



Why understanding machine downtime is essential for manufacturers

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Introduction

Manufacturers across the UK, spanning food and drink, automotive, pharmaceuticals, textiles, packaging, and more, face a critical, universal challenge: unplanned machine downtime. In 2025 alone, UK and European manufacturers are projected to lose over £80 billion due to downtime, according to research by IDS-INDATA¹.

Even brief pauses in production can generate staggering losses:

- In the automotive sector, where dependency on tightly coordinated supply chains and Just-In-Time production is high, downtime is forecast to cost between £1.6 million and £2 million per hour, totalling up to £10–12 billion in 2025¹.
- In food processing, frequent minor stoppages—which add up to approximately 442 hours per year—cost around £18,000 to £25,000 per hour, leading to estimated annual losses of £4–5 billion¹.
- The pharmaceutical sector also suffers heavily: with longer disruptions averaging 8+ hours and costs ranging from £1 million to £5 million per hour, total downtime could reach as much as £500 million to £1 billion in Britain².

Across all UK manufacturers, unplanned machine failures account for about 3 % of working days lost, equivalent to roughly 49 hours per company per year¹.

To maintain optimal levels of productivity, profitability, and efficiency, manufacturers must effectively handle unplanned machine downtime. Failure to do so can lead to production bottlenecks, wasted resources, and increased manufacturing costs.

In this guide, we explore the causes, costs, prevention strategies, and benefits of managing unplanned machine downtime effectively.



¹ IDS, The Real Cost of Downtime in Manufacturing: Sector-by-Sector Breakdown and 2025 Forecasting <https://idsindata.co.uk/manufacturing-downtime-costs-and-forecasting>

² Proces Industry Informer, UK and EU face £80bn cost from factory downtime in 2025, <https://www.processindustryinformer.com/manufacturing-faces-80bn-downtime-cost-by-2025>

What is machine downtime?

In simple terms, machine downtime refers to any period in which a machine is not available for production. This can be categorised into two broad types:

- | **Planned (productive) downtime:** such as scheduled maintenance, changeovers, or quality inspections, which are controlled and necessary to ensure smooth operations.
- | **Unplanned (unproductive) downtime:** sudden stoppages due to breakdowns, operator unavailability, supply issues, or other unexpected factors that disrupt output.

Impacts of machine downtime

Unplanned downtime is where the greatest risks lie. Whether it's packaging machines in food and beverage, presses in automotive, or filling equipment in pharmaceuticals, the costs of unplanned downtime compound quickly.

The impact of unplanned downtime includes:

- | **Lost revenue:** According to Forbes, the average manufacturer sees around 800 hours of downtime per year, more than 15 hours a week. This isn't cheap: for example, the same article states that the average automotive manufacturer loses \$22,000 per minute when the production line stops, while unplanned downtime costs industrial manufacturers up to \$50 billion a year³.
- | **Lost production capacity:** A single stoppage can delay entire production runs.
- | **Inefficient resource use:** Staff and raw materials are tied up but unproductive.
- | **Reduced competitiveness:** In high-demand markets, late delivery can damage customer relationships and reputations.
- | **Increased waste:** Unplanned downtime may lead to materials going to waste, which will take time and money to replace.

³Unplanned Downtime Costs More Than You Think, <https://www.forbes.com/councils/forbestechcouncil/2022/02/22/unplanned-downtime-costs-more-than-you-think/>

Common causes of Machine Downtime

Machine downtime can occur for a variety of reasons, and understanding these root causes is the first step toward reducing them. While every industry has unique challenges, machine downtime typically arises from five broad categories:

Category	Downtime Reasons	Example
Equipment Failures	- Mechanical faults (e.g., bearings, motors, belts) - Electrical or control system issues - Tooling/component wear or breakage	A conveyor motor failing in a food packaging line.
Human Factors	- Operator unavailability (absence, training gaps) - Errors in setup, programming, or handling	Incorrect calibration of a press leading to a stoppage.
Process & Planning Issues	- Inefficient changeovers or setups - Poor scheduling or communication between shifts/departments	Production delayed because maintenance and operations schedules conflict.
Materials & Inventory	Shortages, poor-quality inputs, or late deliveries	A textile machine idle while waiting for raw fibre shipments.
External & Environmental Factors	- Utility failures (power, compressed air, water) - Compliance checks, audits, or safety stoppages	A pharmaceutical line paused for a regulatory inspection.

