Manufacturing today

Navigating challenges, setting priorities and investing in technology

Executive summary

The global manufacturing industry is at a pivotal crossroads, confronting unprecedented challenges alongside transformative opportunities. Climate change, rapid technological advancements, cybersecurity threats, and evolving consumer demands are reshaping the industrial landscape. Simultaneously, companies must navigate regulatory changes, supply chain disruptions, and internal hurdles such as talent shortages and decision paralysis.

In response to these multifaceted challenges, IFS commissioned a global survey of industry decision-makers to assess their impacts and explore strategies for overcoming them. This report delves into the survey findings, shedding light on the current state of manufacturing worldwide, and outlining a path forward.

A critical insight from the survey is the role of technology engagement in shaping the industry's future. Despite its potential, technology remains both a challenge and an opportunity for many firms. The majority of organizations lack digital maturity: nearly two thirds (65%) of manufacturers are categorized as digital laggards, relying on outdated systems and manual tools, while fewer than 10% are recognized as digital leaders.

This lack of digital maturity contributes to manufacturers' top concerns. 30% cite technological disruption as their primary challenge, followed closely by cybersecurity risks (28%) and climate change (28%). The pace of technological change, including advancements in AI, is causing delayed decision making and inertia that hamper digital initiatives. Manufacturers acknowledge the benefits of new technologies but are often reluctant to adopt them due to comfort with existing systems.

However, while progress so far remains slow, the survey does highlight substantial rewards for businesses willing to embrace digital transformation. Manufacturers adopting digital and sustainability initiatives are achieving measurable benefits. Leaders report a 50% improvement in agility, a 44% increase in operational efficiency, and stronger customer satisfaction. These firms are successfully developing talent pipelines and reshaping their brands to enhance competitiveness.

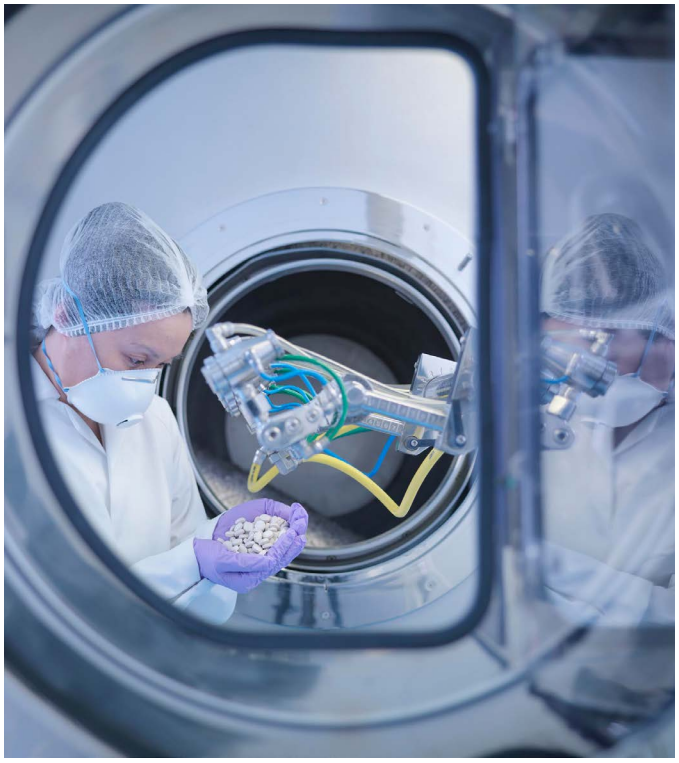
Artificial Intelligence (AI) emerges as a further key component in this transformation. While AI holds significant tactical and strategic potential for the industry, its adoption is hindered by concerns over data quality, unclear benefits, and regulatory compliance. To overcome these barriers, manufacturers need to define AI's value proposition and accept some degree of risk. By doing so, they can position themselves to capitalize on significant improvements in agility, efficiency, and data-driven decision-making, securing a competitive edge now and in the future.

This report outlines the actions manufacturers must take to navigate today's challenges, seize emerging opportunities, and build a foundation for long-term resilience and growth.

Introduction

The research reveals that the industry is at a crucial juncture. While 100% of manufacturers agree that technology is critical to survival, fewer than 10% have advanced to the level of digital leadership. The path forward is fraught with challenges, including the need to navigate regulatory landscapes, adopt sustainable practices, and integrate new technologies seamlessly.

Commissioned by IFS and conducted by Censuswide, this study draws on data from a global survey of 815 senior managers and executives in manufacturing organisations with a turnover exceeding £150 million. It highlights trends and strategies across the UK, North America, Europe, the Middle East, South and East Asia, and Australia. The research, spanning automotive, chemicals, food and beverage, high-tech, industrial manufacturing, and life sciences, highlights how digital transformation, sustainability initiatives, and a strategic approach to technology adoption are key to driving the industry forward. By addressing barriers head-on and leveraging the insights in this report, manufacturers can build a more agile, efficient, and sustainable future.



