near-term future.

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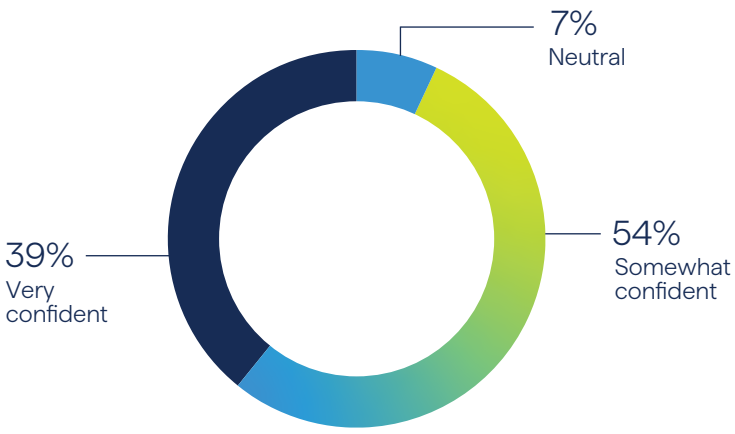
1 How confident are you in your organization's ability to adapt to market changes?



Summary of results

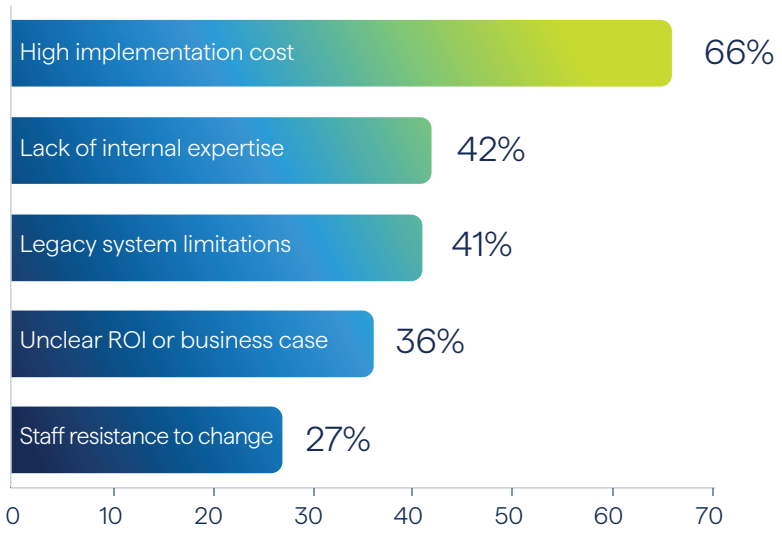
More than half of respondents report being somewhat confident in their organization's ability to adapt to market changes (54%), while 39% indicate they are very confident, suggesting strong overall self-perceived readiness and resilience across organizations. A smaller portion of respondents (7%) report a neutral stance. Overall, the results suggest that organizations largely feel prepared to respond to market shifts, with confidence levels skewing toward moderate to high rather than polarized extremes.

Industry analysis

Related research highlights that market adaptability increasingly hinges on digital maturity, data agility, and responsive operating models. Deloitte's 2025 Manufacturing Industry Outlook[1] finds that only 48% of manufacturers believe their operating model is agile enough to respond rapidly to market change, noting a lack of measured operational agility. Together, these reports suggest manufacturers believe they can adapt, but many have not yet fully built the operational, data, or talent foundations needed to do so rapidly and reliably.

2 What barriers are you facing in adopting advanced manufacturing technologies?

(Respondents were asked to select all that apply.)



Summary of results

Manufacturers face a multidimensional set of barriers to adopting advanced technologies, led by financial constraints, legacy system challenges, and workforce skill gaps. These barriers indicate that digital transformation in manufacturing is not simply a technological shift, but a structural and organizational one requiring sustained investment, modernization, and cultural change. The fact that 65.4% chose high implementation costs as the foremost barrier reflects the reality that while manufacturers want the benefits of advanced technologies, they face financial barriers that slow or prevent adoption.

Alithya's manufacturing experts agree that while clients do frequently express concerns about costs, further discussion often reveals that cost concerns go hand-in-hand with an unclear ROI, selected by 36% of respondents. Where there is clear business value, companies are willing to invest to achieve those goals.

Lack of internal expertise (42%), followed closely by legacy system limitations (41%) ranked as the second and third highest barriers creating integration challenges. Resistance to change (27%), while less common, remains a relevant factor.

Industry analysis

Skill shortages, or lack of internal expertise, identified by 42% of respondents, aligns with global reports indicating widespread capability gaps. The World Economic Forum[2] report notes that 74% of manufacturing companies report "acute" skill shortages when deploying new technologies. These constraints highlight the structural and competency-related barriers slowing transformation.

3 What is one disruptive force you feel the industry is underestimating?



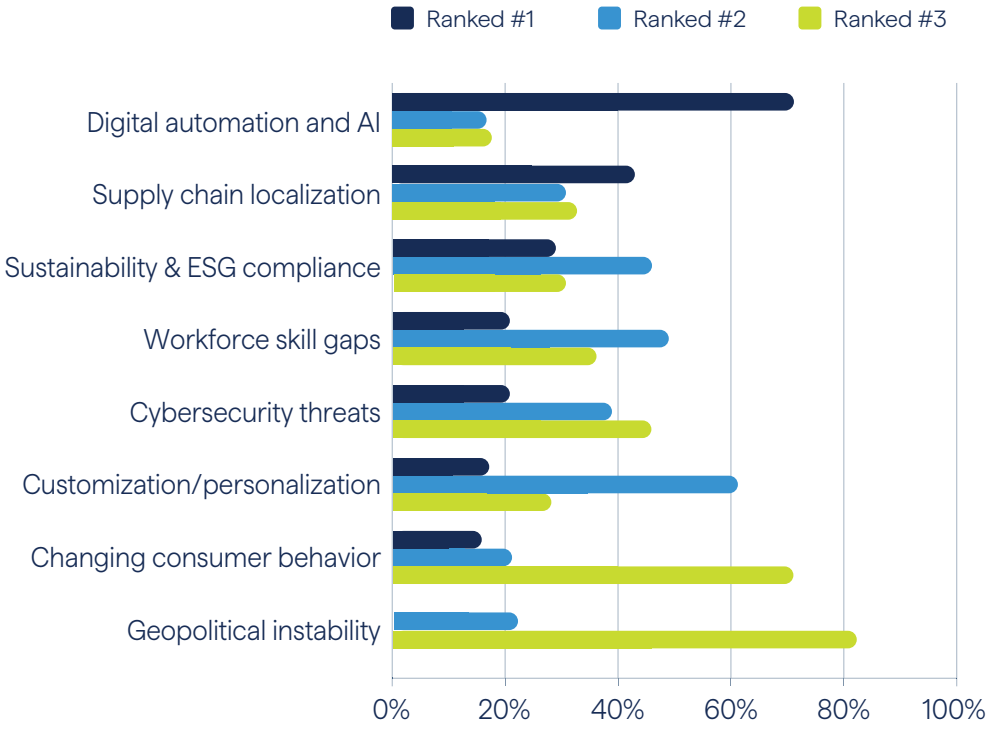
Summary of results

Many respondents believe that the most underestimated disruptive forces in manufacturing are AI disruption (38.0%) and cybersecurity threats (36.7%). These two categories combine for nearly three-quarters of responses, indicating a strong consensus that the industry may be ill-prepared for the scale or speed of these challenges. Environmental regulation (9.5%) and geopolitical instability (8.9%) also appear, but at much lower levels. Shifting consumer behavior (6.3%) is the least cited, suggesting many industry leaders may view demand disruption as less of a near-term threat. Overall, the data suggests manufacturers are most concerned about the underestimation of digital and risk-based forces.

Industry analysis

The World Economic Forum[3] highlights that manufacturers are deploying AI agents at scale, yet many lack mature governance and risk-management frameworks, which increases vulnerability to unintended consequences. Simultaneously, IBM's X-Force 2025 Threat Intelligence Index[4] confirms that manufacturing has been the most-targeted sector for cyberattacks..

4 Which strategic priorities or trends will most shape your business in the next three years?



Summary of results

The results show a strong emphasis on technology-led operational transformation, with digital automation and AI being overwhelmingly ranked first by 69% of respondents, far ahead of any other priority. Areas such as supply chain localization and sustainability/ESG receive modest first-rank focus but high second- and third-rank representation, suggesting they are important but less urgent. Capabilities tied to personalization and workforce development cluster in Rank 2, indicating organizations view them as enablers of future value rather than immediate priorities. Meanwhile, cybersecurity is broadly distributed across ranks, reflecting ongoing concern but not the same urgency as automation. Finally, geopolitical instability and changing consumer behavior are mainly ranked third, showing that external risks are recognized but not driving near-term strategy.