Measuring downtime

Unplanned and unproductive machine downtime can quickly erode profitability, disrupt customer commitments, and lower staff morale. Minimising it requires accurate tracking and proactive strategies, but it stands to reason that **reducing downtime is impossible without first understanding the main causes behind it.**

Accurate tracking: The foundation

Historically, downtime tracking relied on paper logs or spreadsheets—methods prone to omission and bias. A clear indicator of this problem is that 70% of manufacturers still collect data manually, often relying on paper forms or spreadsheets rather than digital systems⁴. This reliance on manual entry leads to omissions, delays, and poor visibility, which in turn undermines effective improvement initiatives.

Today, manufacturers are turning to machine monitoring and downtime tracking software to gain a clear, real-time picture. These systems automatically capture when and why a machine stops, allowing managers to:

- | Identify recurring stoppages.
- | Quantify downtime by machine, cell, or line.
- | Prioritise fixes that will have the greatest impact.



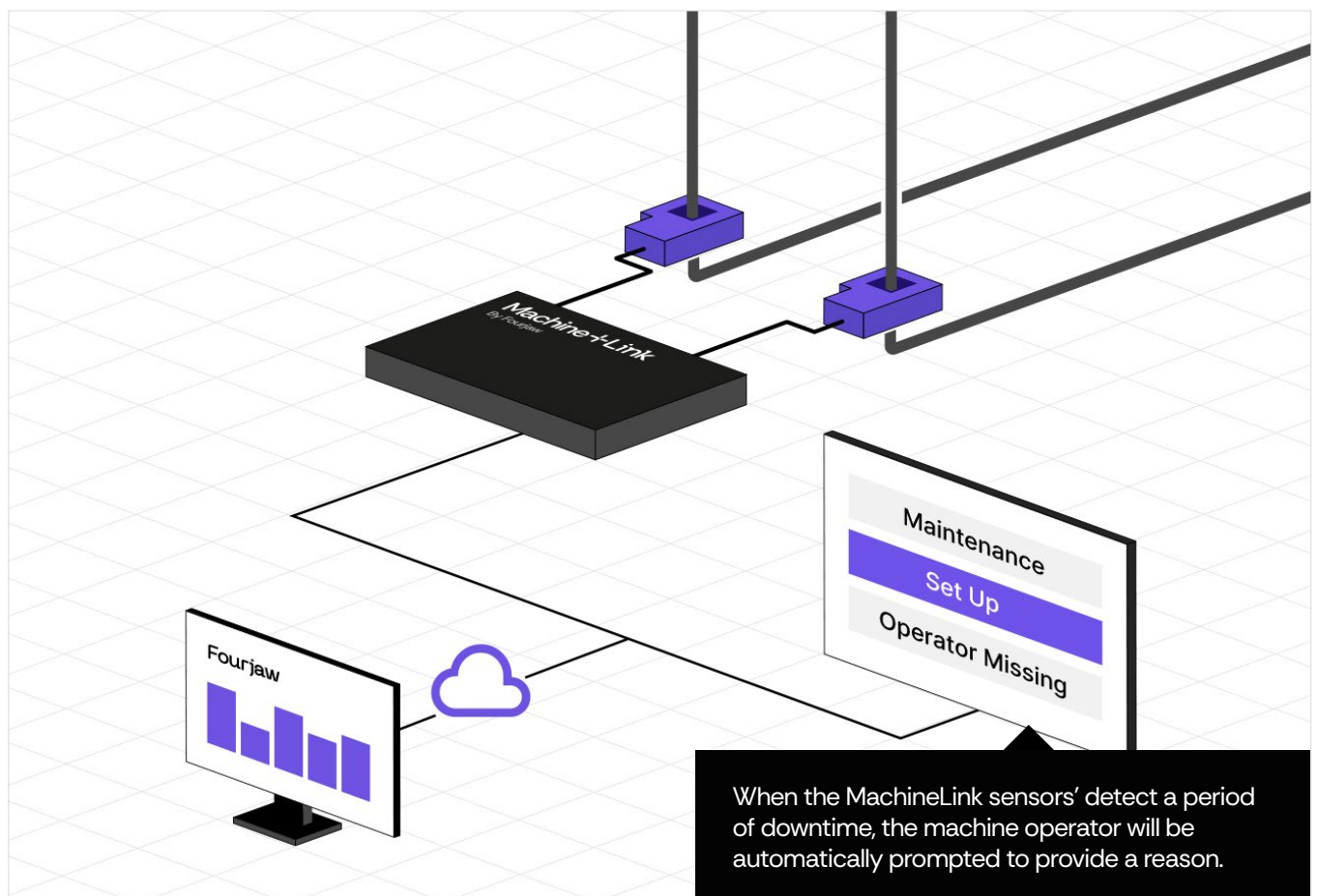
Using tools such as machine monitoring enables managers to make informed to target the top causes and focus their efforts on removing them.