Key survey findings

1. **Manufacturers face a range of challenges that they are struggling to deal with**
   - Manufacturers' top three challenges are changes in technology such as AI and digital disruption, identified by 29% of the sample: cybersecurity attacks (28%) and climate change (also 28%)

2. **Priorities include optimizing processes and enhancing resilience**
   - The three biggest priorities are increasing focus on process innovation (23%); managing regulatory compliance changes (22%) and improving resilience of operations (22%)
   - Manufacturing decision-makers are also focused on investment, with 29% concentrating on entering new markets and customer segments over the next 2-3 years

3. **Digital maturity is key too, but current results are alarming**
   - 65% of companies are so called digital laggards, they are still reliant on manual tools, although some have already started exploring digital tools and invested in pilots
   - Only a small minority (10%) of organizations are digital leaders today

4. **There are barriers to advance digital initiatives, but many benefits for those that drive transformation**
   - The top three barriers in place are change management (22%) too complex of an IT landscape (21%), and outdated/ageing IT systems (20%)
   - The top primary benefits of driving digital transformation are increased customer satisfaction (28%); enhanced data-driven decision-making (28%) and increased operational efficiency (27%)

5. **Realizing AI's potential means overcoming obstacles**
   - 95% of manufacturers see AI as having a compound 'very high' / 'high impact' across production optimization, with the same percentage saying this for energy/waste management, and for design/development, and 55-56% anticipating a 'very high impact' in CRM, and in demand planning, and customer service.
   - Top barriers to AI implementation include data quality issues (24%), unclear benefits (24%), and regulatory compliance concerns (23%), which significantly slow down AI investment

A manufacturing landscape in flux – Assessing the challenge

Manufacturers the world over are disrupted by a wide range of disparate external forces. Overall, the top three business challenges identified are technology shifts (28%), cybersecurity attacks (28%) and climate change (28%). For the C-Suite specifically, the top three are: talent retention (34%), political disruption (28%) and cybersecurity attacks (28%).

There are variations among businesses in different vertical sectors also. Sustainability initiatives were the top challenge for automotive firms, (cited by 28%), likely due in part to the drive to electrification, while in high tech 37% referenced mergers and acquisitions.

Climate change is certainly rising up the priority list for many manufacturers. Often it is their supply chains that are hit hardest. 99% of executives surveyed for a recent study by Economist Impact stated their supply chain is impacted by climate change.

In line with this, a new study published in Nature and co-led by a researcher from King's suggests that climate change-induced disruptions to international supply chains will lead to economic stagnation over the next four decades. Economies with significant reliance on manufacturing, including China and the United States, are expected to face the most severe impacts from supply chain disturbances originating thousands of miles away.

Cybersecurity risks are an additional layer of complexity. According to a recent World Economic Forum article, heightened connectivity and data transparency has made manufacturing the most targeted sector for cyberattacks for three years in a row. As manufacturers integrate IoT devices and cloud platforms into their operations, the attack surface for cyber threats expands. Nearly 28% of respondents ranked cybersecurity among their top challenges, reflecting the growing importance of safeguarding sensitive data and critical infrastructure. Without robust cybersecurity measures, the potential benefits of digital transformation are undermined by increased vulnerability.

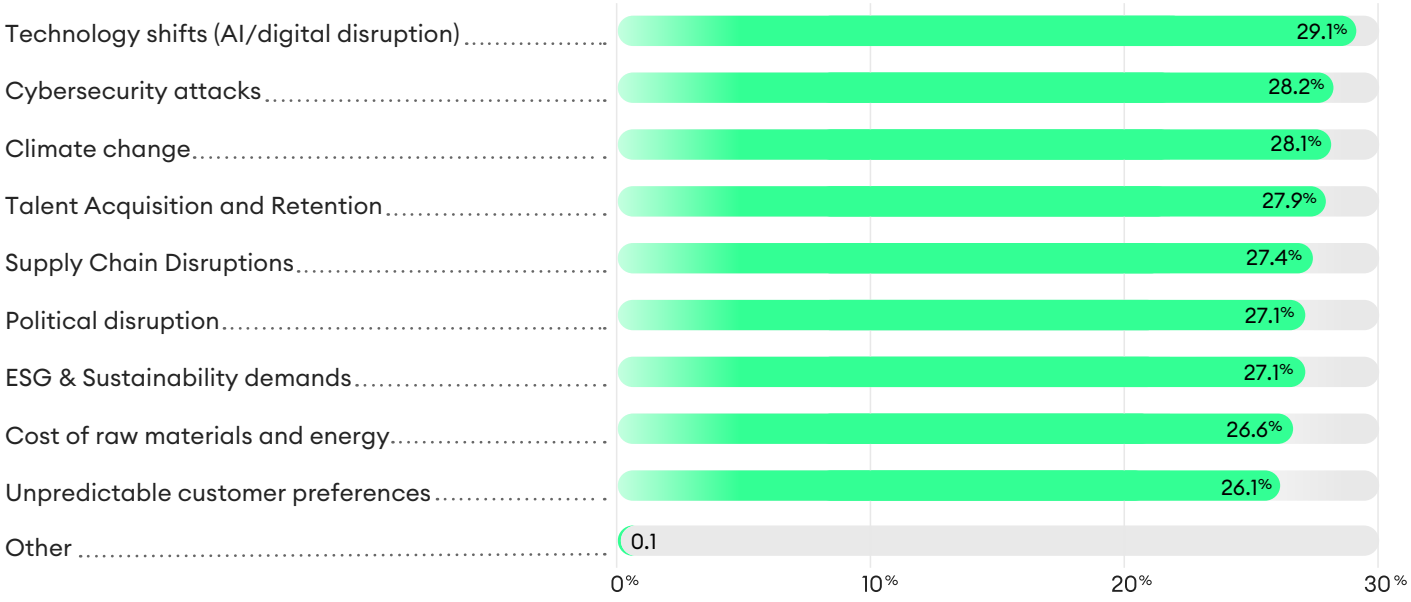
Talent recruitment remains a significant barrier, with competition from other industries offering higher wages and better benefits. Skills shortages (referenced by 33% of respondents) and economic market conditions (32%) also affect hiring capabilities. 32% of respondents also see the inability to offer competitive training programmes as an issue.

