TeamViewer

The AI opportunity in manufacturing

2025 Report

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The AI opportunity in manufacturing

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Mei Dent, Chief Product and Technology Officer at TeamViewer encourages these individuals to exercise caution:

“Artificial Intelligence (AI) has the power to revolutionise manufacturing by enhancing efficiency, productivity, and innovation. For example, by optimising production lines and enabling workers to grow into higher-value roles.”

“However, missteps in implementation – such as a lack of comprehensive investment, narrow adoption strategies that aren’t tailored to users’ needs, and a failure to account for security considerations – will limit its promise and lead to risk. To stay competitive, manufacturers must embrace AI’s opportunities while prioritising a clear understanding of the surrounding challenges.

“In the following pages of the AI Opportunity in Manufacturing report, we investigate the latest uses and perceptions of AI, whether manufacturers are harnessing its full potential, barriers to widespread adoption, and how to overcome these to unlock all of AI’s capabilities.

“Read on to discover the attitudes of 1,400 global decision makers, including 105 in the manufacturing sector, towards Artificial Intelligence.”

Adoption, maturity and trust

Adoption, maturity, and trust

AI adoption in the manufacturing industry has accelerated over the past year. This upsurge has been driven by the need to enhance efficiency, build resilience, and cut costs to stay competitive in the face of global supply chain disruptions and labour shortages. Today, 78% of manufacturing decision makers use AI in their jobs at least weekly, with nearly a third (30%) relying on it daily – a dramatic increase from just a year ago when only 46% used AI weekly and a mere 8% daily.

As adoption grows, so do perceptions of maturity and confidence. 72% of respondents consider their organisations' AI adoption to be mature. Meanwhile, two-thirds (67%) feel personally competent when it comes to using AI. However, fewer manufacturing decision makers would call themselves proficient or expert (28%) than the average respondent across industries (39%). This reflects the differing stages and speeds of digitalisation in various sectors.

While digital transformation has been a topic of conversation for more than a decade, many industries, including manufacturing, are still relatively early in their digitalisation journeys. This is due to a historical reliance on mechanical and process-driven expertise, rather than advanced digital skills, as well as the complexity of integrating innovations, such as AI, with legacy systems.

Compounding this, early AI tools lent themselves to text-based tasks, such as creating content and structuring data, making them more accessible to the IT industry and professionals. Meanwhile, the manufacturing sector, and operational technology decision makers (OTDM) working within it, required multimodal capabilities – from image and audio to video processing – which existing tools couldn't cater for. This disconnect – between the needs of OTDMs and the capabilities of the tools available to them – made adoption slower and more complex, reducing the likelihood of personnel seeing themselves as AI experts. This is changing, thanks to purpose-built AI models which are delivering proven outcomes, but it will take time for the manufacturing sector to be on par with more technologically advanced industries such as IT and healthcare.

Young workers are expected to lead this charge, especially in manufacturing. 87% believe younger people have a stronger grasp of AI technology, compared to a 75% average across all industries. This is thanks to younger generations having greater exposure to digital technologies and AI concepts, which contrasts with the more traditional skillsets prevalent in the manufacturing sector.

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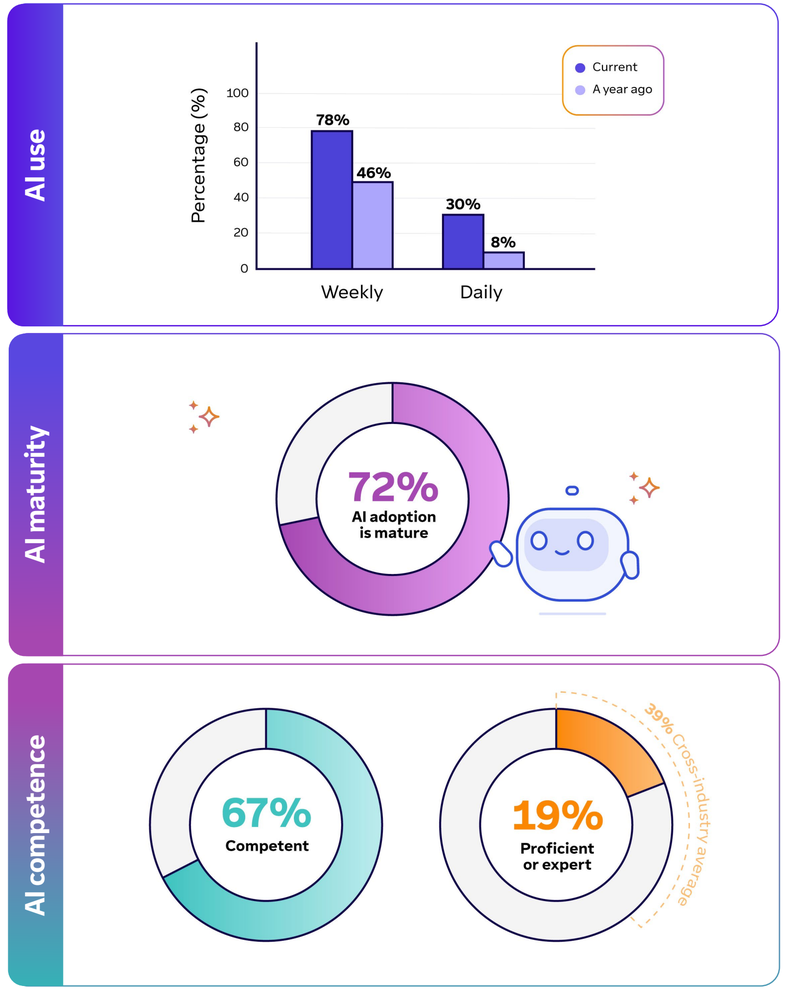
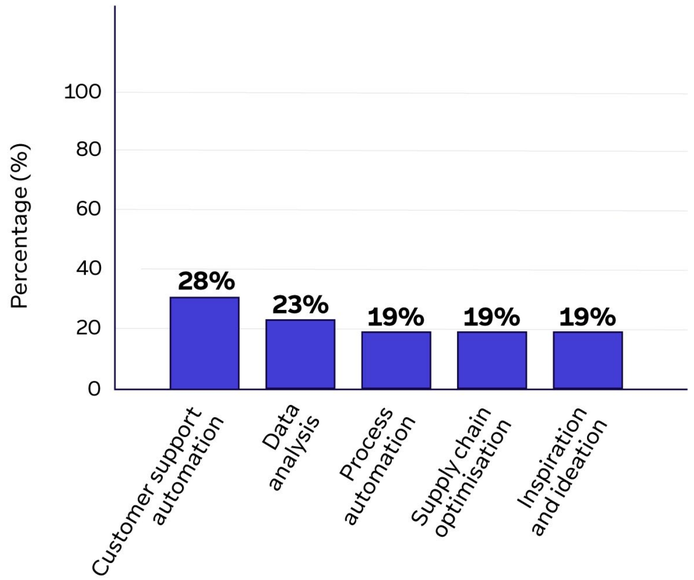