Summary of results

As Alithya's manufacturing experts observe, digital modernization, when implemented with strategic alignment and effective process integration, often results in measurable improvements in customer experience. As an example, manufacturers that adopt modern Contact Center as a Service (CCaaS) platforms may do so with the idea of reducing costs but have also reported improvements in customer satisfaction, attributable to faster response times and more consistent service delivery.

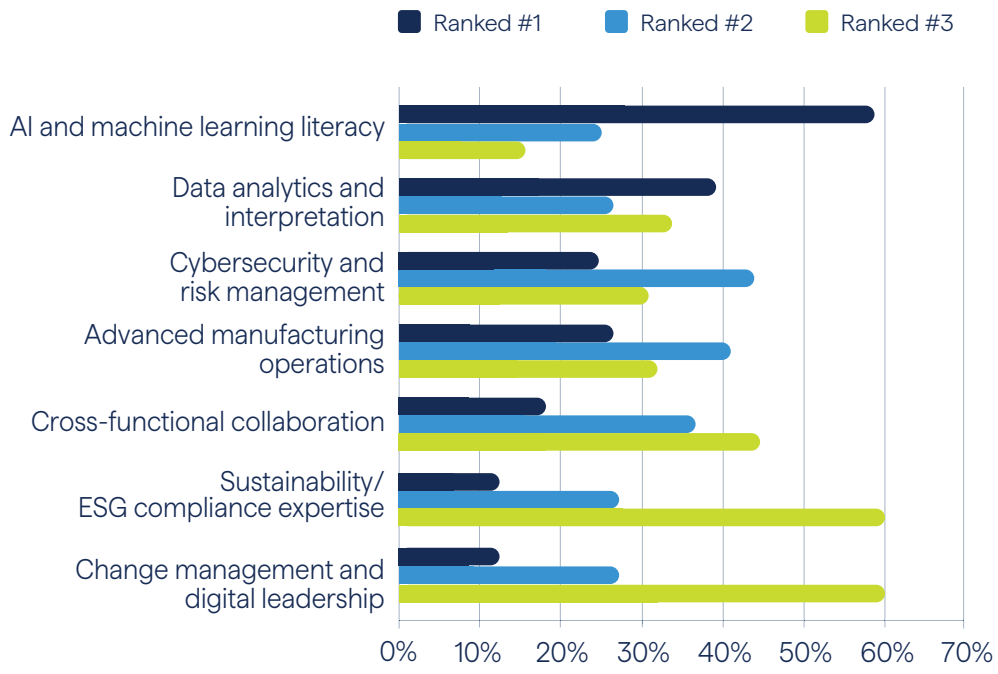
In addition, modern CCaaS can generate incremental revenue opportunities. Digital agents (such as AI chatbots) can be configured to identify upsell or cross-sell opportunities during customer interactions. Live agents can be trained to leverage contextual insights from digital systems, transforming service interactions into sales opportunities. For example, a credit or coupon offered as compensation for any service issue often leads to a new purchase beyond the value of the coupon. This holds true in both the B2B and B2C world, where customer experience and loyalty are important drivers of repeat revenue.

Industry analysis

According to the World Economic Forum[5], more than 70% of industrial firms now rank digitalization as a top three strategic initiative. Firms integrating sustainability into their operations see a production cost reduction of up to 10–12% within one to two years. Manufacturers are driving digital and sustainable transformation to secure competitiveness, while also placing increasing emphasis on supply-chain flexibility and workforce readiness.

5 Which workforce skills do you think will be most critical to manufacturing within the next three years?

(Respondents were asked to select all that apply.)



Summary of results

This chart shows how manufacturers prioritize the workforce skills they believe will be most critical over the next three years. Respondents who selected each skill ranked its importance from first to third, and the chart reflects the distribution of those rankings within each skill area.

AI and machine learning literacy and data analytics stand out as the highest-priority capabilities, receiving the strongest share of first-rank selections. Skills in advanced manufacturing operations and cybersecurity show a more balanced mix of rankings, indicating broad importance but slightly less urgency.

In contrast, skills such as change management, cross-functional collaboration, and sustainability/ESG expertise are more frequently ranked third, suggesting manufacturers view them as longer-term enablers rather than immediate gaps.

Overall, the chart highlights a clear focus on technical and analytical fluency as manufacturers advance deeper into AI and data-driven operations.

Alithya's manufacturing experts also noted that while AI and machine learning literacy are critical future workforce skills, they are not sufficient on their own. The greatest value is realized when these technical capabilities are combined with a strong understanding of the business, specifically how the organization differentiates itself in the marketplace and how day-to-day decisions affect cost, service, and profitability.

Employees must be able to apply AI and data insights within a business context. For example, if an employee notices a mess on the shop floor, the response should go beyond simply reporting it for cleanup. They should be equipped to ask deeper questions: What caused the issue? What processes or materials are impacted? Could this disrupt raw material availability, trigger rush reorders, lead to expedited shipping, or require overtime to meet customer deadlines?

Without this broader business awareness, small operational issues can quickly cascade into higher costs, reduced margins, and missed profitability targets. Understanding the business enables employees to ask the right questions, interpret AI-driven insights correctly, and take actions that support both operational efficiency and financial performance. In this sense, AI literacy delivers its true value only when paired with strong business knowledge and critical thinking.

Industry analysis

Recent global research reinforces the survey's findings. Updated insight from the World Economic Forum[6] shows that digital acceleration is reshaping workforce requirements: 39% of today's skill sets are expected to become outdated by 2030, and 70% of employers now identify analytical thinking as a top skill need. Demands for AI and big-data capabilities continue to rise sharply. At the same time, 63% of employers cite skill gaps as a major barrier to business transformation, and 85% plan to prioritize workforce upskilling, with an estimated 59 out of every 100 workers requiring training by 2030. These findings validate the survey's signal: manufacturers must rapidly advance both digital and workforce capabilities to keep pace with accelerating technological and operational disruption.

Key Insights:

The manufacturing sector is confident yet realistic about the pressures ahead. Structural barriers, including costs, legacy systems, and skill shortages, persist. There is a strong sense that AI and cybersecurity risks remain underestimated. Workforce expectations echo these concerns, with leaders identifying AI/ML literacy and data analytics as the most critical capabilities for future competitiveness. While sustainability and ESG compliance expertise ranked near the bottom of the critical skills chart, respondents ranked sustainability and ESG integration as a high strategic priority over the next three years. This may indicate a perception that ESG skills are easier to outsource or integrate later or indicate prioritization of technical skills over regulatory expertise. Together, these findings portray an industry that sees opportunity for transformation but remains grounded in the challenges it must overcome.

Conclusion:

The survey results reveal a manufacturing sector that is aligned in its commitment to digital transformation yet still working through the structural and operational challenges of scaling advanced capabilities. While organizations are investing heavily in automation, AI, cloud, and analytics, realizing the full value of these technologies will require sustained focus on workforce skill development, data readiness, legacy-system modernization, and cross-enterprise integration. As manufacturers move beyond pilot successes toward broader deployment, their ability to strengthen these foundational enablers will determine the pace and impact of transformation in the years ahead.

Connect with our manufacturing transformation team to explore your next-stage roadmap.

Contact us

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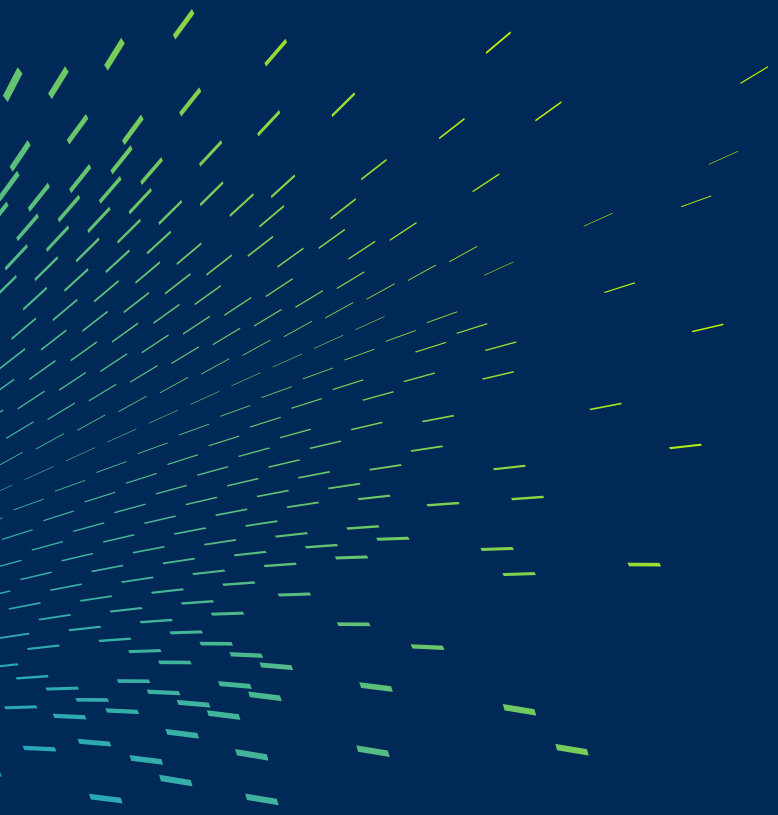

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Manufacturing Trends and Analysis Report

Digital Transformation and AI Maturity— Strategic scaling for ROI



Introduction

Manufacturers are entering a new phase of digital transformation—one defined not by experimentation, but by measurable progress in scaling advanced technologies across the enterprise. Part Two of the 2026 Alithya Manufacturing Trends & Analysis Report examines how far organizations have advanced in their digital journey and how they are deploying technologies such as AI, machine learning, IoT, robotics, digital twins, and modernized ERP systems to drive operational value.

