Calling time on overtime:

How to eliminate the hidden cost of workforce inefficiency in your manufacturing business



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Introduction

For a manufacturing business, losing productive hours can quickly become a financial problem. When work takes longer than planned, jobs are delayed or employees spend time dealing with avoidable issues, the business still has to meet its customer commitments. One common way to make up the difference is to ask employees to work longer hours and pay them overtime.

That can be a practical short-term solution when you have an urgent deadline, but regular overtime is a clear sign that capacity is being lost unnecessarily due to inefficient processes. A skilled engineer might spend hours re-entering information, a production manager might have to replan a schedule manually or an operator might be waiting for a missing material. Each issue may seem relatively minor, but repeated across a team and over a year, they can add up to a significant cost.

Inefficiencies hamper profitability and growth, making it difficult to take advantage of new opportunities in the sector, particularly in verticals like defence and aerospace. Research by Grant Thornton found that 32% of top-performing firms now operate in industrial products, 17% in metals processing and fabrication, 11% in materials and chemicals and 11% in specialist industrial equipment. Major manufacturers are stepping up investment too, including Rolls-Royce which has announced £300 million of investment, which could provide a boost for suppliers.

However, these opportunities depend on SME manufacturers achieving digital maturity, using technology to operate in a lean, productive and innovative way. There's still some way to go. Research from Make UK suggests that while 70% of manufacturers are investing in digital tools, only 10% operate fully digital factories. The industry body also found that 46% of manufacturers identify a lack of technical skills as their biggest barrier to digital adoption, while 41% cite integration difficulties caused by outdated IT infrastructure.

For many firms, the first step is understanding where working hours are being lost and why. That can be difficult when information is spread across different systems, spreadsheets and manual records, making it harder to see where delays and duplication are occurring. This is why many manufacturers are turning to ERP systems, which offer employees better visibility of what is happening across the business and provide the data and digital foundation for advanced technologies like AI.

This paper looks at the cost of lost working hours in SME manufacturing, starting with overtime and the less visible costs that sit behind it. It examines where those hours are lost, how they affect profitability and what manufacturers can do to recover them.

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The slow creep of overtime

In SME manufacturing firms, overtime is often accepted as an unavoidable expense. When a large order arrives, a machine breaks down or a job takes longer than expected, it's common for staff to stay late to keep production moving. Paying them more for this time is then treated as simply another overhead – a cost that, while not ideal, is necessary to fulfil orders on time.

However, if you're regularly relying on overtime to salvage challenging orders, it's worth considering where your capacity is being lost. It might not be something obvious, like a spike in order volume – instead, it could be the culmination of smaller inefficiencies that have compounded over time.

Engineers could be re-entering information that already exists in another area of the organisation, or relying on inefficient workarounds because they don't trust the main system. Inaccurate budgeting and forecasting could also be causing repeated errors and material shortages, which ultimately increase the risk of delays and stockouts.

There is also a significant human cost to overtime that shouldn't be taken lightly. Extended working hours can increase fatigue, which affects concentration, reaction times and decision-making. HSE guidance identifies reduced alertness, slower reactions and lapses in attention as effects of fatigue, and notes that performance can deteriorate significantly when people have been at work for more than 12 hours.

Each of these issues might seem minor in isolation, but they ultimately affect your ability to meet production targets and deliver on customer commitments. Each hour spent managing avoidable issues is ultimately time that could be spent on more productive work. To reduce your reliance on unplanned overtime, it's worth looking more closely at where those hours are being lost.



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Where the time gets lost

Re-entering information

In many manufacturing businesses, information starts in one system and needs to be entered again somewhere else. An engineer might take a bill of materials from a CAD or PDM system and manually enter it into the system used for purchasing and production.

Copying this information between platforms, then checking it is accurate, takes valuable time which ultimately could be saved with a more efficient process. These lost hours will then compound if any errors go undetected, resulting in delays and unnecessary rework further down the line.

Maintaining separate spreadsheets

People often create their own spreadsheets when information they need is difficult to find or manage in the main system. A production manager might maintain a spreadsheet for scheduling, while purchasing and other departments keep their own separate records.

These spreadsheets can be useful in the short term, but they also create more work when information changes. Someone has to update them, check that the figures are current and reconcile them with information held elsewhere. This extra work ultimately wouldn't be necessary if staff had a single source of live production information they could trust.

Replanning production

Unforeseen problems in the production process are not unusual. Jobs can take longer than expected for many different reasons – a machine may become unavailable, a delivery could turn up late or an unexpected maintenance issue may arise.