But it is technology that remains the top challenge, and most manufacturers recognize that keeping pace with technology is paramount for future company success. A large proportion (82%) of survey respondents estimate a survival timeframe between one and 3 years, if they were not to further invest in technology.

Manufacturers who don't continue investing in technology will fall behind and risk going out of business. The urgency is clear - market turbulence, supply chain disruptions, and the looming impact of climate change make digital transformation a necessity for survival, not a choice.

Unfortunately, while advances in artificial intelligence, IoT, and cloud computing promise unprecedented efficiency and innovation, the sheer pace of change has led to decision paralysis. Manufacturers are overwhelmed by the breadth of available technologies, with more than 80% of respondents listing nearly every option as essential. This indecision is compounded by complex IT landscapes, cited as a barrier by 21% of respondents, and outdated systems, highlighted by 20%.

Q: What business challenges are you currently facing? (multiple choice)

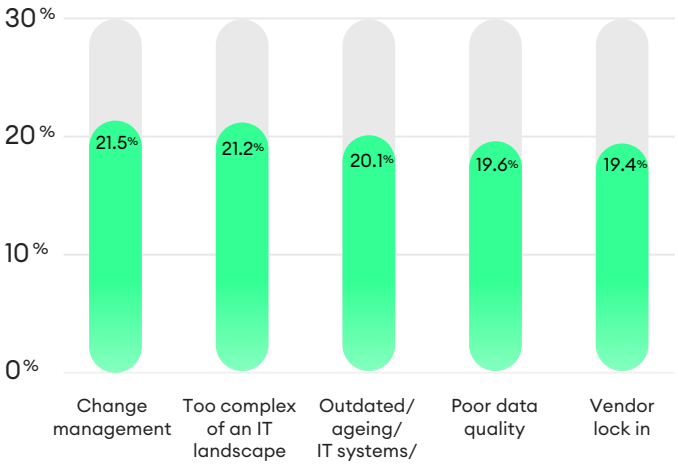


Digital transformation – Leaders, laggards and the value of progress

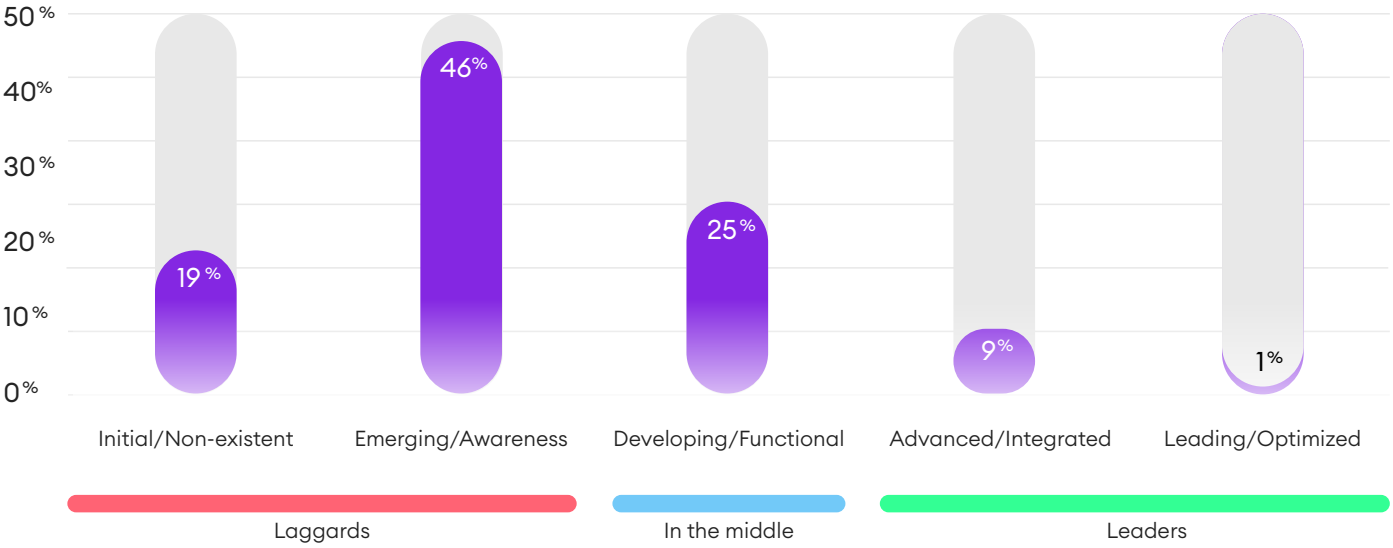
While keeping pace with technology was never as important to manufacturers as it is today, implementing the latest technology as part of the journey toward digital transformation is a complex and difficult process.