About the report

The 2026 Alithya Manufacturing Trends and Analysis report is based on a survey conducted across North America with 158 respondents representing a range of manufacturing subsectors and operational maturity profiles. Participants completed a structured assessment spanning business priorities, technology and automation strategy, digital and AI maturity, operational and workforce modernization, and barriers to scaling. The results offer directional insights into the current outlook of manufacturing leaders, as well as their perceived readiness for the next three years.

The report is being released in three parts. Part One, which focuses on industry advancements and challenges, was published in January 2026. Download a copy of Part One here..

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Key insights

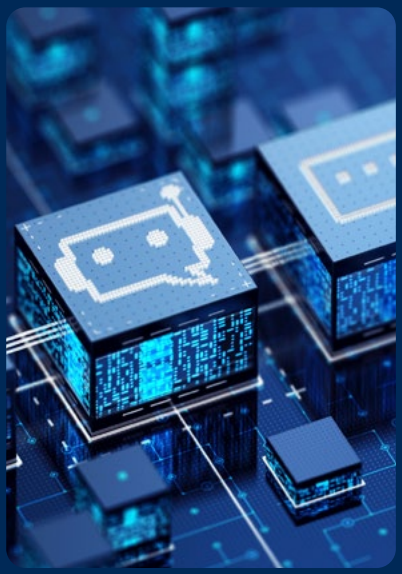
Digital Transformation and AI Maturity

1

Among surveyed organizations, digital transformation has largely progressed beyond the pilot phase. A majority of manufacturers surveyed are scaling or fully integrating digital and AI initiatives, focusing deployment where the impact is most immediate—maintenance, quality control, supply-chain optimization, and robotics.

2

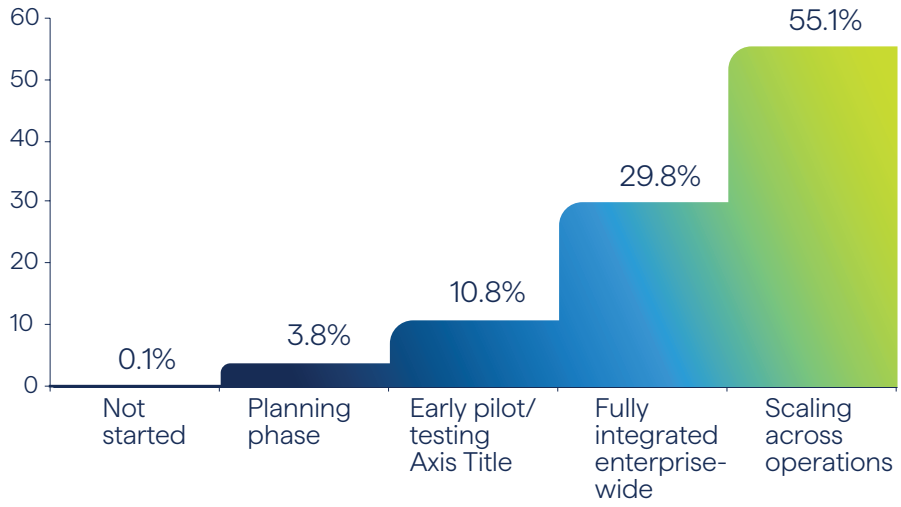
Investment plans center on automation, analytics, cloud platforms, and artificial intelligence and machine learning (AI/ML), while integration approaches favor embedding AI into existing systems or running it alongside legacy environments.



3

Cybersecurity concerns remain prominent, as organizations work to scale and govern these capabilities responsibly.

1 Where is your organization in its digital transformation journey?



Summary of results

55.1% of respondents say their organization is scaling digital transformation across operations, showing a significant shift toward enterprise-level implementation of technologies such as AI, IoT, robotics, and ERP modernization. 29.7% report that transformation is fully integrated enterprise-wide, while 10.8% are still in early pilot or testing stages. The data signals a manufacturing sector that is maturing rapidly in digital capabilities and is largely moving beyond experimentation into scalable, enterprise-wide digital transformation.

However, Alithya consultants who work with manufacturing companies daily point out that broader industry adoption remains uneven, and that "digital investments" and "AI" are not the same thing. Many organizations are still evaluating both and taking a cautious, value-driven approach. They are accelerating investment in digital transformation but remaining more cautious about AI investments. Manufacturers exist along a wide maturity continuum—from early adopters scaling AI to those focused on foundational modernization such as ERP and data readiness. Alithya experts point out that while individual AI tools can improve efficiency, truly transformative changes occur when AI and business applications work together at scale.

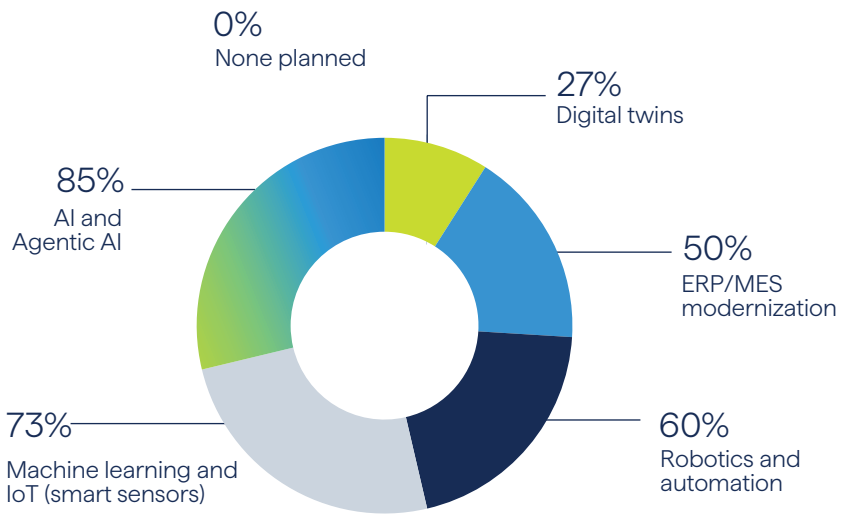
Industry analysis

The survey results align with industry evidence that digital-transformation efforts in manufacturing often deliver substantial gains even as scaling remains difficult. For example, Deloitte's 2025 Smart Manufacturing and Operations Survey[1] shows that 78% of manufacturers are allocating more than 20% of their improvement budget toward smart-manufacturing initiatives that include automation, data analytics, sensors, cloud, and AI. Within the next two years, many firms plan priority investments in process automation, physical automation, and factory synchronization (e.g., systems that coordinate production flow across lines or sites).

The evidence reinforces core takeaways from the survey: manufacturers are investing heavily in digital and smart-manufacturing tools that can yield measurable performance improvements. Many firms have begun their transformation journey; yet fully capturing value at scale still requires overcoming structural, technical, and talent-related barriers. Capturing value at scale remains inconsistent and highly dependent on data readiness, integration maturity, the ability to demonstrate measurable ROI and perhaps most importantly, security readiness.

Alithya experts emphasize that real business transformation with AI happens when it's scaled across the enterprise, not just used by a few individuals. While AI agents can deliver clear productivity gains at the individual level, the biggest impact comes when organizations deploy them broadly across teams and functions. That's when companies start to see meaningful improvements in efficiency, decision-making, and overall business performance.

2 Which technologies are top priorities for your organization in 2026? (Respondents were asked to select all that apply.)



Summary of results

The data shows that manufacturers are prioritizing technologies that directly support operational efficiency, system integration, and data-driven decision-making. AI and Agentic AI (84.8%) lead by a significant margin, indicating strong interest in intelligent automation and AI-enabled operational support across manufacturing environments.

