

A Smarter Festive Shutdown:

Planning Your Digital Transformation for 2027

MADE SMARTER

Intro

Festive Season Shutdown.

Preparing Your Business for a Transformative New Year

As the festive season approaches, many manufacturers take advantage of a planned shutdown to pause operations and prepare for the year ahead. This valuable downtime offers a rare opportunity to reflect on the challenges and achievements of the past year, assess business priorities, and plan the next steps in your digital transformation journey.

With 2027 on the horizon, manufacturers face increasing pressure to improve productivity, strengthen resilience, address cyber security risks, and make the most of emerging technologies such as artificial intelligence (AI). Whether you're looking to streamline processes, improve decision-making, or unlock efficiencies across your operations, now is the ideal time to develop a clear roadmap for digital adoption.

At Made Smarter, we help manufacturers turn digital ambition into practical action. Through expert advice, leadership development, workforce training and technology adoption support, we empower businesses to embrace the tools and technologies that will shape the future of manufacturing.

This guide is designed to help you use your festive shutdown productively.

From identifying opportunities for AI and automation to reviewing your cyber security posture and exploring wider digital transformation initiatives, you'll find practical insights and real-world examples to help you plan with confidence.

Whether you're taking your first steps towards digitalisation or looking to build on existing investments, a well-planned shutdown can lay the foundations for a more productive, secure and competitive business in 2027.

Join us as we explore the technologies, strategies and opportunities that can help your business start the new year ready to innovate, grow and thrive. After all, the smartest way to begin 2027 is to start planning for it today.



What is Made Smarter and how does it help with technology adoption

Made Smarter is national programme to drive the digital transformation of manufacturing. It helps manufacturers understand, adopt and benefit from digital technologies by putting people, processes and business goals at the heart of change.

The programme supports manufacturers to identify opportunities for improvement, address operational challenges, and build the skills needed to make digital technologies work effectively in their business.

The journey typically begins with a detailed assessment of a manufacturer's products, processes and people. By engaging with teams across the business, Made Smarter helps cut through technology jargon and identify the digital solutions most likely to deliver measurable impact, whether that is improving productivity, reducing costs, increasing resilience or supporting growth.

The outcome is a tailored digital roadmap that provides clear, solution-agnostic recommendations and a practical plan for adoption. Depending on location and eligibility, manufacturers may also be able to access leadership programmes, workforce development opportunities and grant funding to support technology investments.

In this guide, we explore the digital technologies most commonly adopted by manufacturers through Made Smarter, alongside the emerging innovations expected to have the greatest impact on the sector over the coming years.

The Technologies

Manufacturers are using digital technologies to improve productivity, efficiency, quality and competitiveness.

Common technologies include:

- Artificial Intelligence (AI) and Machine Learning
- Internet of Things (IoT)
- Data Analytics
- Cyber Security
- Cloud Computing
- Robotics and Automation
- Digital Twins
- Extended Reality (XR)
- Additive Manufacturing (3D Printing)
- Manufacturing Execution Systems (MES)
- Enterprise Resource Planning (ERP) Systems
- Predictive Maintenance
- Advanced Sensors and Vision Systems

The following sections explore these technologies in more detail, highlighting their applications, benefits and potential impact on SME manufacturers.

Technology that could revolutionise your business.

AI:Cutting Through the Noise

One of the biggest barriers to AI adoption in manufacturing is confusion about what artificial intelligence actually means in practice.

What is AI?

Artificial intelligence (AI) is software that can learn from data, recognise patterns and support decisions or actions. It is not a single system or product. In most cases, AI sits within existing tools, helping people work faster, spot issues earlier and automate routine steps.

In simple terms, AI helps you predict what might happen, understand what is happening, create useful information, and automate routine tasks.

What is Industrial AI, and why it matters

Industrial AI applies these same capabilities within manufacturing environments, across machines, processes and production workflows (often referred to as Operational Technology, or OT).