⁴ Manufacturing Leadership Council, Seventy Percent of Manufacturers Still Enter Data Manually, <https://manufacturingleadershipcouncil.com/seventy-percent-of-manufacturers-still-enter-data-manually-2-37141/>

How FourJaw tracks downtime

FourJaw is a machine monitoring platform that can easily connect to any machine, no matter the age or brand. Unlike traditional monitoring systems that require complex integrations or costly upgrades, FourJaw is designed to be simple, fast to install, and affordable for manufacturers of all sizes.

Once connected, FourJaw provides real-time visibility of machine performance, capturing key metrics such as uptime, downtime, and utilisation. Operators can log downtime reasons on the spot using FourJaw's intuitive tablet interface, creating a complete and accurate record of machine activity without the delays and errors of manual reporting.



How fourjaw captures utilisation and downtime data



It takes less than 2 seconds for an operator to select from a list of reasons when downtime is automatically detected

Traditionally, machine operators record downtime manually on paper forms or clipboards. On average, it takes around 30 seconds for an operator to fill out each downtime event (we timed it). Multiply that across dozens of stoppages per shift, and valuable production time is lost to admin—while accuracy often suffers. **With FourJaw, it takes operators just 2 seconds to provide a downtime reason.**

With FourJaw, downtime capture is automatic and streamlined. When the hardware detects that a machine has been unproductive for a set period (a threshold you can adjust), the operator is instantly prompted on the FourJaw tablet to log the reason. The process is simple:

1. **Select a downtime category** – e.g. “Tooling.”
2. **Choose a downtime reason** from that category – e.g. “Missing Tool.”

Each downtime category and reason can be customised to reflect your factory’s specific operations. You can also classify reasons as productive (e.g. planned inspections) or unproductive (e.g. breakdowns, missing parts).

This level of control means that when you analyse the data later, you can filter by productive or unproductive downtime depending on your improvement priorities. The result is a faster, more accurate system that gives managers actionable insights while saving operators valuable time on the shop floor.

Analysing the data in FourJaw

Capturing downtime is only the first step—the real value comes from how the data is analysed. FourJaw provides a range of tools to help managers and teams uncover trends, prioritise problems, and focus improvement efforts where they will make the greatest impact. Two of the most powerful are downtime **Pareto charts** and the **timeline view**.

Downtime pareto charts

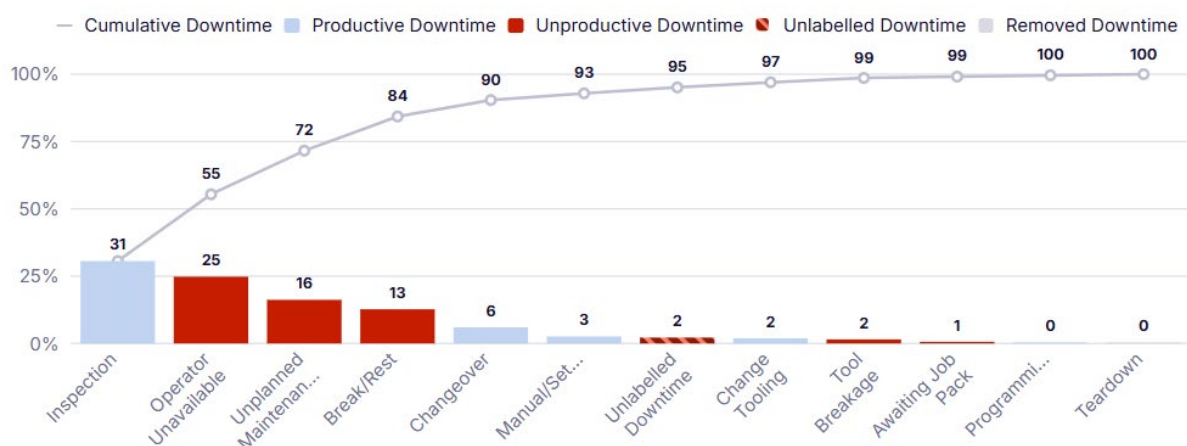
A Pareto chart is a tool rooted in the Pareto principle (often called the 80/20 rule), which suggests that around 80% of the effects come from 20% of the causes. In manufacturing, this means that most of your downtime is usually driven by just a few recurring reasons.

FourJaw automatically generates downtime Pareto charts, ranking downtime categories and reasons by their total impact. For example, instead of treating 20 small issues equally, a Pareto chart may reveal that “tooling problems” account for the majority of lost hours. By tackling those first, manufacturers achieve faster, more meaningful improvements.