Firms are wrestling with a raft of barriers. The top three in place are change management (22%) too complex of an IT landscape (21%), and outdated/ageing IT systems (20%). These are statistics that reveal the significant internal challenges manufacturers face in their digital transformation efforts, with organizational and technological hurdles proving equally daunting. Together, these barriers point to a pressing need for manufacturers to prioritize unified digital strategies and leadership alignment to overcome inertia and drive progress.

Q: What are the top biggest barriers to start or advance digital transformation today? Select up to 3 answers.



Q: Please rate your organizations current level of digital transformation maturity. Select the option that best describes your current stage.

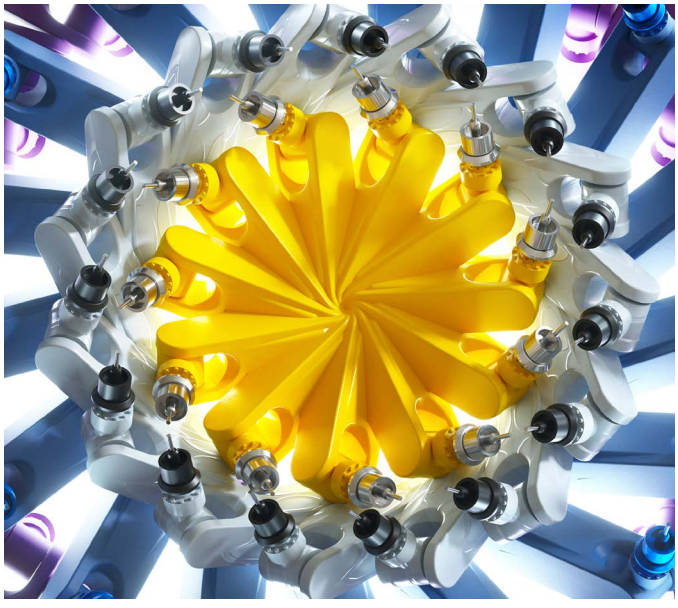


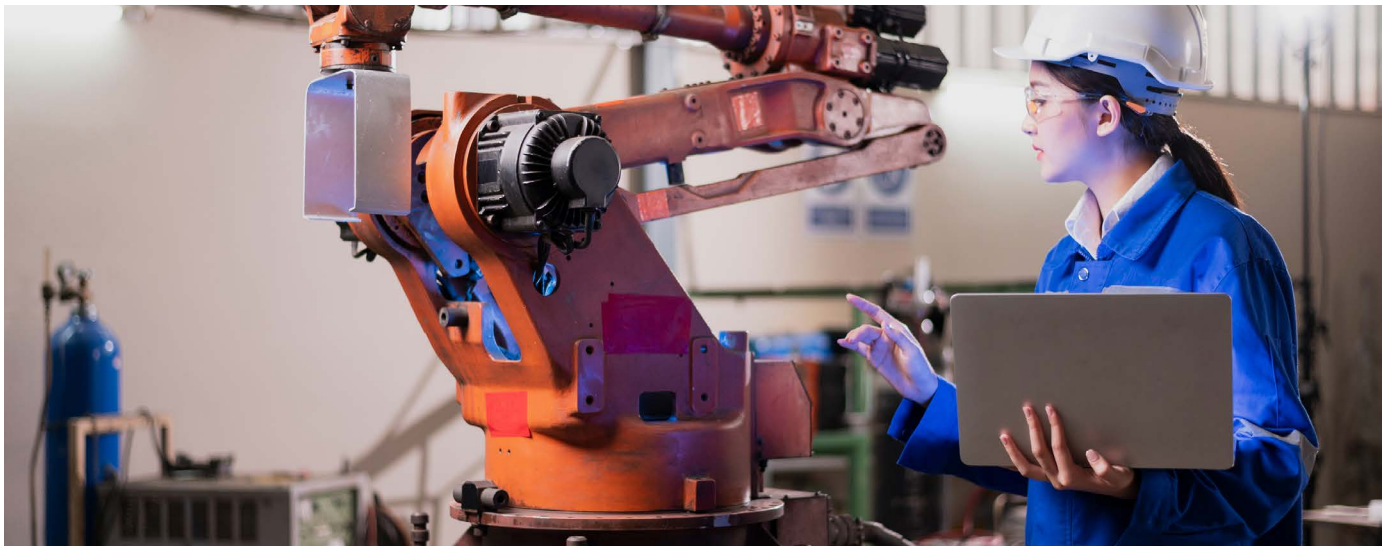
Unfortunately, the research shows that while some companies have started exploring digital tools and pilots, most (65%) are digital laggards, predominantly reliant on manual tools. Less than 10% are digital leaders. That's a serious concern because digital transformation cannot happen without a strong strategy. Many companies are not dedicating enough corporate budget to digital transformation either. The sweet spot of digital transformation budget is somewhere between 41 and 50%. Yet just a quarter (27%) of survey respondents said that 41-50% of their budget is dedicated to digital transformation. Well over four in ten (44%) have a budget between 11 and 40%.