This matters because the value is different:

It links AI directly to uptime, quality, energy use and asset performance

It uses real-time operational data rather than just business data

It supports a shift from reactive to more proactive operations

It also changes the challenge. Industrial AI requires higher levels of trust, validation and integration because it affects live production. That is why many SMEs start with IT AI to build confidence, then expand into OT, where the longer-term gains are often greater.

A useful way to cut through the jargon is to focus not on the technology, but on what AI helps businesses do. Across manufacturing, most AI applications fall into four familiar activities:



Best Practice in AI Adoption:

Scan > Pilot > Scale

Successful AI adoption is rarely driven by bold, one-off investments. In practice, it is shaped by a series of practical decisions that build confidence, capability and value over time.

A useful way to frame this journey is Scan. Pilot. Scale. In the scan stage, manufacturers identify priority tasks, define the outcomes they want to improve, and assess value, feasibility, data readiness and risk before selecting any technology. This keeps effort aligned with real business needs rather than novelty.

In the pilot stage, businesses test safely with real users. Early pilots should have clear success measures, human oversight, cyber and governance checks, and a defined learning objective. For IT AI, this may be a fast, reversible trial. For OT AI, it may also require validation in realistic operating conditions before moving further.



In the scale stage, proven use cases are embedded into live workflows through documentation, training, ownership and continuous improvement. This is where AI moves from isolated experimentation to repeatable business value. Crucially, scaling is not just an internal activity. It often requires the right mix of technology providers and systems integrators to connect AI into existing ERP, MES, quality and production environments reliably and securely.

For many SMEs, this is where adoption can stall, not because the use case is unclear, but because integration, vendor choice and implementation risk become harder to navigate. This is where the Made Smarter adoption programme plays a critical role. Acting as a trusted intermediary, it helps manufacturers define requirements clearly, engage the right partners, and ensure solutions are aligned with business needs rather than a vendor-led technology push.

Successful scaling combines internal ownership with external expertise. Manufacturers retain control of outcomes and priorities, while technology providers and integrators support delivery. With the right guidance, this creates a smoother path from pilot to production, reduces risk, and ensures AI is embedded in a way that is sustainable, secure and aligned with long-term business value.

Data and software systems

The much-used phrase 'data is the new oil' has never been more relevant to manufacturers, especially in the age of AI.

Visibility and insight of data within a factory enables a business to increase productivity, profitability and quality. Capturing, controlling and analysing that data is the domain of software. And there are a range of options from tackling individual operational challenges all the way through to the wholesale solution of an enterprise resource planning (ERP) system.

Production planning and control scheduling
Through this technology, a manufacturer can ensure everything is efficiently scheduled at the right time and can run smoothly.
Resources can be allocated, human workers assigned, and priorities ordered so that the work is optimised. A business will also be able to collect effective data from each point of the process too.

Barcoding/tracking
This is a very simple, but incredibly valuable solution to track products, parts and orders through the manufacturing process all the way through to delivery.
Through barcoding, a manager wouldn't need to visit the stockroom to inspect stock levels.
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Instead, the system would automatically check it, and can also order additional volumes when necessary. There are non-invasive tracking systems that can help with traceability and accountability too. These are particularly useful in areas
such as quality assurance, or for informing the customer throughout the production and delivery process.

Made Smarter helped **Joshua Greaves & Sons** adopt this kind of solution.



Joshua Greaves & Sons invested in a CIM50 MRP production data capture system.

Enterprise Resource Planning (ERP)
A simple way of thinking about an ERP is to imagine it as a brain. It is capable of connecting an entire business from finance and design through to production and supply chain. If a business has the right, complete data, then they have a goldmine at their fingertips.

By connecting your systems, you'll have visibility of all your operations. It means effective analysis can be carried out, inefficiencies can be highlighted, and bottlenecks observed. That helps manufacturers realise how to improve and find the answers to their challenges.
Cloud computing has enabled ERP systems to be hosted remotely enabling more flexibility and the opportunity to collaborate.