It is how your team navigates these problems that ultimately makes the difference. Relatively small issues can take a surprising amount of time to resolve if managers are forced to manually move jobs around, make phone calls or rely on siloed knowledge rather than using live and accurate capacity planning tools. The longer it takes to adjust the schedule, the greater the risk that other jobs will be pushed back and delivery dates put under pressure.

Chasing missing materials

If stock records are inaccurate or purchasing information is out of date, a job can reach the shop floor only for the operator to discover that a required material or component is missing. The operator then has to wait, find another job to work on or leave the planned work until the material arrives.

If the delivery date cannot move, those lost hours will have to be recovered elsewhere, either through overtime or by delaying other work.

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The financial impact of overtime on MTO and ETO manufacturers

For make-to-order (MTO) and engineer-to-order (ETO) manufacturers, relying too heavily on overtime can be particularly costly. Because the prices for these jobs are often agreed before production begins, any additional labour costs will come directly out of the expected profit margin.

For example, if a job has been quoted on the basis of 100 hours of labour but takes 115, the manufacturer still has to pay for those additional 15 hours. If they are worked as overtime, the cost may be higher again, depending on the overtime premium (which usually sits at 1.5 times the standard hourly rate).

As we have seen, those additional hours can emerge from many different points in the production process and stack up across multiple jobs, gradually eroding the margin built into the original quotation. Manufacturers handling a high volume of bespoke or low-volume work therefore need to treat overtime particularly cautiously, and investigate where lost hours could be affecting their profitability.

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How much does workforce inefficiency really cost?

While there are several costs to consider when keeping production running for longer than expected, the higher wage paid to your staff is likely to be the most significant.

Consider a small manufacturing business with five machine operatives who each work one additional hour every weekday. Using the current UK average wage of £14.41 for this role (as listed on Indeed), and assuming an overtime rate of 1.5 times the standard hourly rate, each additional hour costs £21.62 in wages per person per hour.

That extra hour a day quickly adds up:

Period	Overtime hours	Cost
Per day	5	£108.10
Per week	25	£540.50
Per month	108.3	£2,338.70
Per year	1,2000	**£25,938**

Five operatives working just one additional hour every weekday could add almost £26,000 a year in overtime wages alone, based on this example – not too far off a full-time salary.

There are then the additional costs associated with keeping those employees, and your machines, working for longer. While the exact costs will vary from one manufacturer to another, Employer National Insurance and pension contributions would add a further £4,669 a year to our example, taking the total annual cost of paying your staff alone to around £30,600.

There are other overheads to consider too, such as the increased energy consumption, maintenance and tooling costs associated with running machinery. One machine drawing 10 kW would use 12,000 kWh of electricity (at a rate of 20p per kWh), which would add £2,400 to the annual cost of production in our example. In a factory running several machines for long hours, these costs can accumulate quickly.

Longer working hours can also cause fatigue, which increases the risk of errors, scrap and rework. If overtime affects product quality or leads to missed specifications, manufacturers may face additional costs due to material waste, reworking jobs or dealing with customer complaints.

While relying on overtime might be a tempting short-term fix then, it can become an expensive way of working, particularly when it's used as a sticking plaster for problems elsewhere in the production process.

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When we look at the growth ambitions of UK SME manufacturers, the potential cost of overtime becomes even more significant. Make UK estimates that around 250,000 manufacturing businesses operate in the UK, 99% of which are micro or SMEs, while almost two-thirds of SME manufacturers want to grow into large businesses within the next decade. If this growth is realised, it could add £83 billion to UK manufacturing GVA over that period.

Given the size of the SME manufacturing base, it means even relatively small amounts of overtime can add up to a significant cost across the sector. If each UK SME manufacturing firm paid out just five hours of overtime a week, that would represent 1.24 million additional hours. Using the £21.62 hourly overtime rate, those hours could cost the UK economy around £26.8 million just in wages each week, or approximately £1.28 billion over a 48-week year.

Relying too heavily on overtime therefore makes it harder to achieve the long-term growth that so many firms are striving to achieve.

Quantifying the savings

The 1,200 hours of overtime in our example are equivalent to around 60% of a full-time employee's annual working hours, all of which could be recovered with more efficient processes. If five employees each lose 30 minutes a day to tasks such as searching for drawings, re-entering information or checking the status of jobs, those small amounts of wasted time can add up to hundreds of hours over a year.

For a manufacturer relying on overtime, finding and removing this wasted time can make a meaningful difference. Improving how information is handled before production starts, reducing the need to maintain separate spreadsheets and giving staff better visibility of jobs in progress can all help employees spend more of their working hours on productive tasks.

Recovering enough of this time could then reduce the need for the additional hour of overtime in our example, while also giving the business more productive hours during the normal working day.