Today, AI is most used within manufacturing for customer support automation (28%), data analysis (23%), process automation (19%), supply chain optimisation (19%), as well as more advanced applications such as inspiration and ideation (19%). This reflects the capabilities of AI tools, such as generative design and predictive analytics, to support manufacturers in designing innovative products and identifying novel solutions to optimise complex production processes.

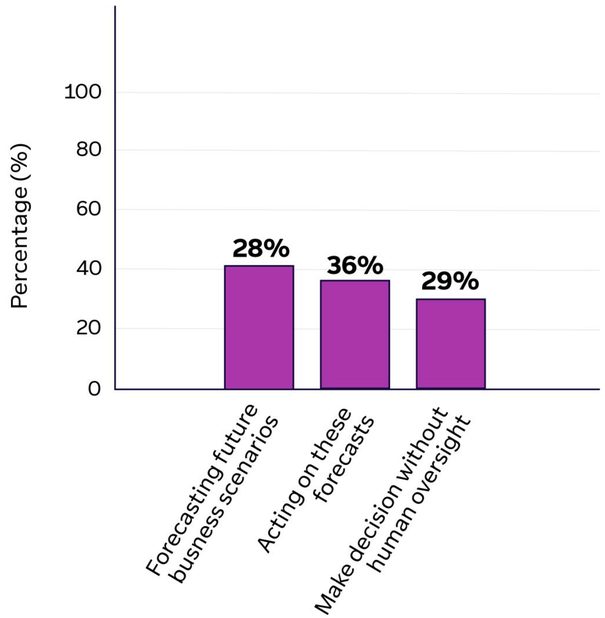
Sophisticated uses of AI also extend to how much manufacturers trust it to handle with complex tasks. When asked about their confidence in AI's capabilities, respondents indicated trust in AI for forecasting future business scenarios (41%), acting on these forecasts and making business decisions accordingly (36%), and even making decisions without human oversight (29%).

This is problematic as AI makes assumptions based on the data it's provided with, meaning further industry experts are required to assess whether the answers it gives are correct. As such, it would be imprudent to trust it to replace humans and act independently in the manufacturing industry. However, this doesn't detract from its potential to support workers with complex tasks. Nor does it mean that we should stop investing in advancing its capabilities so we can reach a point where the use of agentic AI – AI that has advanced decision-making capabilities, goal-directed behaviour, and a high level of autonomy – becomes the norm for certain tasks in manufacturing.

Top uses



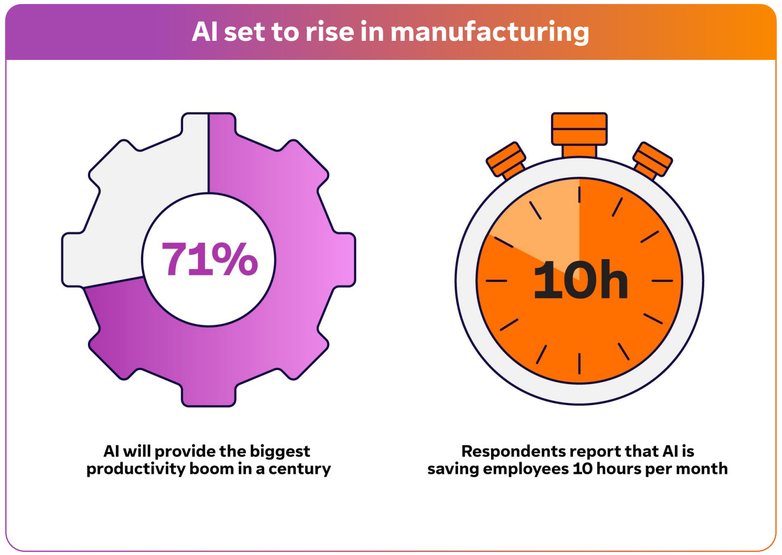
Sophisticated uses



Advancements for businesses and individuals

Advancements for businesses and individuals

AI is a proven, powerful tool for enhancing business performance. In fact, 77% of manufacturing decision makers agree AI is critical for improving an organisation's efficiency, while 71% also say that AI will provide the biggest productivity boom in a century. This is supported by respondents predicting that AI is saving employees in manufacturing 10 hours per month – a figure we can expect to see increase as manufacturing's use of AI grows.