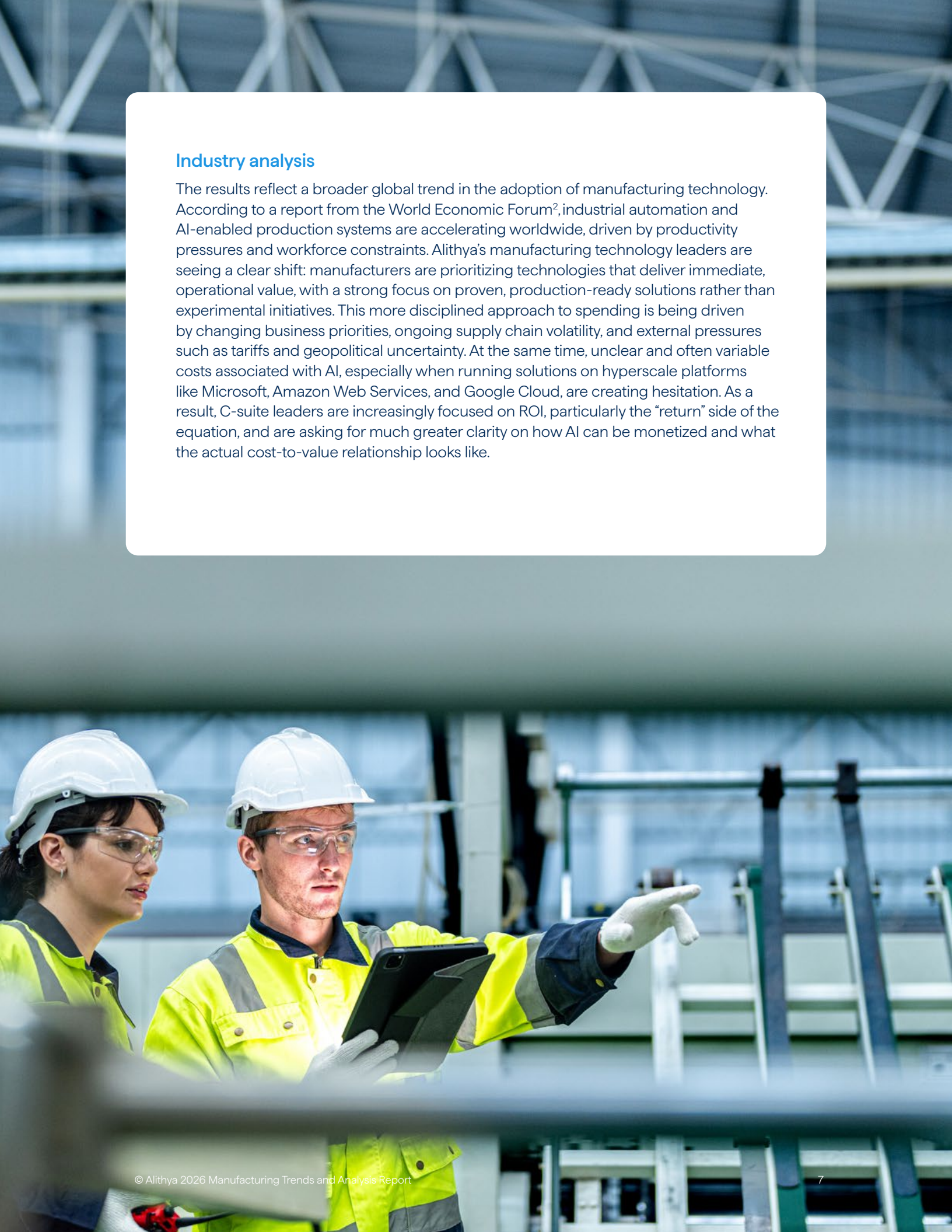
Machine learning and IoT (smart sensors) also rank highly (73.4%), reflecting continued investment in real-time data capture, monitoring, and analytics to support production optimization and predictive use cases. Robotics and automation (60.1%) remain a key focus area, reinforcing the sector's emphasis on throughput, safety, and labor efficiency.

ERP/MES modernization (50.0%) sits in the mid-tier, suggesting that many manufacturers are actively updating core operational systems to improve integration and enable more advanced digital capabilities. Digital twins (26.6%) show lower adoption, indicating that while strategically relevant, they are not yet a primary investment priority for most organizations.

Near-zero responses for unplanned initiatives (0.0%) and minimal key-in responses related to advanced cloud computing (0.6%) suggest that manufacturers are concentrating investment on established, production-ready technologies rather than speculative or experimental solutions.

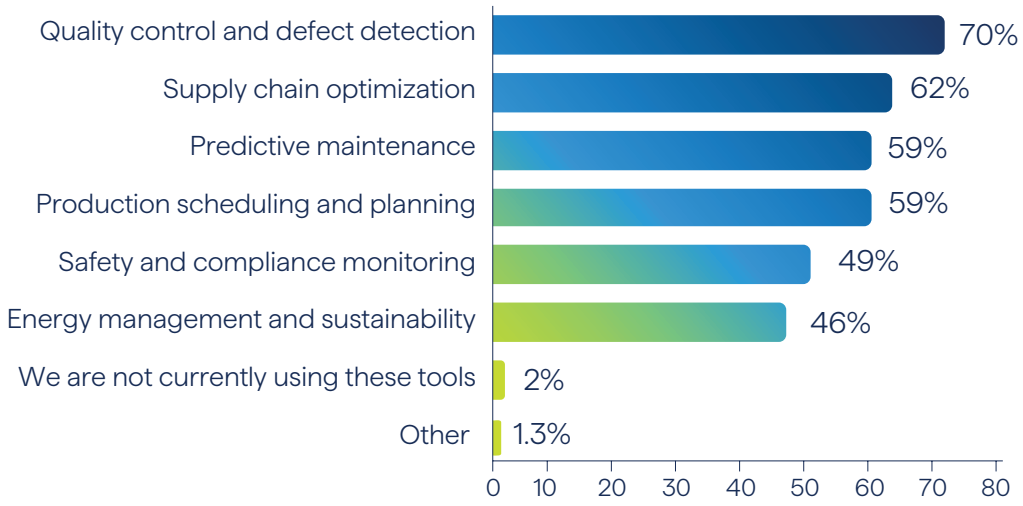
Industry analysis

The results reflect a broader global trend in the adoption of manufacturing technology. According to a report from the World Economic Forum[2], industrial automation and AI-enabled production systems are accelerating worldwide, driven by productivity pressures and workforce constraints. Alithya's manufacturing technology leaders are seeing a clear shift: manufacturers are prioritizing technologies that deliver immediate, operational value, with a strong focus on proven, production-ready solutions rather than experimental initiatives. This more disciplined approach to spending is being driven by changing business priorities, ongoing supply chain volatility, and external pressures such as tariffs and geopolitical uncertainty. At the same time, unclear and often variable costs associated with AI, especially when running solutions on hyperscale platforms like Microsoft, Amazon Web Services, and Google Cloud, are creating hesitation. As a result, C-suite leaders are increasingly focused on ROI, particularly the "return" side of the equation, and are asking for much greater clarity on how AI can be monetized and what the actual cost-to-value relationship looks like.



3 Where are you currently applying AI, automation, or predictive analytics?

(Respondents were asked to select all that apply.)



Summary of results

The survey indicates that the most common applications of AI, automation, and predictive analytics in manufacturing are concentrated in quality control and defect detection (70.3%), reflecting strong adoption of advanced analytics to improve product consistency and reduce defects. Supply chain optimization (62.0%) also ranks highly, highlighting the importance of AI-enabled visibility and coordination across manufacturing and logistics operations.

Predictive maintenance (58.9%) and production scheduling and planning (58.9%) show equal levels of adoption, underscoring a continued focus on minimizing downtime, improving asset utilization, and optimizing production efficiency. Nearly half of respondents also report using these technologies for safety and compliance monitoring (49.4%), indicating growing reliance on data-driven tools to support regulatory adherence and workplace safety.

Energy management and sustainability (45.6%) represent a secondary but notable area of application. Only a very small share of respondents report not currently using these tools (1.9%). The limited Other responses (1.3%) were related to customer service and customer-facing applications, indicating minimal adoption outside core manufacturing and operational functions.

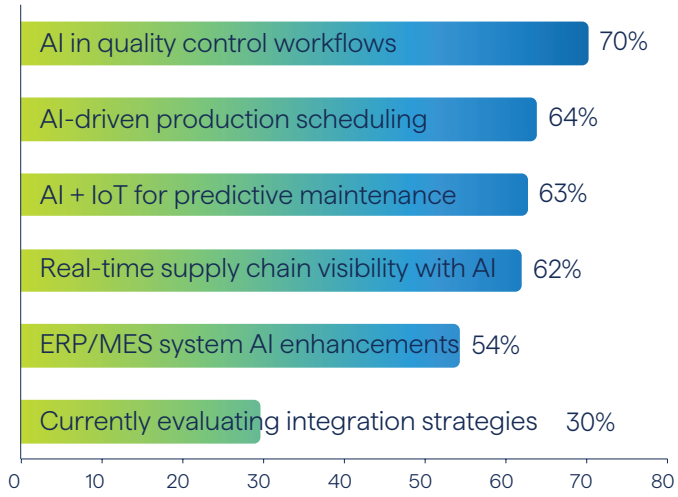
Overall, the results show that manufacturers are focusing AI and analytics on core, operations-driven use cases where ROI is clear and measurable. For example, AI

agents applied to quality management can quickly reduce defects and rework, leading to immediate improvements in yield, uptime, and cost savings—metrics that are easy to track and quantify. A second, highly visible example is in customer experience, where coordinated AI agents support contact center operations. By working together to handle inquiries, resolve issues faster, and provide more consistent responses, these agents drive noticeable gains in customer satisfaction and retention. The impact is straightforward to measure through reduced handling times, improved service levels, and higher customer lifetime value.