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Out of the shadows: What can you do to free up capacity?

The unquantified time lost every day can be attributed to 'shadow processes' – the routine tasks that slow down skilled employees and are a barrier to innovation, profitability and growth.

As we have seen, it could be because they're reliant on spreadsheets which require manual input and updates, and are harder to surface information from. It could also be down to a poorly-performing and/or outdated Enterprise Resource Planning (ERP). The fact that these tools slow teams down is one thing. But when it also leads to poor decision-making – impacting resource allocation, machine maintenance, quality and customer satisfaction – firms cannot scale or even operate successfully.

Time lost to shadow processes can amount to an FTE role in some cases, creating shadow employees. Taking on new people to achieve your growth plans doesn't solve the problem either; in fact, it multiplies the inefficiencies and costs.

The way to make your operation leaner hasn't changed in decades. You still need to standardise your processes before you scale them, and provide evidence to support your business decisions. What's changed is the technologies driving them.

Modern, cloud-based business software, including ERP, has already levelled the playing field for SMEs, offering them capabilities once reserved for the larger firms – including automation and data-driven decision-making. Furthermore, advanced technologies like AI are now opening up even more opportunities for factories to be leaner, without the IT overheads. AI features embedded within your ERP could save hours building Bills of Materials, or allow you to proactively and accurately forecast sales, so that resources are allocated to the right areas of production in plenty of time.



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Five areas where technology can help you claim back time

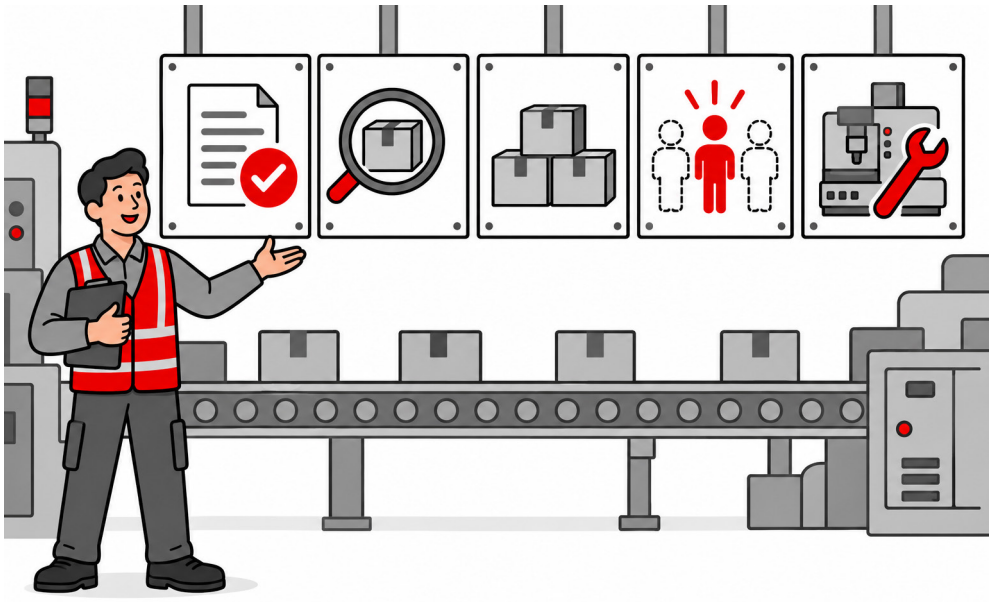
1. **Admin waste** - You know how much time is lost with a rework or dealing with a customer complaint. But admin is sometimes overlooked because it's considered business as usual. Traditionally, your team might spend several hours creating and reworking a BOM, or chasing engineering drawings, or orders. Being able to connect all of your processes centrally using an ERP gives teams instant visibility, so they don't have to send lengthy email chains or continually update spreadsheets. Choosing one that supports the workflows of discrete manufacturers makes managing even complex tasks logical and intuitive, so teams aren't fighting with the software.

2. **Quality issues, scrappage and reworks** - Even the most skilled teams can make errors when they're overworked and reliant on outdated systems. The problem is that in Make-to-Order (MTO) and Engineer-to-Order (ETO) environments, the cost of errors and reworks can be extremely high – both in terms of the materials and labour lost, and the reputational damage if a customer order is delayed. Connecting an ERP to CAD software allows you to automatically import technical drawings and complex multi-level BOMs, with any changes immediately updated.

3. **Controlling stock levels** - Just in time isn't a new concept – but it's not easy to achieve when you're faced with global supply chain uncertainty and changing customer demands. Employees can lose hours manually forecasting, only to end up with too little or too much stock. If you automate Material Requirements Planning (MRP), everything you purchase is linked to current customer demand and production schedules.