Cloud-based ERPs can also harness the latest technologies such as AI and machine learning to provide automation, greater efficiency, and intelligent insights.

Made Smarter helped both **Evertaut** and **Fylde Fresh and Fabulous** adopt bespoke ERP solutions.



Flyde Fresh and Fabulous invested in a bespoke ERP system to improve product quality checks.

Automation

Automation is any type of machine or device used to perform a repetitive process without, or with reduced, intervention from a person.

There are solutions which are useful for making a variety of similar products quickly and enabling quick changeovers like you would see with mechanical cutting or spraying paint.

Then there are solutions for faster, repetitive production like you would see in car manufacturing assembly.

Automation can also be used for making highly variable products and to achieve mass customisation. For example when CNC machine tools are augmented by other equipment such as automated materials handling systems and inspection systems.

One of the key benefits is that automation often improves productivity by allowing staff to focus on more complex, higher-value-add, or more intricate and interesting tasks.

Other benefits include improved health and safety, increased material utilisation, reduced cycle times and reduced lead times.

Made Smarter supports automation projects by focusing on the digital connectivity element, ie how the machine links to other systems. For example, we helped **Firstplay Dietary Foods** replace a manual packing process with a powder packaging machine.

To learn more about automation and read about more case studies visit our expert **blog.**



Nutree Life invested in bespoke automation to boost productivity.

Robotics

Robotics can reduce or replace repetitive work previously done by humans in the manufacturing process.

This technology usually involves a mechanism, which can move in three or more directions, that can be used to complete material handling and pick-and-place tasks faster and more efficiently than manpower alone.

Collaborative robots (cobots) are designed to work safely in the same space as people without the need for safety barriers and can be used for a wide variety of tasks, such as assisted assembly, packing, welding, machine loading, and palletising.

Industrial robots are used for tasks requiring higher speed, heavier tools or products, or in harsh environments. These are more likely used for welding, assembling, or painting cars on a production line.
The introduction of robotics often improves productivity by allowing staff to focus on more complex, higher value-add, or more intricate and interesting tasks. Other benefits include improved health and safety increased material utilisation, higher quality products, reduced cycle times and reduced lead times.



Hannah Reardon from Bloom-in-Box.

Despite all these benefits, UK manufacturers have been slow to adopt the technology. According to the **International Federation of Robotics**, the UK's use of robotics in 2022 was below the global average and significantly lower than that of China, South Korea and Germany.

But the positive news is that robotics adoption in the UK has risen by 50% over the last five years, and is likely to accelerate.

Persistently high job vacancies are forcing manufacturing leaders to look to technology to solve their productivity problem. Add to the mix the reduction in cost and massive tax incentives such as the 'super-deduction' enabling companies to claim 130% capital allowance on qualifying plant and machinery investments - and robotics is now much more accessible to SMEs.

Made Smarter has helped several manufacturers adopt robotics including **GB Engineering**, **Bloom-in-Box**, **Storth** and **JCM Fine Joinery**.

There are a wealth of robotics solutions available, which makes choosing one a tricky task. Made Smarter can help define problems and find the right solution to suit.

Our advisor's team can then help you access grant funding as well as provide ongoing help and support. To learn more about automation and read about more case studies visit our expert **blog**.

Additive Manufacturing

Additive manufacturing (AM) – more commonly known as 3D printing – is the process of creating a physical object by building it layer by layer, as opposed to subtractive manufacturing methods, such as machining.

It has transformed manufacturing by enabling cost-effective, customised production of complex parts, reducing waste, and accelerating prototyping.

Objects that are impossible to make with any other process can now be made using 3D printing, driving innovation.

AM is also helping manufacturers achieve their sustainability goals. The process itself is more resource-efficient and allows for a more lightweight design.

Then there are the planning and preparation. The fuel savings from being able to manufacture components closer to the customer, rather than shipping them. And finally, AM generates opportunities that extend a product's life cycle, lending itself to the circular economy. Made Smarter has helped several manufacturer's adopt AM. You can read their case studies here: **Fusion Implants, Croft AM** and **Mackinnon & Saunders**. Alternatively read our **blog**.