Industry analysis

Deloitte's research[3] shows that advanced analytics for quality control and defect detection deliver up to 40% reduction in scrap rates and up to 30% better yield, but only when machine-vision, AI models, and real-time data pipelines are extensively deployed. In the supply-chain domain, a working paper from Gartner[4] lines up with Alithya's results, stating that around 60% of manufacturing organizations plan to invest in supply-chain AI by 2026. However, according to the same report, only about 30% currently have live deployments. Manufacturers are most confident and experienced applying AI and analytics where operational value and immediacy are clear (maintenance, quality), while broader value-chain, strategic, and R&D applications are still in earlier phases of deployment.

4 How do you plan to integrate AI-driven tools with existing manufacturing systems in the future? (Respondents were asked to select all that apply.)



Summary of results

According to the survey, future technology integration plans align closely with what manufacturers are doing today. AI adoption in manufacturing is being driven by clearly defined operational priorities. The highest concentration of planned use is in quality control workflows (70.3%), where AI is being applied to improve inspection processes and defect detection.

Manufacturers also plan a wider adoption of AI to support production scheduling (63.9%), predictive maintenance through AI and IoT (62.7%), and real-time supply chain visibility (62.0%), highlighting the role of analytics in improving coordination, uptime, and responsiveness across manufacturing operations.

More than half of respondents (54.4%) report plans to extend ERP/MES platforms with AI capabilities, indicating a preference for enhancing existing systems rather than deploying isolated tools. At the same time, nearly a third of organizations (29.7%) are still assessing how best to integrate AI, suggesting that adoption maturity varies across the sector.

Taken together, the findings show that manufacturers are planning to apply AI where it can deliver immediate operational impact, with emphasis on quality, efficiency, and visibility across core production functions.

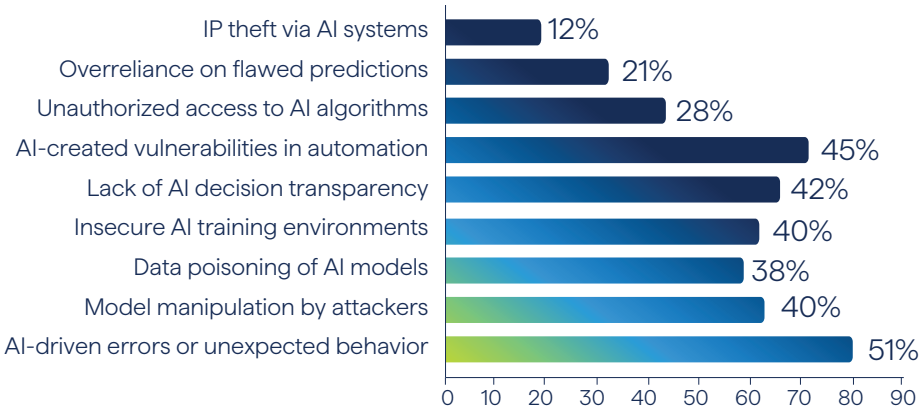
Industry analysis

Real-world data from a 2025 World Economic Forum[5] analysis shows that manufacturers deploying multiple, connected technologies at once (rather than stand-alone pilots) see median productivity gains of 18–40%, citing that maturity across several core processes is far more likely to scale successfully. However, the Deloitte "2026 Manufacturing Industry Outlook"[6] highlights that strategic AI adoption tends to follow pilot phases and is often executed by integrating new capabilities into established operational technology and information technology (OT/IT) stacks rather than embarking on full rip-and-replace projects. Manufacturers largely favor embedding AI tools within existing manufacturing systems and architectures, rather than undertaking disruptive full-system overhauls, reflecting a pragmatic, value-first approach.



5 What are your top cybersecurity concerns related to AI in connected manufacturing?

(Respondents were asked to select all that apply.)



Summary of results

The leading cybersecurity concern in AI-powered manufacturing environments is AI-driven errors or unexpected behavior (51.1%), underscoring anxiety about reliability and control. This is closely followed by vulnerabilities in automated systems introduced by AI (44.7%) and a lack of transparency in AI decision-making (42.4%), which may hinder accountability and trust. Other major concerns include model manipulation (40.3%) and insecure training environments (39.8%), reflecting risks in AI development and deployment pipelines. Collectively, the data highlights a complex threat surface where design, implementation, and access control all present risks.

Industry analysis

Verified reports affirm these concerns. According to IBM's X-Force 2025 Threat Intelligence Index[7], manufacturing remains the most-attacked industry, with attackers increasingly targeting AI-powered systems to exploit decision engines and automation dependencies. Manufacturers face critical exposure at the intersection of AI deployment and cybersecurity readiness.

What we're seeing in the AI space is rapid and ongoing change. Models are evolving quickly, and that pace isn't slowing down. Tools like Microsoft Copilot are essentially the user interface to AI, and today users can often choose between different underlying models, such as ChatGPT or Claude, depending on their needs. Staying aligned with these evolving models is important, but from a security standpoint, the models themselves aren't creating new risks; they're exposing gaps that already exist.

This is why end-to-end security is becoming more critical than ever. Strong governance and data controls need to be foundational, ensuring employees only access approved systems and share appropriate information. Ultimately, it's the responsibility of corporate IT to put robust security frameworks in place so that, regardless of which AI models are being used, sensitive data remains protected.

Key Insights:

1. The survey reveals a decisive move beyond experimentation, as manufacturers scale digital transformation across operations. **More than half of organizations (55.1%) are actively scaling initiatives, while another 29.7% report full integration**, leaving only a small minority in early-stage pilots or planning.
2. Adoption patterns show that AI and automation are being deployed where operational value is most immediate: quality control (70.3%), supply-chain optimization (62%), predictive maintenance (58.9%), and production scheduling ad planning (58.9%). These priorities mirror forward-looking investment plans, where quality control workflows (70.3%), AI-driven production scaling (63.9%), predictive maintenance (62.7%), and real-time supply chain visibility (62.0%) anchor 2026 roadmaps.
3. Cyber considerations loom large as companies scale these capabilities, with concerns centered on AI-driven errors (51.1%), AI-introduced vulnerabilities (44.7%), and opaque decision making (42.4%). Overall, manufacturers are advancing quickly but remain mindful of the complexity of scaling, integrating, and governing AI-enabled operations.
4. Alithya AI professionals emphasize that as the technology matures, many of the initial concerns around AI and digital automation are being addressed, leaving fewer reasons for organizations to hesitate. AI is now a practical, proven capability, and companies that fail to adopt and scale it risk falling behind competitors who are already using it to drive efficiency, innovation, and growth.

Conclusion:

The manufacturing sector is rapidly progressing in digital and AI maturity. Particularly among larger and more digitally mature organizations, manufacturers are scaling technologies beyond pilots. Sustained value will depend on disciplined execution, ROI validation, and the ability to scale transformation enterprise-wide.

At the same time, scaling AI introduces new challenges—particularly around data readiness, legacy-system constraints, and rising cybersecurity risks. The industry's next stage of progress will depend on its ability to integrate these technologies securely, consistently, and at enterprise scale. Overall, manufacturers are advancing quickly, but long-term value will hinge on disciplined execution and the capability to govern increasingly intelligent, connected operations.

Connect with our manufacturing transformation team to explore your next-stage roadmap.