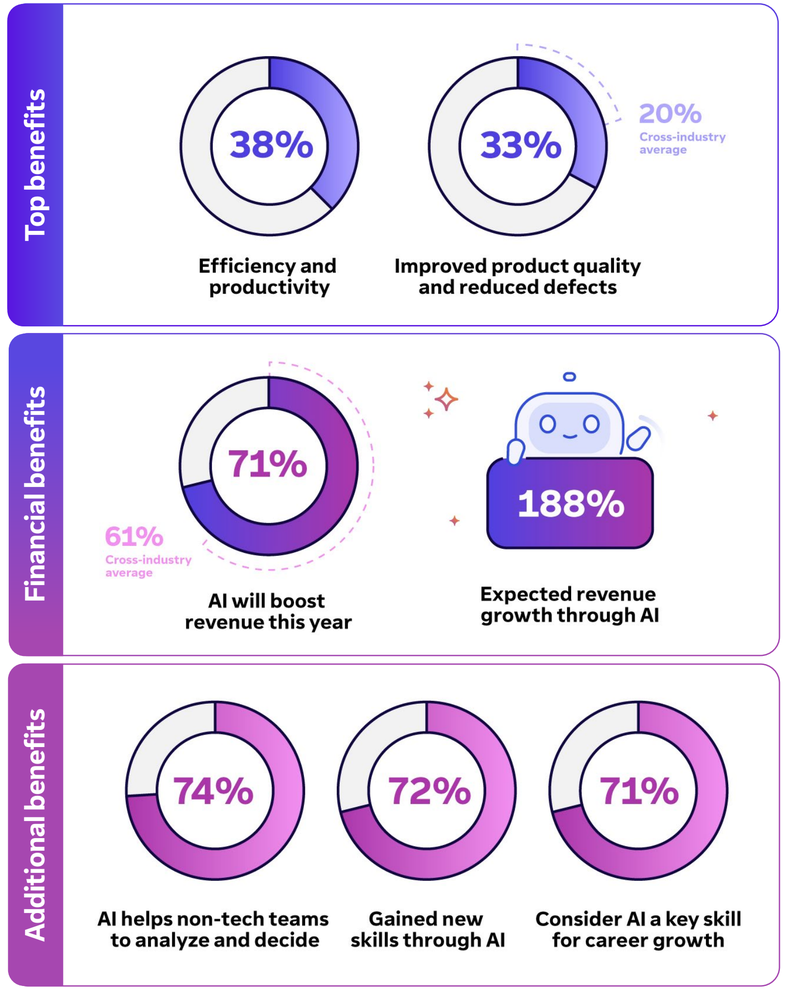


These productivity benefits reflect AI's capabilities to streamline operations. For example, automating time-intensive, repetitive, and routine tasks – like equipment monitoring and quality inspections – to reduce downtime and free up employees to focus on higher-value tasks. Reinforcing this, 78% agree AI has allowed them to do more high-level strategic work, which could include analysing trends and planning for innovations that would improve output and competitiveness.

Following efficiency and productivity (38% of respondents say this is the top benefit of AI), manufacturing respondents list improved product quality and reduced defects (33% compared to a 20% average across all sectors) as a top benefit. A crucial advantage as precision and consistency are critical to operational success and cost management in manufacturing.

Further benefits reported by manufacturing decision makers include AI's ability to enable non-technical employees to analyse data and determine the best course of action in tasks – 74% agree it's delivering on this. In a similar vein, 72% say that AI has given them the chance to learn new skills they otherwise wouldn't have learnt and 71% agree that AI is a key skill to enhancing their careers, illustrating AI's power to deliver benefits for individuals as well as the business at large.

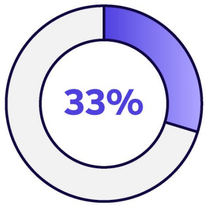
Meanwhile, from a financial perspective, over two-thirds (71%) agree AI will positively affect revenue over the next year. This is 10% higher than the cross-industry average of 61%, spotlighting the strong economic benefits AI can deliver in manufacturing specifically. In fact, respondents say an average of 188% revenue growth is possible through the technology.



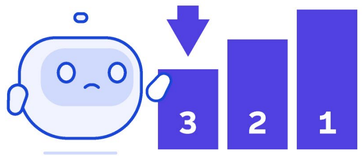
Beyond the benefits, neglecting AI adoption has serious consequences. A third (33%) of manufacturing respondents say the biggest impact will be falling behind competitors, something no organisation can risk in a challenging business climate. Following this, their top concerns are increased stress among employees from inefficient processes (25%) and missed opportunities in new markets (23%). The value afforded to employee wellbeing is particularly notable and reflects the high-stakes, fast-paced environment in manufacturing where inefficiencies lead to production delays, higher error rates, increased workloads, and pressure on employees to meet tight deadlines. In this climate, AI is paramount for driving operational efficiencies to minimise employee strain while improving outputs.