The research blames a debilitating state of 'option paralysis' for the slow progress in digitalization we have seen so far. "This paralysis is a result of trying to do too much at once," commented Christian Pedersen, Chief Product Officer at IFS. "Manufacturers need to focus on scalable, phased approaches to technology adoption to build momentum and demonstrate value."

The paralysis experienced by manufacturers is exacerbated by the fact that each job level is pulling in a different direction. Almost all (94%) C-suite executives believe that cloud computing is the most important technology to digital transformation efforts. However, operations personnel saw digital twins (85%) and AI (84%) as priority technologies. In contrast, those at the VP level were most likely to believe that IoT (81%) is the most important technology to focus digital transformation efforts on. This indecisiveness is widening the gap between digital leaders and laggards

"Manufacturers are stuck in a cycle of hesitation," said Maggie Slowik, Global Industry Director for Manufacturing at IFS. "With each job function having different priorities, the real challenge isn't just selecting the right technology. It's about aligning these internal perspectives and overcoming resistance to fully understand and harness the transformative value these tools can bring."





The rewards are there for those that push forward

In line with this positive viewpoint, the vast majority of manufacturers recognize that digital transformation offers them the potential to gain significant rewards, even if they themselves are not always taking advantage as yet. The benefits of transformation are multifold, but customer satisfaction (28%) and data-driven decision making (28%) stand out.

While many organizations remain mired in indecision and inertia, those that have taken bold steps forward are unlocking significant competitive advantages, reshaping their operations, and enhancing customer satisfaction. Digital leaders provide a clear blueprint for the rewards that can be achieved through a proactive and strategic approach to transformation.

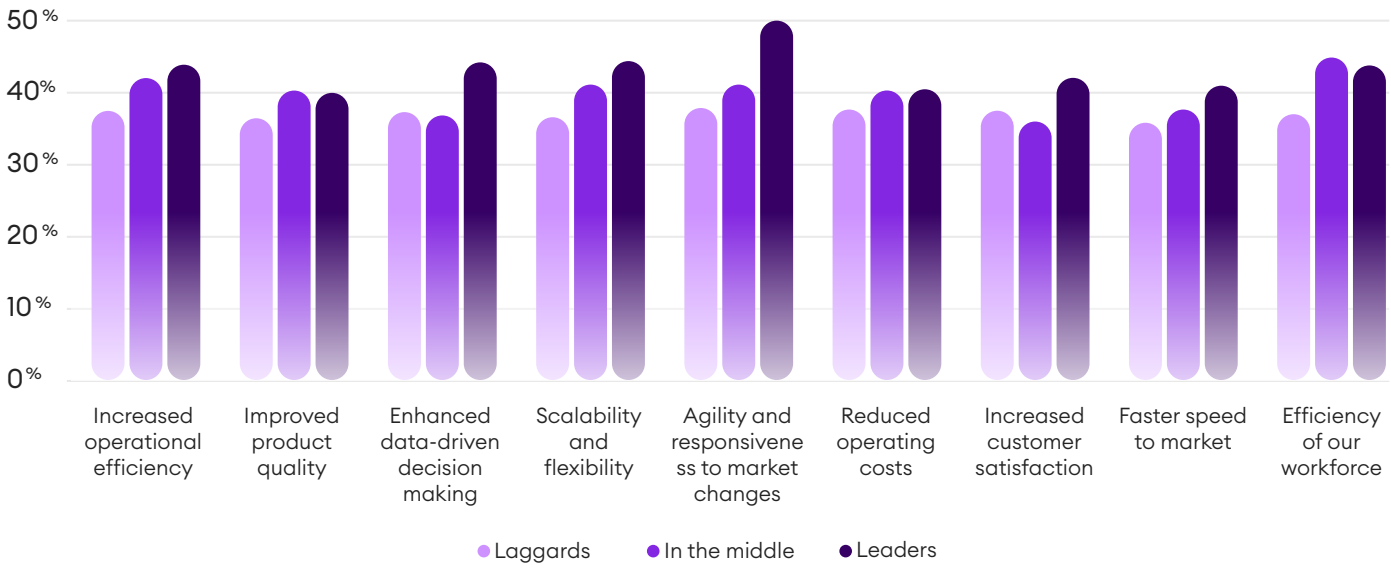
By integrating advanced technologies such as AI and IoT, these manufacturers are optimizing production lines, reducing downtime, and ensuring seamless workflows across their operations. For example, predictive maintenance, enabled by real-time data analytics, has allowed manufacturers to address potential equipment failures before they occur, avoiding costly disruptions and extending the lifespan of assets.