Contact us

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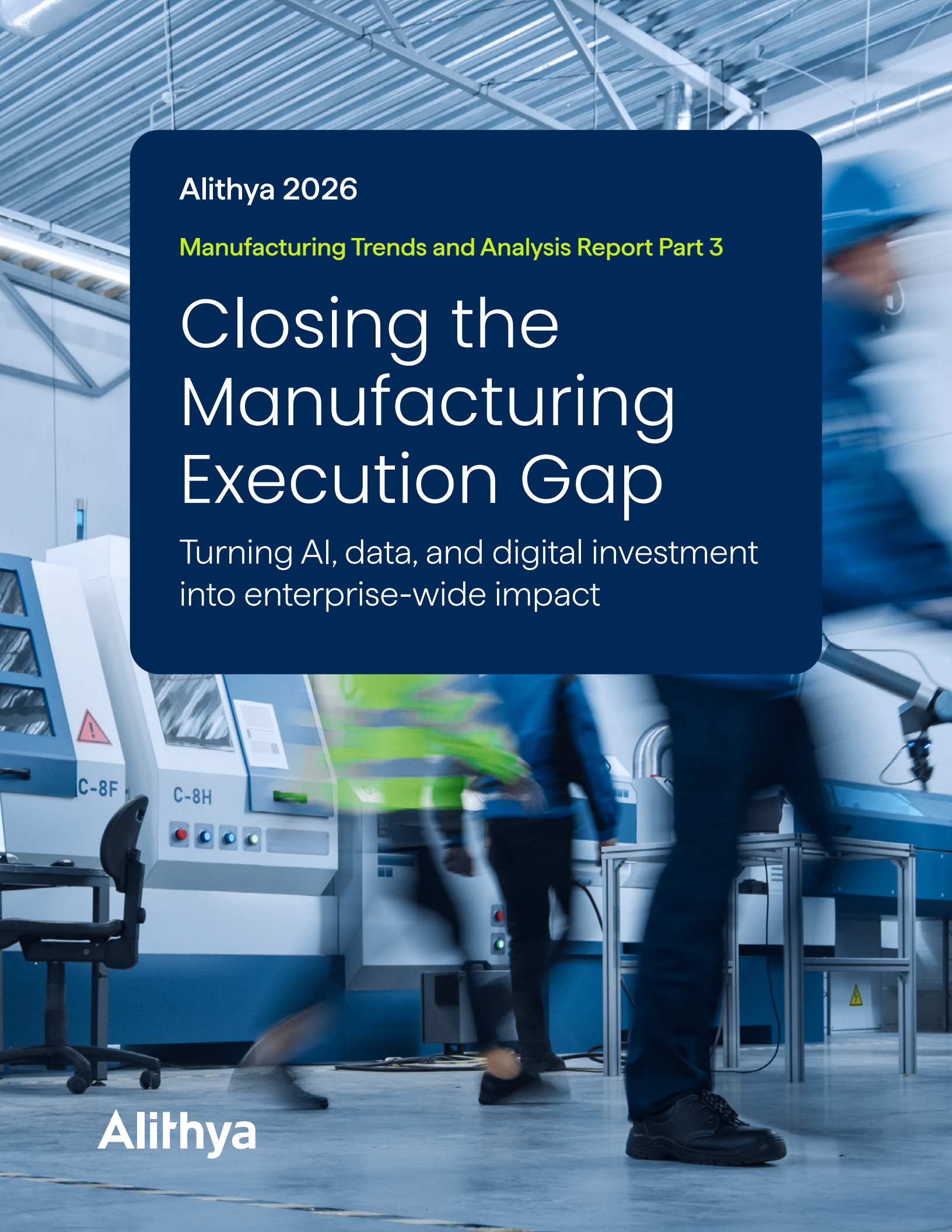

Alithya 2026

Manufacturing Trends and Analysis Report Part 3

Closing the Manufacturing Execution Gap

Turning AI, data, and digital investment into enterprise-wide impact

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Introduction

Manufacturers have made significant strides in digital transformation. Over the past several years, organizations have accelerated investments in data platforms, artificial intelligence, cybersecurity, and supply chain resilience in response to sustained disruption and increasing competitive pressure. Yet despite this progress, a critical challenge remains: **translating these investments into consistent, enterprise-wide operational impact**.

At Alithya, we see a growing disconnect across the manufacturing landscape—**a gap between digital ambition and operational execution**. While confidence in data infrastructure is high, cybersecurity capabilities are advancing, and AI adoption continues to expand, many organizations are still struggling to scale these capabilities beyond isolated initiatives. The issue is no longer whether manufacturers are investing in the right technologies. It is whether those technologies are being integrated into a cohesive operating model that drives measurable business outcomes.

Our 2026 Manufacturing Trends and Analysis Report highlights this divide. The data shows an industry actively investing in transformation yet often doing so in a fragmented way, where supply chain strategies, data initiatives, and technology platforms evolve independently rather than as part of a unified strategy. The result is incremental progress, not transformational change.

We believe the next phase of manufacturing will be defined by the ability to operationalize digital capabilities at scale. Organizations that succeed will move beyond modernization as a series of projects and instead align data, processes, and intelligence into an integrated, enterprise-wide model. Those who do not risk falling into a cycle of continued investment without proportional return.

As manufacturers move from adopting digital technologies to scaling them across the enterprise, the next challenge is achieving sustained operational and strategic impact. Parts One and Two of this report highlighted the industry's rapid progress in automation, AI, and data-driven capabilities. Part Three focuses on what it takes to turn that momentum into long-term value by strengthening workforce readiness, modernizing underlying systems, and establishing the governance, security, and operating models needed to support intelligent, connected manufacturing at scale.

This final installment focuses on the operating foundations manufacturers need to extend digital transformation across the enterprise: resilient supply chains, competitive data infrastructure, cybersecurity readiness, platform strategy, and priority technology investments. Together, these findings show that many manufacturers feel confident in their current capabilities, but the next stage of value creation will depend on connecting those capabilities into a governed, secure, and scalable operating model.

About the survey

The 2026 Alithya Manufacturing Trends and Analysis report is based on a survey conducted across North America with 158 respondents representing a range of manufacturing subsectors and operational maturity profiles. Participants completed a structured assessment spanning business priorities, technology and automation strategy, digital and AI maturity, operational and workforce modernization, and barriers to scaling. The results provide a useful snapshot of manufacturing leaders' current outlook and readiness for the next three years.

The report has been released in three parts. Part One, which focuses on industry advancements and challenges, can be downloaded here. Part Two, which focuses on digital transformation and AI maturity, can be downloaded here. Together, those earlier installments establish the context for Part Three's focus on operational readiness, platform strategy, and sustained execution.

We believe the next phase of manufacturing will be defined by the ability to operationalize digital capabilities at scale.



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Top takeaways

The Execution Gap

Across every dimension - supply chain, data, cybersecurity, and AI - the same pattern emerges: manufacturers are investing broadly, but often in disconnected ways. The result is a growing gap between digital capability and operational execution. Closing this gap will define the next generation of industry leaders.

Operational Status and Strategies

Operational confidence is strong, with manufacturers reporting positive assessments of data infrastructure and cybersecurity readiness. However, evolving cyber and AI-related risks indicate that foundational systems will require continued investment, governance, and reinforcement as operations become more connected.



Supply Chain Resilience

Supply chain preparedness varies across organizations, but most are actively building resilience through supplier diversification, predictive analytics, inventory strategies, visibility tools, and supplier contingency planning. The overall picture is one of organizations reinforcing core operational systems, as they prepare for more connected and data-driven operations.

Vendor Ecosystem

Technology strategies increasingly rely on multi-vendor ecosystems spanning ERP, cloud, and analytics platforms, while long-term investment priorities remain focused on automation, analytics, cloud computing, and AI/ML.