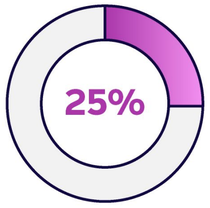
AI has clearly become a critical tool within the manufacturing sector. However, it's reassuring that decision makers aren't allowing the power of AI to blind them to sensible use – 50% say they would sacrifice extra business growth/profit in favour of using AI responsibly. A pragmatic approach while our understanding of AI is still developing.

Consequences of not using AI reported by manufacturing decision makers

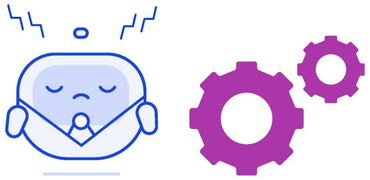


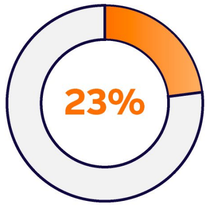
Falling behind competitors



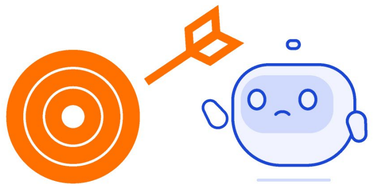


Inefficient processes driving stress





Missed opportunity in the new markets



Barriers to wider adoption

Barriers to wider adoption

Despite the advantages of AI being clear, not all manufacturers are widely using it because there are several barriers to adoption.

Security concerns top the list with three-quarters (76%) of decision makers citing AI security risks around data management - seven percentage points higher than the cross-industry average (69%). This aligns with the manufacturing sector's strong imperative to handle data securely to protect competitive advantages. Given that manufacturers manage highly sensitive proprietary information – such as designs, processes, and supply chain data – any breach could compromise intellectual property and operational continuity.

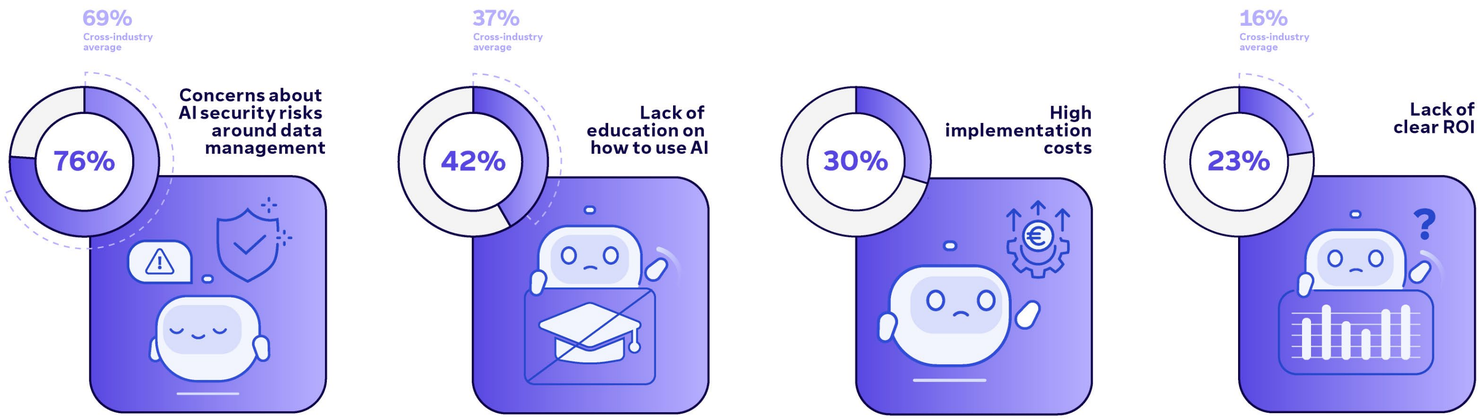
Beyond security, a lack of education on how to use AI is the second most significant barrier, reported by 42% of manufacturing respondents (compared to 37% cross-industry). This reflects the sector's deep-rooted expertise in mechanical and engineering competencies, rather than digital or AI-related skills. This skills gap makes it more challenging for employees to understand, implement, and leverage AI effectively, increasing the importance of education.

Education is also vital to managing staff anxiety around AI use as one-in-four (24%) manufacturing decision makers point to increased employee stress or frustration, due to reluctance to adopt AI.

The third major hurdle is high implementation costs, highlighted by 30% of respondents. Additionally, nearly half (49%) express concerns over the lack of financial support within their organisation enabling them to scale quickly enough to keep pace with AI innovation.

A lack of clear ROI is another barrier for 23% of manufacturers, notably higher than the cross-industry average of 16%. This is particularly relevant given that over two-thirds (71%) agree AI could positively affect revenue over the next year. The challenge lies in AI's long-term impact – such as productivity and quality gains as well as cost savings – which are harder to quantify in the short term. Changing perceptions of ROI will require ongoing education, real-world case studies, and a focus on AI's scalability.