Agility is another hallmark of digital leadership. Digital transformation has enabled these organizations to adapt quickly to changing market demands, supply chain disruptions, and regulatory requirements. Leaders report a 50% improvement in agility, empowering them to innovate faster, enter new markets, and respond effectively to emerging challenges. This flexibility is particularly critical in today's volatile global economy, where the ability to pivot swiftly can mean the difference between success and stagnation.

Enhanced customer satisfaction is also a key outcome for manufacturers that push forward with transformation. By leveraging data-driven decision-making and integrating customer feedback into their operations, these companies are better able to tailor their products and services to meet evolving consumer expectations. This customer-centric approach, supported by technologies like CRM systems and AI-driven insights, has strengthened relationships and increased brand loyalty, offering a sustainable competitive edge.

Even for those manufacturers still in the early stages of digital transformation, the potential for scalability and flexibility is clear. Digital laggards, while slower to adopt advanced tools, report these as their most immediate gains, with 29% highlighting improved scalability as a key benefit. These incremental improvements serve as a foundation for further progress, demonstrating that even small steps forward can yield meaningful results.

Q: Of the primary benefits of driving digital transformation in your organization, as a percentage how much improvement have you seen thus far?

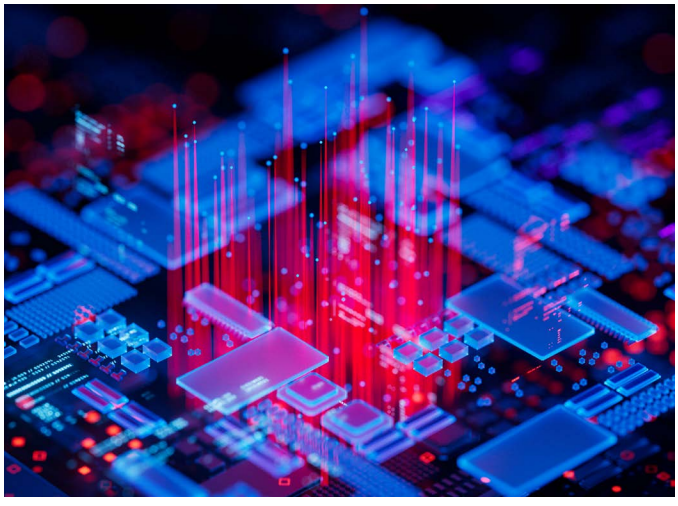


AI is driving digital transformation forwards

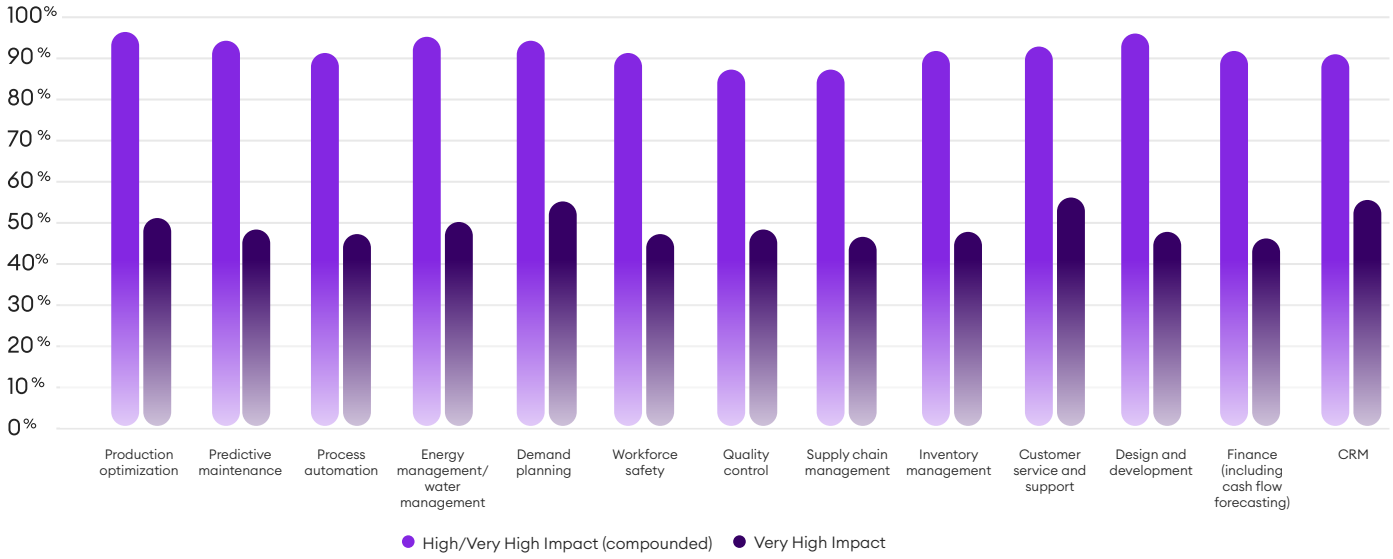
AI is seen as having the greatest potential in driving digital transformation today. The National Association of Manufacturers (NAM) in the US recently released a report highlighting ways in which AI can improve supply chain logistics efficiency, safety, product development, and predictive maintenance.

According to our own research, production optimization, energy management/waste management, and design and development (95% each) are areas of manufacturing operations that have a combined very high/high impact potential from the integration of AI technologies. Looking at the very high impact responses only, respondents selected three areas: CRM (56%), demand planning (56%), customer service (55%).