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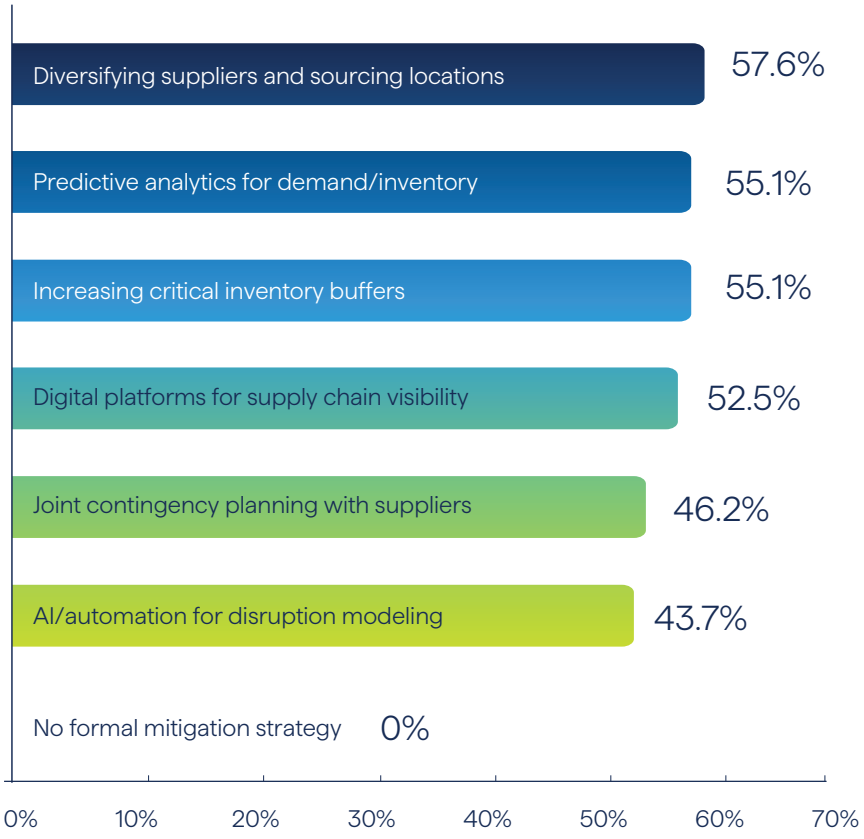
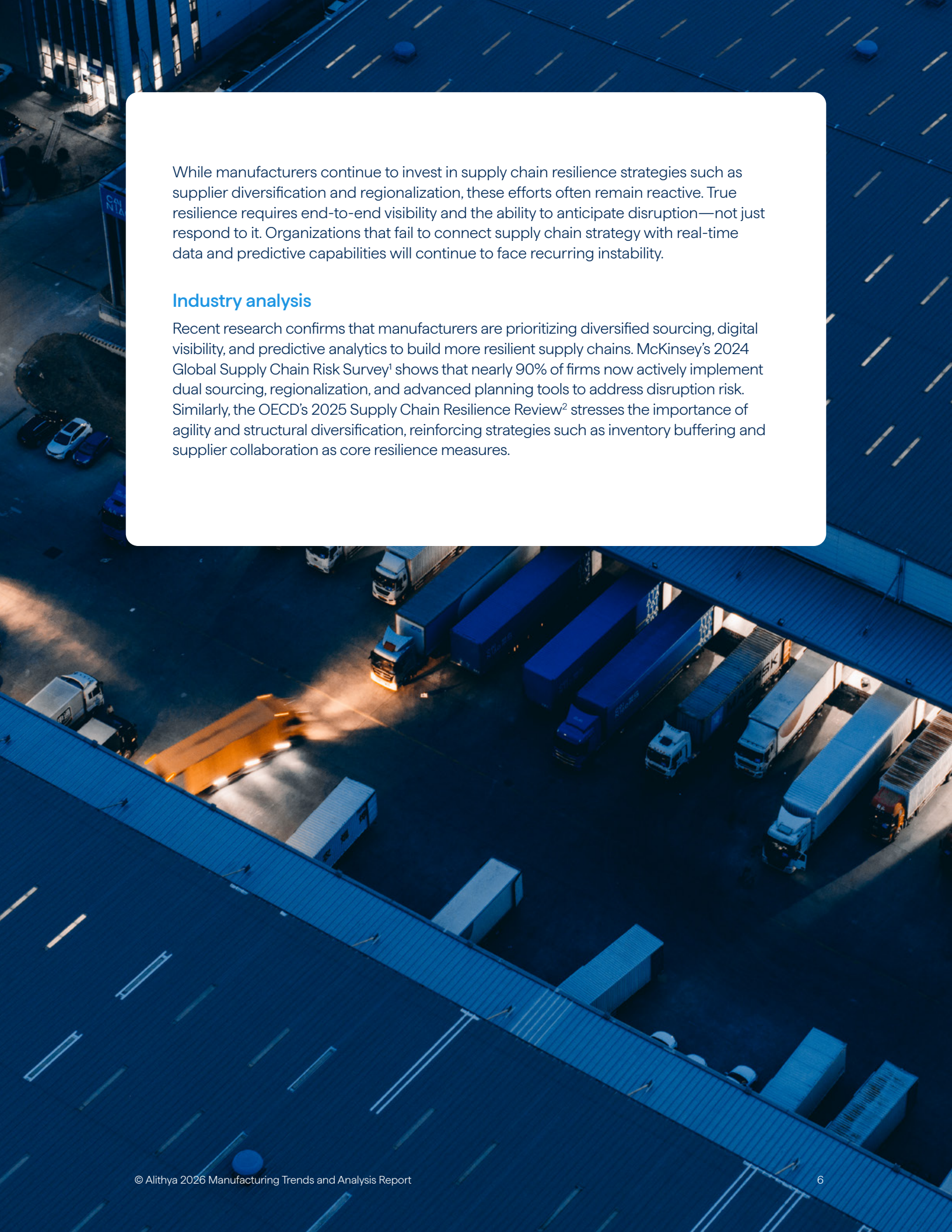
1 How is your organization preparing for supply chain disruptions? (Select all that apply)



Summary of results

Survey results reveal that manufacturers are deploying a wide range of strategies to prepare for supply chain disruptions. The most common response, selected by 57.6% of participants, is diversifying suppliers and sourcing locations, followed closely by predictive analytics and inventory buffering (both at 55.1%). Digital visibility tools and contingency planning with suppliers also feature prominently. Notably, AI and automation for disruption modeling are used by 43.7%, reflecting increasing digital maturity. Only 0.6% report having no formal strategy, suggesting that nearly all organizations are taking active steps to mitigate supply chain risk.



While manufacturers continue to invest in supply chain resilience strategies such as supplier diversification and regionalization, these efforts often remain reactive. True resilience requires end-to-end visibility and the ability to anticipate disruption—not just respond to it. Organizations that fail to connect supply chain strategy with real-time data and predictive capabilities will continue to face recurring instability.

Industry analysis

Recent research confirms that manufacturers are prioritizing diversified sourcing, digital visibility, and predictive analytics to build more resilient supply chains. McKinsey's 2024 Global Supply Chain Risk Survey[1] shows that nearly 90% of firms now actively implement dual sourcing, regionalization, and advanced planning tools to address disruption risk. Similarly, the OECD's 2025 Supply Chain Resilience Review[2] stresses the importance of agility and structural diversification, reinforcing strategies such as inventory buffering and supplier collaboration as core resilience measures.

2 How confident are you that your current data infrastructure supports competitiveness?



Summary of results

Manufacturers express a strong degree of confidence in their data infrastructure, with 86.7% of respondents reporting that they are either very confident (39.9%) or confident (46.8%) that their current data environment supports competitiveness. This points to a generally mature baseline, where most organizations believe their data foundations are sufficient to enable performance and growth. At the same time, 13.3% describe themselves as only somewhat confident, suggesting that while outright concern is minimal, a meaningful subset of manufacturers still face constraints that may hinder scalability, advanced analytics, or long-term competitiveness.

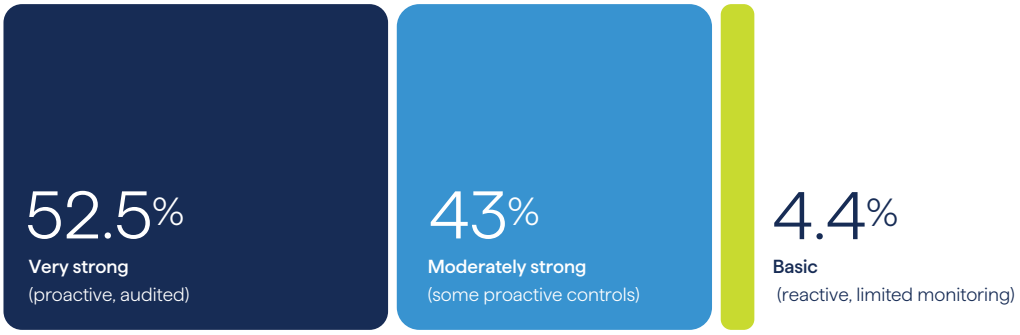
Despite high confidence in data infrastructure, many manufacturers are still operating with fragmented data environments. In practice, this confidence often reflects localized improvements rather than enterprise-wide integration. Without a unified data foundation, organizations will struggle to scale AI and advanced analytics beyond isolated use cases.

Industry analysis

Recent industry data confirms that manufacturers achieve the greatest gains when they move beyond isolated pilots and scale connected technologies enterprise-wide. According to the World Economic Forum 2025[3] analysis of over 1,000 real-world industrial transformations, firms combining AI, IoT, and automation outperform peers in productivity and operational resilience.

Many organizations report confidence in their data infrastructure, but real competitive value comes when that confidence is translated into optimized workflows and tightly integrated systems. The implication is clear: data readiness is not just an IT benchmark; it is a prerequisite for scalable, AI-enabled operations.

3 How would you rate your current cybersecurity readiness?



Summary of results

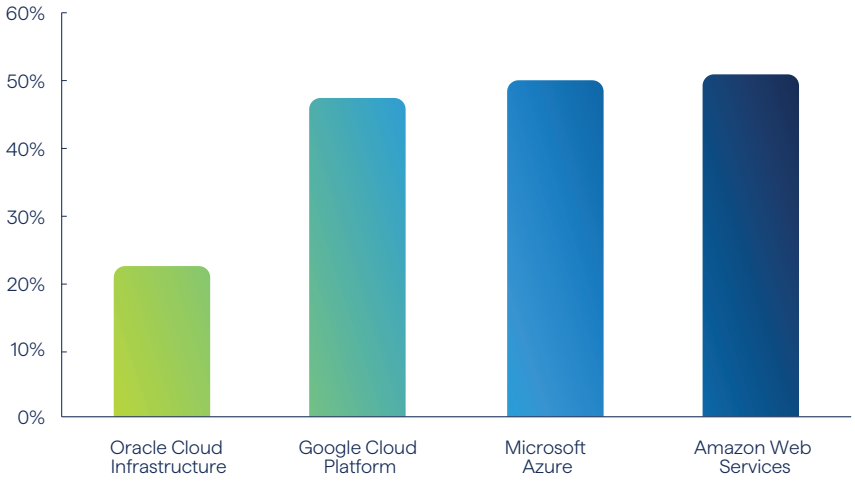
Over half (52.5%) of manufacturers report having a "very strong" cybersecurity posture, characterized by proactive measures and regular audits. A significant portion (43.0%) indicates they have "moderately strong" programs with some proactive controls in place. Only a small minority (4.4%) still operates with a basic, reactive security stance. These findings suggest that most manufacturers recognize the growing threat landscape and have moved toward more structured, forward-looking cybersecurity strategies.