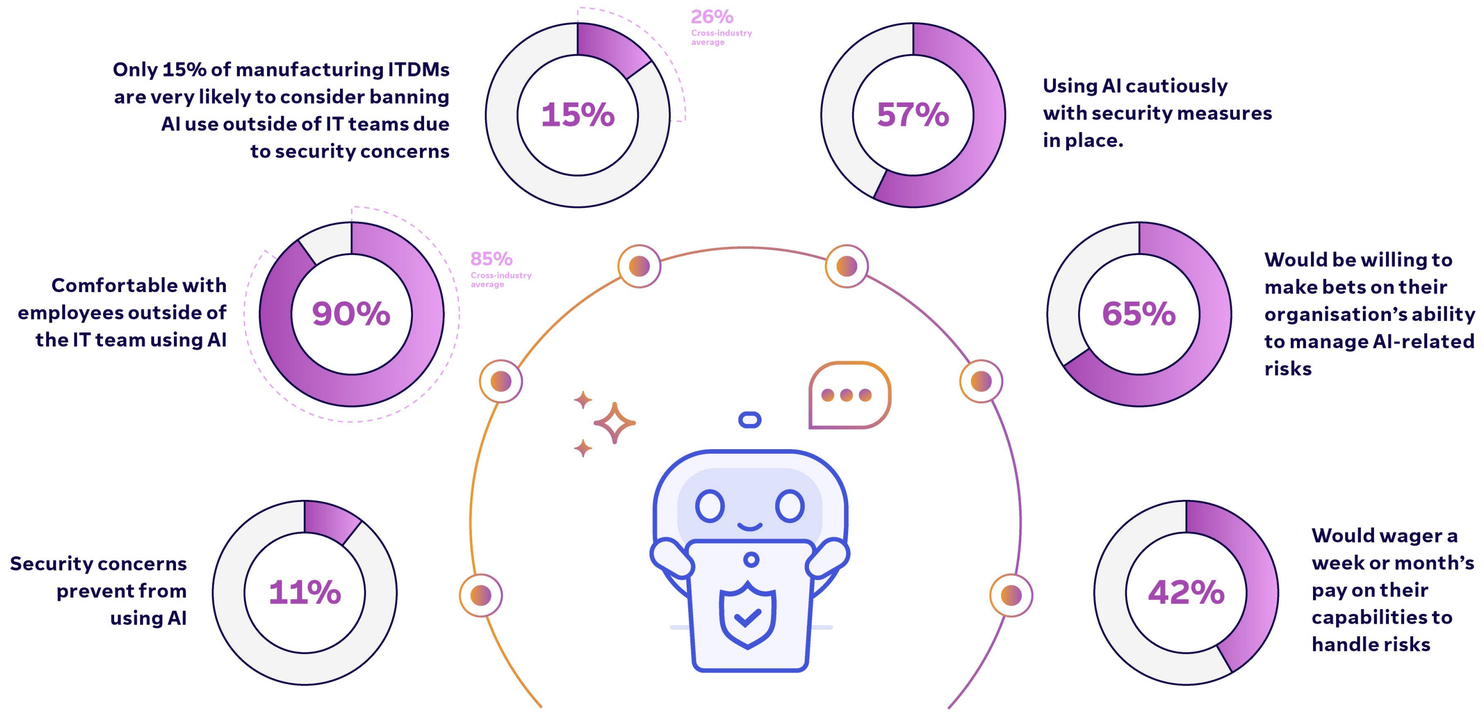
Barriers to AI adoption in the manufacturing sector



However, by and large, security concerns aren't stopping people from using AI or causing them to be overly cautious about the technology's use outside of IT teams. Just one-in-ten (11%) manufacturing decision makers say security concerns prevent them from using AI, while a very high proportion (90%) are comfortable with employees outside of the IT team using AI. What's more, when IT decision makers in the manufacturing sector were asked if they're likely to consider banning AI use outside of IT teams due to security concerns, just 15% said they were very likely to. Interestingly, this number jumps up to 26% across all industries, while the percentage of average respondents comfortable with non-IT employees using AI drops slightly (85%). This suggests that the manufacturing sector is marginally less concerned about general security risks, outside of data management, than other industries. Instead of restricting their AI use in response to security considerations, 57% of manufacturing decision makers are using AI cautiously with security measures in place. This considered approach may be why two-thirds (65%) of respondents would be willing to make bets on their organisations' ability to manage AI-related risks including data management, limited skills, or employees using unapproved tools. 42% are even willing to wager a week or month's pay on their capabilities to handle risks.

The manufacturing sector is marginally less concerned about general security risks, outside of data management, than other industries.