4. **Workforce planning** - As we've seen, unbudgeted overtime is costly and, thanks to technology aimed at SME manufacturers, increasingly unnecessary. Instead of asking people to work overtime, use your ERP to plan capacity based on the master production schedule, and rework it in seconds if something unexpected happens, like an employee phone in sick or a machine breaks down.

5. **Machine downtime** - It's one thing to pay for overtime when workers are productive – it's even worse if they spend their shift with nothing to do because a machine on the assembly line has broken down. Using your ERP to maintain an accurate record of servicing, repairs, replacements and warranties lets you plan maintenance around production and reduce the chances of a breakdown.



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Why now?

It's not just the operational cost of overtime to consider – there's an opportunity cost too. The growth of major engineering companies, particularly in the aerospace and defence sectors, could create new contract opportunities for regional suppliers, provided they can demonstrate effective operational control.

Managing processes manually increases the risk of labour shortages, delays, and compliance and traceability issues. In highly regulated industries, robust systems are essential for demonstrating conformance, safety and compliance, helping suppliers meet customer requirements and strengthen their position during the bidding and tendering process.

De-risking digitisation

> **"One of the biggest pitfalls is moving messy data and processes into an ERP, and it's even worse if you then apply AI. It leads to poor decision-making, so people won't trust the technology, and will revert to shadow processes. Digitisation is a change management initiative, not solely an IT one. You need to think about the problem you want to solve first, choose the right ERP and follow a structured implementation plan."**
>
> – Shane Taylor, Sales Manager at ECI (Ridder iQ)

While many manufacturers recognise the advantages an ERP and other technologies could bring to their operation, taking the next step isn't always straightforward. Fears around the software not living up to expectations – that it'll be too hard for staff to pick up or unsuited to discrete workflows – can make it seem easier to stick with the status quo. This is especially true if you've invested in a solution that didn't perform well in the past, or was disruptive to implement.

However, the cost of overtime is hitting manufacturers at a time when there are real expansion opportunities. The good news is that you can get the benefit of technology, while minimising the risk.

The starting point is quantifying the cost of inefficiencies in your business. Because this will vary, we've created a handy calculator to help you see where time is being lost so you can make a strong commercial case to your wider team.

Treating it as a change management exercise, not just an IT project, with a clear roadmap and stakeholder (including employee) engagement helps to reduce the risk and increase the returns of investing in an ERP.

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Tips for a successful implementation

1. **Get buy-in from the leadership team** – and appoint your internal champion - Whether you're an owner-manager, or work in production, commitment from leadership is critical. The MD, board or owner won't be caught up in everyday operations, so they can match the project outcomes to the business strategy. But it's also important to have a champion on the ground, who can act as the point-of-contact with your ERP consultants and answer any questions from different departments, including addressing challenges before they escalate.

2. **Audit your processes and cleanse data at the source** - Simply lifting poor processes and data into an ERP sets you up to fail. Instead, take the opportunity to start afresh, cleansing your data and reviewing whether a process could be refined. That way, you'll start off on a strong footing. Remember too that your team can start adding new data to your ERP straightaway, so it won't be long before you have up-to-date information, not historic records, to inform decisions.

3. **Work in short sprints** - Like any major project, trying to do too much at once will lead to team overwhelm, lost production time and scope creep. Working in shorter sprints allows everyone to focus on addressing time-consuming tasks where digitisation could deliver the most savings. This proves the value of your ERP at an early stage, so you win the support of your teams and achieve the commercial value you need.

4. **Empower shop-floor super-users** - You also need to have a plan for after the go-live date. No matter how good the software is, and how enthusiastic people are about it, your hard work will be undone if teams don't adopt it or use it in the right way. This is where shop-floor super-users come in. Empowered to use the new system from the start, they can answer questions and help their colleagues navigate the features and train up new-starters so knowledge isn't lost. They should also spot if people are going back to old ways of working before you start losing time once again.

5. **Choose the right implementation partner** - While many ERP solutions are plug and play, the complex workflows of discrete manufacturing require a more nuanced approach. A vendor with a proven implementation framework can help you anticipate and resolve any challenges and ensure there's minimal disruption before and after the system goes live.

Ridder iQ, from ECI, unites your shop floor and back office, improving the efficiency and performance of your manufacturing operation. The cloud-based ERP is specifically designed to support the workflows of discrete, make to order (MTO) and engineer to order (ETO) manufacturers. It integrates real-time production scheduling, live job costing and automated inventory management, giving you a single source of truth across your business, so you can eliminate waste, meet customer expectations and grow your profits.

To find out more, book a demo or find out about pricing, visit our website.

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