Manufacturers are making meaningful progress in strengthening cybersecurity postures; however, many still treat cybersecurity as a technical function rather than an operational risk. As digital and physical systems become increasingly interconnected, cybersecurity must be embedded into core business operations to avoid becoming a critical point of failure.

Industry analysis

The survey findings align closely with industry-wide concern and investment in cybersecurity exposure in manufacturing. According to IBM's 2024 Cost of a Data Breach[4] report, the average cost of a data breach in the manufacturing sector reached $4.47 million, underscoring the importance of proactive cyber controls, regular audits, and incident-response readiness. The World Economic Forum[5] also stresses that, as manufacturers digitize and connect operations, cyber risks will intensify, placing security maturity at the center of Industry 4.0 resilience planning. In short, the data validates an industry-wide shift: most manufacturers are no longer reactive but are instead embedding cybersecurity as a critical business function.

4 Which cloud infrastructure platforms will play a key role in your manufacturing operations by 2026? (Select all that apply)



Summary of results

The cloud infrastructure results offer a clear signal. Amazon Web Services (50.6%), Microsoft Azure (50.0%), Google Cloud Platform (47.5%), and Oracle Cloud Infrastructure (22.2%) all appear in the data, indicating that manufacturers are preparing for a multi-cloud environment rather than a single-platform future. The relatively close results among AWS, Azure, and Google Cloud Platform suggest that manufacturers are relying on a mix of hyperscale providers to support analytics, AI, data integration, and operational modernization.

Alithya experts point out that Microsoft and Amazon have been the early leaders in scaling cloud infrastructures, while Oracle has been a fast follower, experiencing significant growth in the past year.

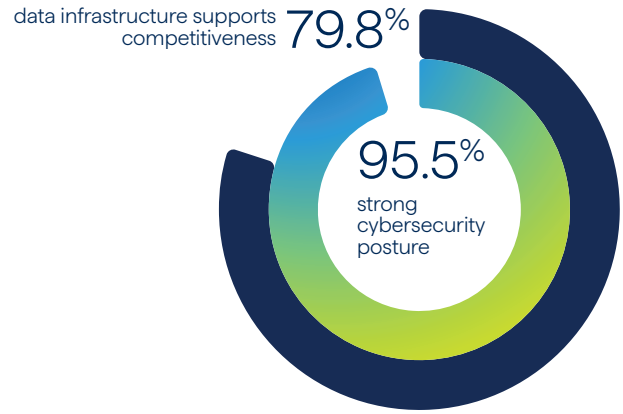
Overall, the data suggests a future landscape defined less by a single dominant vendor and more by multi-cloud, multi-platform strategies. Manufacturers appear to be prioritizing technology ecosystems that can integrate with existing operational environments, support data-driven decision-making, and provide the infrastructure needed to scale AI, analytics, and connected manufacturing capabilities.

Industry analysis

The survey findings are in line with recent industrial-technology research. Deloitte's 2025 Smart Manufacturing Survey[6] highlights that digitally mature manufacturers are embracing multi-vendor ecosystems, often combining cloud providers with enterprise software platforms to support automation, analytics, and agile operations.

Key Insights:

1. Operationally, manufacturers express strong confidence in their readiness while acknowledging areas are still in development. Nearly four in five (79.8%) report that their current data infrastructure supports competitiveness, and 95.5% describe their cybersecurity posture as strong or moderately strong. Yet, concerns about AI-related risks (as highlighted in Part 2 of this report) signal that this foundation will need to evolve as digital operations expand.



2. Supply chain preparedness shows greater variability, with responses split across proactive planning, partial readiness, and ongoing work to build resilience. Technology strategy is increasingly ecosystem-driven. Respondents expect cloud infrastructure platforms such as Microsoft Azure, Oracle Cloud, Amazon Web Services, and Google Cloud to play key roles in their operations.

3. The picture that emerges is one of organizations strengthening foundational systems while preparing for more interconnected, data-heavy, and digitally orchestrated operations.

Conclusion:

Manufacturers are entering a critical phase of transformation. The industry has moved beyond the question of whether to invest in digital capabilities. Today, the focus is on how to translate those investments into sustained operational and strategic value.

The findings from this report highlight a consistent theme: while progress is being made across supply chain resilience, data infrastructure, cybersecurity, and AI adoption, these efforts are often fragmented. Organizations are building capabilities but not always integrating them in a way that enables scale. This disconnect represents the defining challenge facing the manufacturing sector today.

At Alithya, we believe the next wave of industry leaders will be distinguished not by the breadth of their technology investments, but by their ability to operationalize those investments within a unified, intelligence-driven model. This means aligning data, systems, and processes to deliver real-time visibility, predictive insight, and coordinated execution across the enterprise.

Organizations that succeed will move beyond incremental improvements and unlock measurable gains in efficiency, resilience, and innovation. Those that do not risk remaining in a cycle of continuous investment without proportional return.

The path forward is clear: transformation must shift from isolated initiatives to integrated execution.

Alithya partners with manufacturing organizations to help close this gap, bringing together strategy, technology, and operational expertise to enable scalable, end-to-end transformation.

Because in today's manufacturing environment, adopting technology is no longer enough. **The ability to execute consistently and at scale is what defines leadership.**

Manufacturers are moving beyond adoption and focusing on the capabilities required to sustain digital and AI-driven transformation enterprise-wide. Success now depends on strengthening data foundations, modernizing legacy systems, upskilling the workforce, establishing mature cybersecurity frameworks, and connecting governance models to technology investment to measure operational value. As AI and automation become core to competitiveness, manufacturers that integrate these elements into a cohesive, future-ready operating model will be best positioned to lead the next era of intelligent manufacturing.

Contact us

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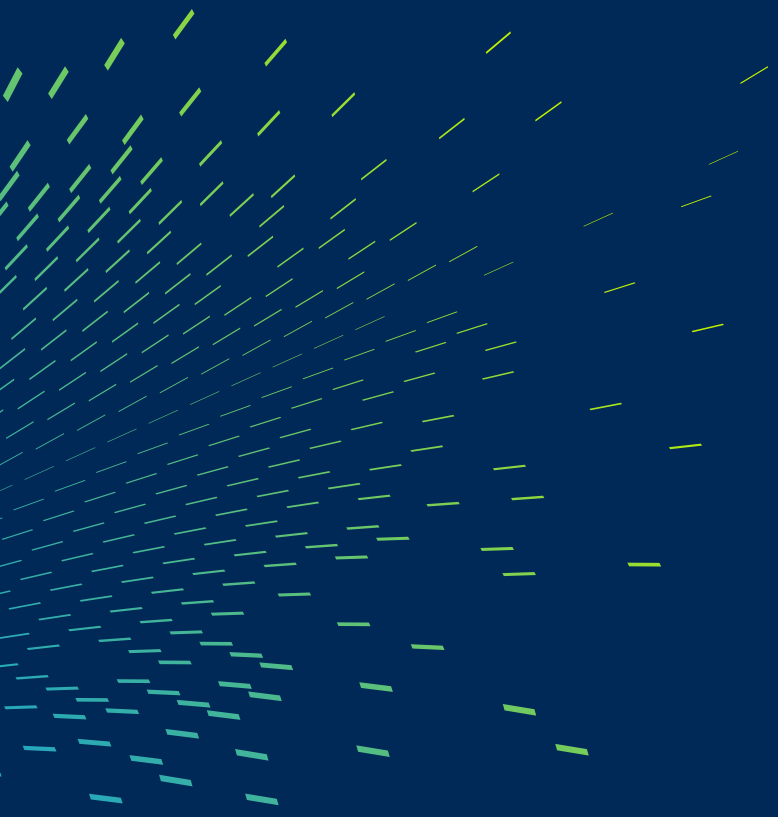

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Alithya is your trusted advisor

Alithya helps manufacturers accelerate transformation by aligning digital investment to measurable operational value—from automation roadmaps and AI-enabled use cases to workforce capability development and end-to-end data-integration frameworks. If your organization is ready to advance from digital adoption to scaled impact, our experts can help build the right strategy, operating model, and execution plan.

Connect with our manufacturing transformation team to explore your next-stage roadmap.

Strategic consulting

- AI and digital strategy
- Organization performance
- Cybersecurity
- Enterprise architecture
- Process intelligence
- Change management
- Program management services

Enterprise transformation

- ERP, SCM, EPM, CRM, HCM implementations
- Data and analytics
- GenAI and agentic AI
- Application modernization and integration
- Project operations
- Cloud infrastructure
- Custom applications development
- Control/software engineering

Business enablement

- Digital adoption and training
- Managed services
- Change enablement
- Quality engineering
- AI continuous improvement

The Alithya team

Local talent | Smart shoring | Agile squads

Our technology partners

aws partner network

Microsoft Solutions Partner

ORACLE Partner

salesforce partner

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