Security considerations and confidence among manufacturing decision makers



Invest in AI, access the future

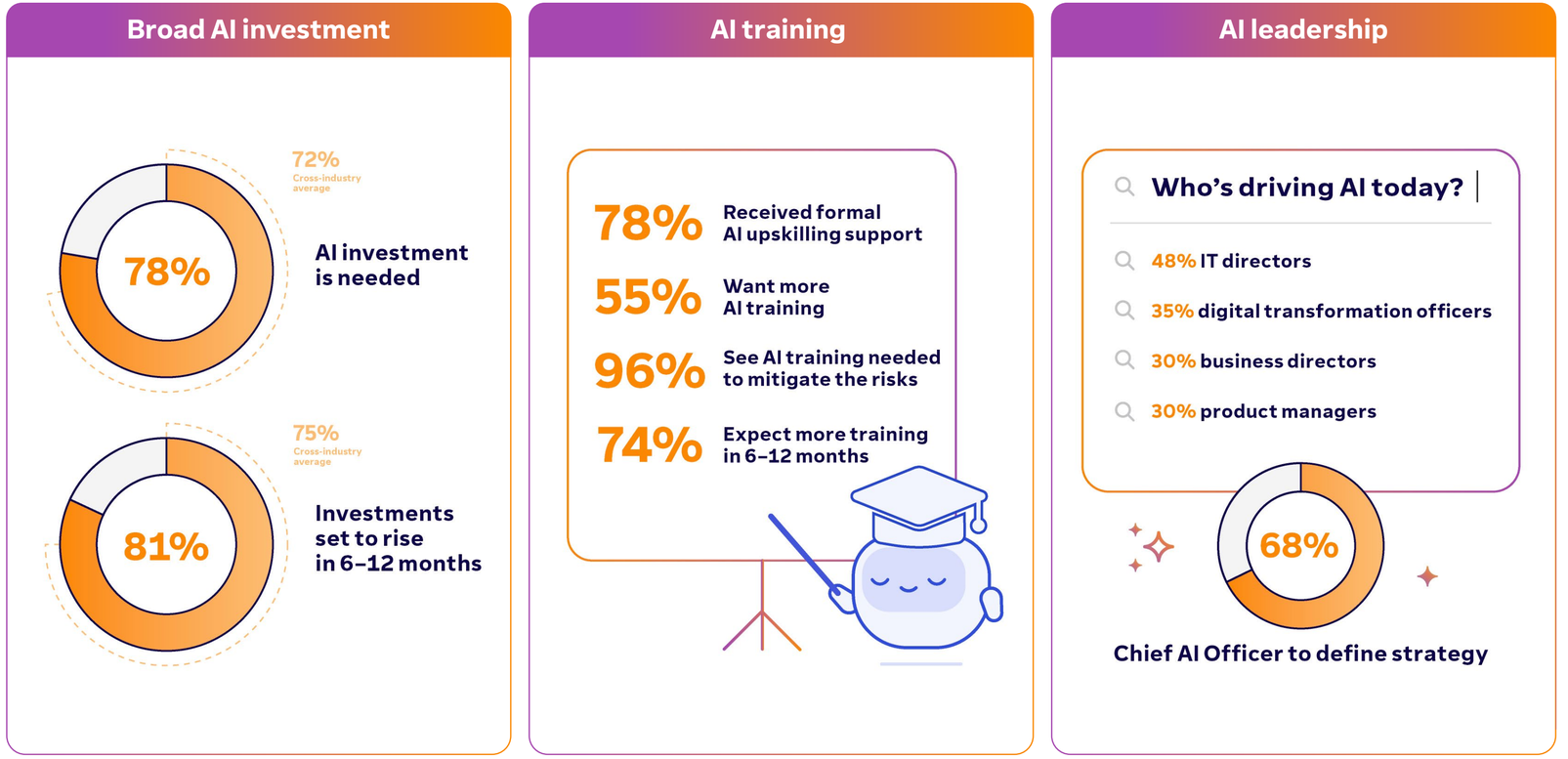
Invest in AI, access the future

Overcoming any concerns around AI requires investment. 78% of manufacturing decision makers agree with this statement, and 81% say there'll be an increase in investments in the next 6-12 months. These figures are higher than the cross-industry average – 72% and 75% respectively. This may reflect the need for the manufacturing sector to catch up following slower earlier adoption and even indicate that they could surpass their peers through a greater commitment to AI advancement.

Rigorous, well-communicated training will be a key area to invest in. This process has already begun: 78% of manufacturing respondents say their organisation has provided formal education on how to upskill or reskill employees to work alongside AI. However, over half (55%) would like more AI training, and almost all (96%) say this is needed to mitigate the risks of AI specifically. Thankfully, 74% of respondents report that their organisation will provide more training in the next 6-12 months, demonstrating that manufacturing personnel recognise its value and are dedicated to allocating both time and money to improving AI proficiency.

Evidently, further AI education is essential, but it's only one aspect of investment required. Organisations also need specialists to guide their AI charge. When it comes to the current implementation and control of AI, almost half of manufacturing decision makers (48%) say this responsibility lies mostly with IT directors, followed by digital transformation officers (35%) and business directors and product managers (both 30%). However, more specific personnel are needed.

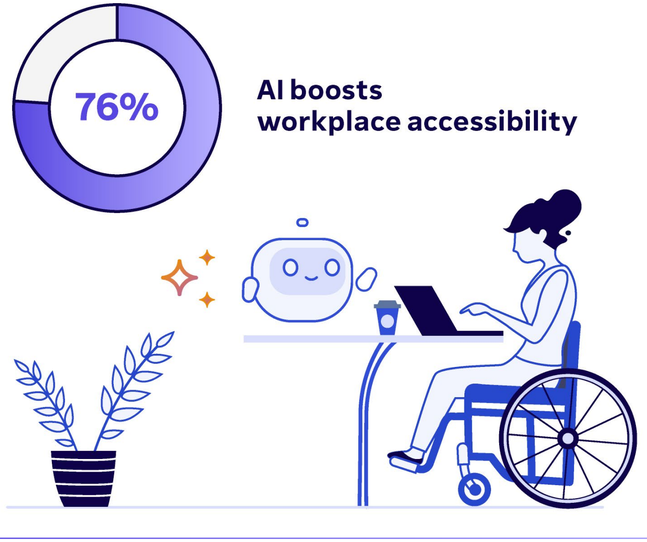
In fact, over two-thirds (68%) agree that their business needs a Chief AI Officer to clearly spell out its AI strategy. This requires careful alignment of AI with production workflows, supply chains, and quality control and creates several unique technical and strategic challenges that need to be carefully managed.