To learn more about how AM is helping the manufacturing ecosystem visit the Additive Manufacturer Green Trade Association **(AMGTA).**

Adopting AM correctly needs effective planning and preparation. The Made Smarter team can give you an idea of costs and help determine the best applications for your needs. We can also introduce you to partners like **PrintCity** and **ARMC NW** who can work with you to perform small-scale trials.



3D printing can transform manufacturing.

The Industrial Internet of Things (IIoT)

The industrial internet of things is a network of smart devices like sensors that monitor, collect, analyse, and exchange data.

In a factory this could be inputs such as light, heat, motion, temperature, pressure, signal, radiation or force.

IIoT allows manufacturers to improve operations with data-backed insights.

Applied within manufacturing and factory environments it can unlock productivity gains, streamline processes, improve yield and increase quality control. It can help predict equipment failure, saving maintenance costs and time, but also making sure to reduce business downtime and avoid failures or accidents.

IoT also helps tackle issues of obsolescence, especially for those SMEs with older machinery and processes.

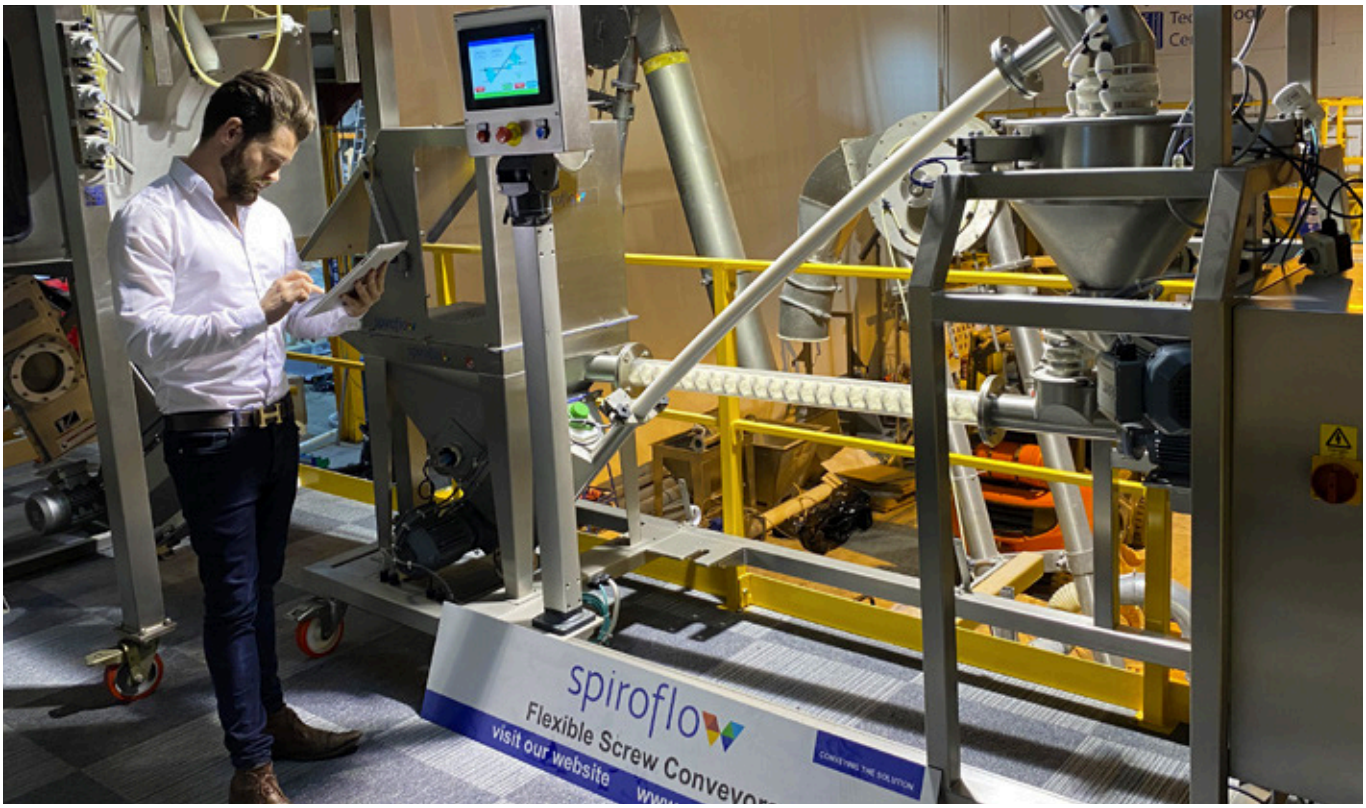
IIoT can also help manufacturers understand energy use – determining which machines are more energy-efficient and when.