- Visualise priorities clearly: the biggest downtime drivers are obvious at a glance.
- Target resources effectively: focus maintenance, training, or process improvement where it will make the most difference.
- Track improvement over time: as problems are solved, new charts highlight the next set of priorities.

Milling Downtime Pareto (%)

Yesterday • Cell • On shift

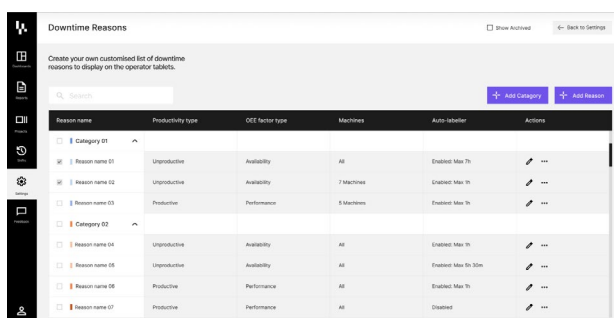


Timeline view

While Pareto charts help you identify the biggest downtime drivers, FourJaw's timeline view gives you a sense of when and how downtime occurs. This view displays downtime as blocks across a time axis, which you can zoom in and out of to reveal patterns and trends.

For example, by using the timeline view you might notice that a particular machine suffers from frequent, short tool stoppages during the morning shift, or that longer unplanned stoppages cluster at the end of the week when maintenance staff are stretched.

- 1 **Spot recurring patterns** that may not show up in aggregate reports.
- 2 **Drill into individual stoppages** to understand context and root causes.
- 3 **Compare shifts or time periods** to see if downtime varies with staffing, demand, or other factors.



FourJaw allows you to categorise downtime events, whether from machine malfunctions, maintenance, setup times, or supply chain disruptions.

This detailed logging helps identify patterns and recurring issues needing attention.

Conclusion

Capturing downtime is not the end goal, it's the beginning of improvement. Once downtime data is collected accurately and consistently, manufacturers can finally see the truth of what's happening on their factory floor.

We hear it time and again from FourJaw customers: what they thought would be their biggest causes of downtime, weren't the biggest causes of downtime. Often the biggest surprises come when the data proves that the downtime reasons operators complain about most are not the ones costing the most time. Operators naturally emphasise the stoppages that feel most frustrating to them, but the largest hidden cost often lies in frequent, shorter events that had gone unnoticed. By shining a light on the real causes, managers can focus their efforts where they'll have the greatest impact.

With reliable downtime insights, manufacturers can move from firefighting to continuous improvement, applying lean and CI techniques with confidence. The advantages are clear:

- | **More capacity without more machines:** reduced unplanned downtime means more output with the same resources.
- | **Fewer errors and stronger skills:** downtime linked to human factors highlights where training and support are needed.
- | **Decisions based on facts, not bias:** real-time machine data removes subjectivity, ensuring the right problems are tackled first.
- | **Improved OEE and efficiency:** higher availability and performance increase throughput and reduce maintenance costs.
- | **Lower quality fallout:** downtime data reveals where stoppages are linked to defects, helping prevent costly scrap and rework.

Together, these improvements fuel a continuous improvement loop: **capture data, analyse it, act on it, measure results, and repeat**. Over time, this creates a more resilient, productive, and competitive operation.

It stands to reason that reducing downtime is a universal goal for manufacturers, but it can only be achieved once you understand your true causes of downtime. **FourJaw provides that visibility, transforming hidden losses into opportunities for growth.**



About FourJaw

FourJaw, based in Sheffield, recognised that the prohibitive costs and complexity of traditional monitoring solutions were a major barrier for manufacturers. In response, we created a plug-and-play platform that's easy to install on any machine, old or new. This innovation delivers real-time data on utilisation, OEE, and downtime, helping factories boost productivity and profitability.

Our team at FourJaw is a diverse group of tech enthusiasts who individually and collectively share a passion to harness the power of technology to drive efficiency, productivity and profitability for manufacturers throughout the world.

Trusted by Manufacturers



Success stories

We're big advocates of promoting best practices, so we have a number of customer success stories that show how manufacturers just like you have installed and used FourJaw to enable them to overcome challenges on their factory floor.

- | [Learn from your industry peers](#)
- | [See our reviews](#)

Learning library

If you like reading about the latest manufacturing news/trends, product updates or getting helpful tips and advice, our resource area is a good place to look, it includes things like blogs, guides and webinar content we have created.

- | [Blog](#)
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