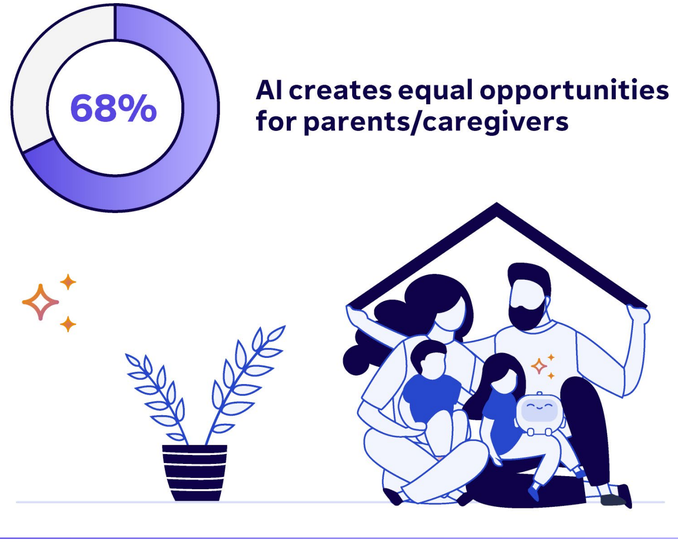
The importance of investing in AI is undeniable, as is its potential to create opportunities for businesses and individuals alike. However, what many may overlook is that this investment could also help bring about the workplaces of the future defined by equality.

Rather than accentuating opportunity disparities, 75% of manufacturing respondents agree AI can help increase accessibility in the workplace. Similarly, 68% say AI can help create equal job opportunities for parents/caregivers, over 10% higher than the cross-industry average of 57%. AI is such a powerful equalising tool in manufacturing as AI-driven automation can enable flexible work arrangements, such as remote monitoring of production systems or scheduling tasks, benefiting both parents/caregivers and those managing illness or disabilities. It can also automate physically demanding tasks and provide assistive technologies, making roles more inclusive for individuals with diverse needs.

Agreement on AI increasing accessibility



Agreement on AI creating equal opportunity



Four changes, to unlock success

Four changes to unlock success

Mei Dent, Chief Product and Technology Officer at TeamViewer:

"AI is already making its mark on the world of work and is set to become a permanent fixture. Early adopters offer a compelling glimpse into its benefits, from driving better business outcomes to expanding opportunities for all workers.

However, we're only just beginning to scratch the surface of its potential.

"The following steps will empower the manufacturing industry to harness AI more effectively, unlocking advanced capabilities and delivering more impactful results."

01

Create an open dialogue and tailor communication

The successful introduction of AI hinges on alignment between those introducing the technology and those using it. Within manufacturing, IT professionals should focus on creating an open dialogue with OTDMs and tailoring both their communication and the AI solutions they introduce to them. This should begin at the start of the project.

Firstly, so that IT understands the unique challenges of integrating AI into production processes, such as ensuring minimal downtime, maintaining safety standards, and optimising workflows.

Secondly, to establish what AI would be most impactful for, for example, predictive maintenance or quality inspections. During this process, relatable language should be used to bridge technical gaps and empower OTDMs to weigh in on KPIs that address efficiency, quality, and output metrics.

Meanwhile, proactive communication should be leveraged to identify confidence gaps, provide targeted training on AI-enabled tools, and keep teams informed about upcoming support and training schedules to ensure seamless adoption.

02

Prioritise Education

Education is vital for AI adoption in manufacturing as it ensures employees understand how to integrate AI into core processes, like supply chain optimisation, so it can fulfil its role of improving efficiency and output.

Training should focus on making AI tools accessible to non-IT personnel, such as machine operators and maintenance staff, equipping them with the skills and confidence to interpret AI-driven insights and use automation technologies effectively.

Education should also be tailored to manufacturing staff by emphasising hands-on, scenario-based learning.

03

Appoint a Chief AI Officer

Security considerations, including protecting operational data, preventing disruptions to automated production lines, and safeguarding proprietary designs are all concerns as AI use grows.

To safely integrate AI across manufacturing operations and build confidence, organisations should invest in a Chief AI Officer to ensure responsible adoption tailored to the industry's needs. This role is critical for maintaining system integrity and safeguarding intellectual property while enabling the sector to harness AI to achieve a competitive advantage.

04

Benefits for individuals mean wins for the business

When AI tools are designed to support employees, improved operational efficiency and better business outcomes naturally follow. For example, using AI to automate repetitive tasks and provide real-time insights for decision-making enables workers to focus on strategic tasks and career growth. This improves productivity and competitiveness for the organisation while simultaneously increasing employee job satisfaction.

Importantly, these benefits extend to all staff but have an even greater impact on traditionally disadvantaged groups, such as individuals with disabilities or caregivers.

For instance, by introducing tools like voice-controlled machines or adaptive and remote robotics to improve accessibility. This inclusivity not only creates equal opportunities but also broadens the talent pool, enhancing competitiveness and driving innovation.