From the data, we can infer that the compound very high/high impact areas are foundational to manufacturing operations and may represent longer-term strategic priorities for AI integration. In contrast, the very high impact areas are more directly related to customer-facing functions and may offer more immediate benefits upon AI implementation. While foundational operations like production optimization and design and development are critical for sustained efficiency and innovation, enhancing customer interactions and planning processes can drive quicker, observable improvements in business performance.



Q: Thinking about the areas of manufacturing operations you stated would benefit most from the integration of AI technologies, please rate the impact they would have:



Despite these positive indicators, however, there are plenty of concerns around AI that are holding manufacturers back, including data quality (24%), uncertainty about benefits (24%), and regulatory compliance issues (23%).

The path to fully realizing AI's potential requires manufacturers to address these barriers strategically. Companies must invest in robust data management practices, ensuring data accuracy and consistency across all levels of operations. Clear communication of AI's value proposition is also essential to overcome skepticism and drive buy-in from key stakeholders. Furthermore, manufacturers need to recognize that adopting AI involves an inherent level of risk, but this risk can be managed through pilot programs and phased implementation strategies.

As AI adoption continues to grow, its influence will extend beyond operational efficiencies to strategic decision-making and innovation. By integrating AI into their broader digital transformation strategies, manufacturers can unlock new opportunities for growth, agility, and resilience. Organizations that embrace AI proactively and strategically will not only improve their competitive positioning but also redefine what is possible in modern manufacturing.

Addressing priority actions

It is clear that manufacturers are having to reassess and realign their strategic priorities to navigate the rapidly changing market landscape. The research indicates that the next two to three years will be pivotal for many manufacturers as they seek to establish themselves as resilient and competitive players in the global economy, highlighting several key areas that they need to focus on.

Process innovation has emerged as a central priority, with 23% of respondents identifying it as a top area of focus. This reflects a growing recognition that traditional methods of operation are no longer sufficient to meet the demands of a rapidly shifting marketplace. By rethinking and redesigning processes, manufacturers aim to enhance efficiency, reduce costs, and accelerate time-to-market.