Putting the benefits together IIoT is helping create the factories of tomorrow.

Read how Made Smarter helped **Spiroflow** reap the benefits of the technology.

Integrating machinery throughout a factory may seem like a headache, and an expensive one at that, but the reality is that the smart sensors and powerful analytic tools are readily-available for all budgets and applications.

The key is getting the right advice, which is what we are here for.



Spiroflow developed a remote monitoring system using IIoT technologies.

Cyber Security

Cyber security is the means by which individuals and organisations reduce the risk of becoming victims of cyber attack.

More of a mindset and a set of procedures than a technology, its function is to protect the devices used by manufacturers such as smartphones, laptops, computers, servers, networks and IIoT connected devices, from attack or damage. It's also about preventing unauthorised access to the vast amounts of valuable data including intellectual property, data on customers and their products.

Protecting your business from cyber security risks can seem daunting but there is plenty of free help out there to make sure you have the basics in place and protect your organisation's data, assets, and reputation.

The UK National Cyber Security Centre (NCSC) supports the most critical organisations in the UK, the wider public sector, industry, SMEs as well as the general public.

The NCSC's A-Z of cyber security is a great place to start or you can download this **Small Business Guide**.

Cyber Essentials is a simple but effective, government backed scheme that will help you to protect your organisation, whatever its size, against a whole range of common cyber attacks.

Made Smarter has also produced a **Cybersecurity Technical Guide**. If you need help implementing cyber security practices, or would like advice on the current systems within your manufacturing organisation, our specialist business and technical advisers are on hand.

Not only can we support you in uncovering the tools you may need to protect yourself, but we can also discuss how to fill any skill gaps you might have in your workforce.



Cyber security is a vital tool for SME manufacturers.

Conclusion

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Looking Ahead to 2027

As manufacturers prepare for 2027, digital transformation is no longer a future ambition but a business necessity. From improving productivity and resilience to unlocking new opportunities for growth, digital technologies are becoming essential tools for staying competitive in an increasingly connected world.

Two areas will be particularly important in the years ahead. **Artificial Intelligence (AI)** is rapidly moving from experimentation to practical application, helping manufacturers automate tasks, improve decision-making, optimise processes and unlock greater value from their data. At the same time, as businesses become more digitally connected, **cyber security** must remain a priority to protect operations, supply chains, intellectual property and customer trust.

The most successful manufacturers will be those that take a planned approach, focusing on business challenges first and adopting the right technologies at the right time. Whether you are just beginning your digital journey or looking to accelerate existing projects,

Made Smarter can help you identify opportunities, build the skills you need and create a practical roadmap for change.

The future of manufacturing will be powered by people, enabled by technology and driven by data. Now is the time to start planning for a smarter, more productive and more resilient 2027.

Ready to take the next step?

Made Smarter provides eligible SME manufacturers with impartial advice, digital transformation support, leadership and workforce development, and access to funding opportunities for technology adoption.

Register today to begin your digital transformation journey and discover how the right technologies can help your business thrive in 2027 and beyond.

www.madesmarter.uk

Seasons Greetings from Made Smarter

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