Research methodology

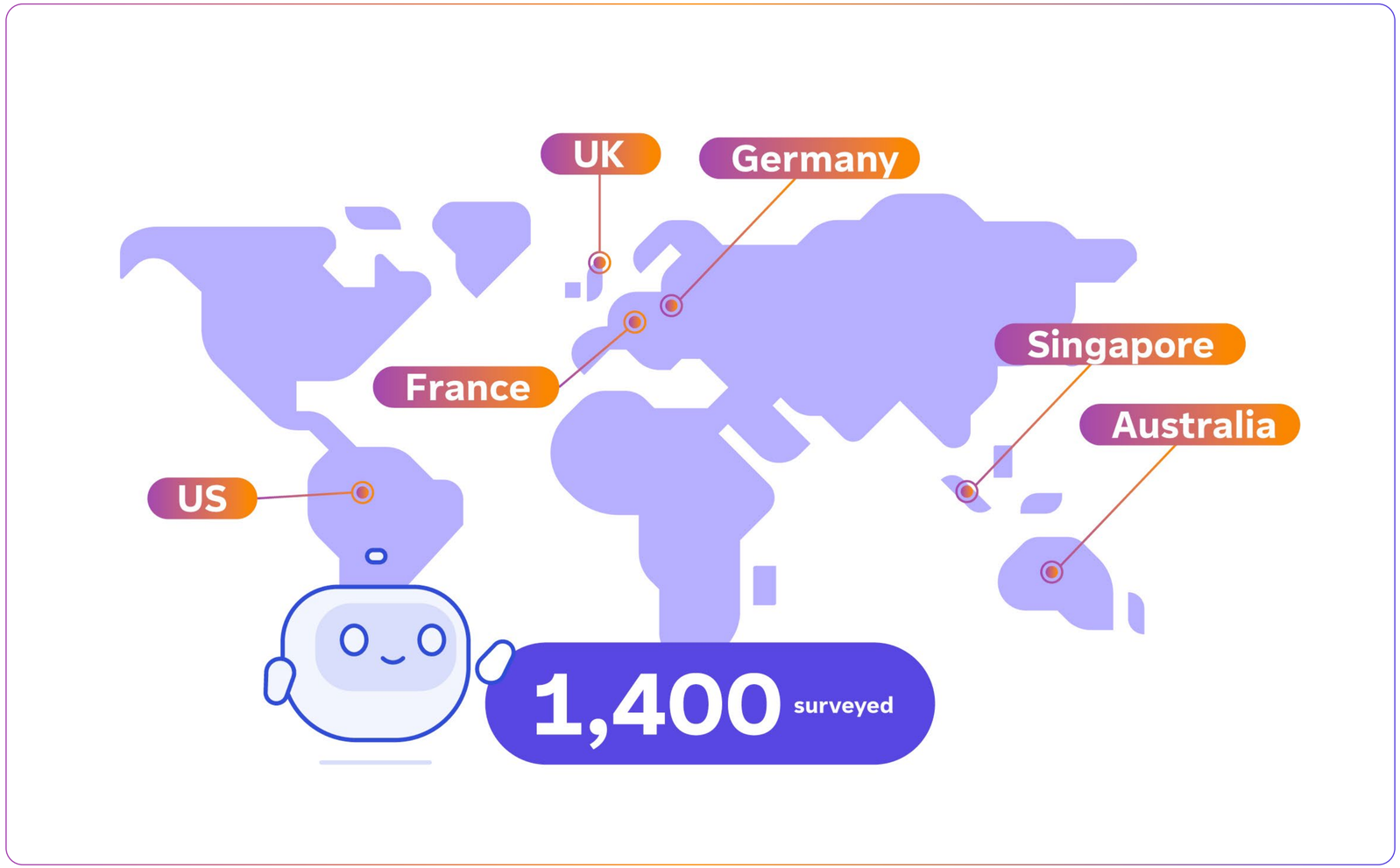
Research methodology

The quantitative research for this report was conducted by Sapio Research, an independent research consultancy based in the United Kingdom.

The survey was conducted among 1,400 IT, business, and operational technology decision makers – including 105 in the manufacturing sector – in companies with 200+ employees across the UK, France, Germany, Australia, and Singapore and 500+ employees in the US.

The interviews were conducted online by Sapio Research in August and September 2024 using an email invitation and an online survey.

SAPIO RESEARCH



About TeamViewer

TeamViewer provides a Digital Workplace platform that connects people with technology – enabling, improving and automating digital processes to make work work better.

In 2005, TeamViewer started with software to connect to computers from anywhere to eliminate travel and enhance productivity. It rapidly became the de facto standard for remote access and support and the preferred solution for hundreds of millions of users across the world to help others with IT issues. Today, more than 640,000 customers across industries rely on TeamViewer to optimize their digital workplaces - from small to medium sized businesses to the world's largest enterprises - empowering both desk-based employees and frontline workers. Organizations use TeamViewer's solutions to prevent and resolve disruptions with digital endpoints of any kind, securely manage complex IT and industrial device landscapes, and enhance processes with augmented reality powered workflows and assistance - leveraging AI and integrating seamlessly with leading tech partners. Against the backdrop of global digital transformation and challenges like shortage of skilled labor, hybrid working, accelerated data analysis and the rise of new technologies, TeamViewer's solutions offer a clear value add by increasing productivity, reducing machine downtime, speeding up talent onboarding, and improving customer and employee satisfaction.

The company is headquartered in Göppingen, Germany, and employs more than 1,800 people globally. In 2024, TeamViewer achieved a revenue of around EUR 671 million. TeamViewer SE (TMV) is listed at Frankfurt Stock Exchange and belongs to the MDAX. Further information can be found at www.teamviewer.com.

www.teamviewer.com/support

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