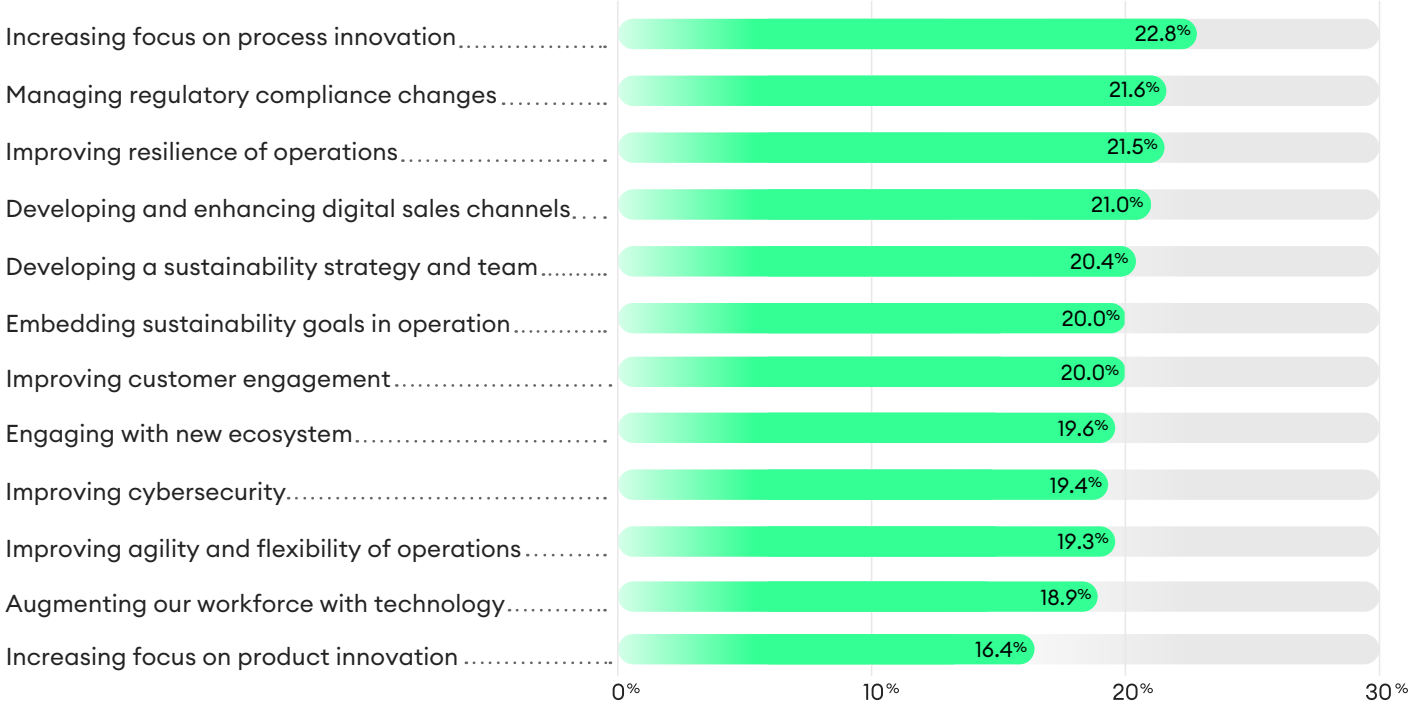
At its core, process innovation involves leveraging technology to streamline workflows and eliminate inefficiencies. For instance, automation and AI can significantly reduce manual intervention in production lines, improving accuracy and speed. Digital twins, which create virtual replicas of physical processes, are increasingly being used to simulate and optimize manufacturing operations before implementation, minimizing risks and costs.

Equally critical is the need to address regulatory compliance challenges, cited as a priority by 22% of respondents. The manufacturing industry operates in a complex web of regulations that vary significantly across regions and sectors. Failure to comply can lead to severe penalties, reputational damage, and operational disruptions. Manufacturers are focusing on aligning their processes with evolving standards while ensuring minimal impact on operations. This often involves investing in compliance management systems that provide real-time updates on regulatory changes and help streamline reporting and auditing processes.

Improving operational resilience is another pressing priority for manufacturers, with 22% highlighting it as a key area of focus. The disruptions caused by global crises, from pandemics to geopolitical tensions, have emphasized the importance of building resilient supply chains and production systems.

While internal improvements are essential, many manufacturing decision-makers are also looking outward, with 29% focusing on entering new markets and customer segments over the next 2-3 years. This demonstrates a proactive approach to growth that balances internal efficiency with external opportunity.

Q: What are your business priorities in the next 2-3 years? (multiple choice)



The time is now to press ahead

For manufacturers today, action is imperative. While challenges such as climate risks, geopolitical instability, and technological complexity persist, the opportunities for those willing to act are transformative. Hesitation in adopting new technologies or fear of missteps, risks stagnation and loss of competitiveness.

Digital leaders showcase the benefits of decisive action, seeing significant increases in agility operational efficiency. They optimize production, improve customer satisfaction through data-driven insights, and build resilience against disruptions.

Andrew Burton Global Industry Director, IFS, said: "The benefits of digital transformation are tangible and proven. The question manufacturers should ask isn't if they can afford to invest in technology, but whether they can afford not to. Advanced tools like AI and IoT enable operational efficiencies, from predictive maintenance to waste reduction, offering measurable returns on investment."

While barriers such as unclear ROI and data quality concerns persist, a phased approach to technology adoption, starting with pilots, mitigates these risks. By committing to innovation and continuous improvement, manufacturers can turn challenges into opportunities, ensuring growth, resilience, and a strong competitive edge. The future will reward those bold enough to act today.

About IFS

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations. Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers – at the Moment of Service .

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector. Our global team of over 7,000 employees every day live our values of agility, trustworthiness and collaboration in how we support thousands of customers.

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