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From firefighting to foresight: Why manufacturers are rethinking reactive maintenance

Introduction

Australian manufacturing is entering a period of renewed growth — but that growth comes with little room for unexpected operational downtime.

The Australian manufacturing industry is a vital driver of Australia's economy, contributing 7.34% to national GDP with output rising 3.2% year over year. Yet, despite its size and progress, the industry faces ongoing difficulties — from persistent cost pressures and workforce shortages to ongoing supply chain disruption.

Inflation has led to surging input and material costs, while volatility in global energy markets has seen fuel and coal prices spike by over 25% in a single quarter.

The industry also faces a tight labor market. With the rapid adoption of automation and AI, factories are hiring more selectively, resulting in a critical shortage of specialized technicians with a fill rate of just 55.1%. Meanwhile, maritime disruptions force shipping routes around Africa, adding 10- to 14-day delays for critical imports.

Ultimately, manufacturers are facing higher material and operating costs, fewer skilled hands and longer wait times for parts. Throw an unforeseen breakdown into the mix, and it can halt production, jeopardize delivery commitments and pull busy teams away to fight another emergency.

To combat this, the industry is making moves toward better asset visibility and predictive planning over expensive "run-to-fail" maintenance approaches. Yet, while many manufacturers recognize the value of making the shift, the reality is, it's not happening fast enough.

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The real cost of a reactive culture

The Society for Maintenance & Reliability Professionals (SMRP) recommends keeping reactive maintenance to a small proportion of total activity (e.g., under 10% of total labor hours).

Yet, studies show that breakdowns and emergency repairs still account for **25%–50%** of total work orders — far below reliability benchmarks.

This makes reactive maintenance one of the biggest operational leaks for Australian brownfield plants, with emergency repairs costing **three to five times** more than planned maintenance due to expedited parts, production downtime and overtime.

There are safety risks too. With shortages continuing across skilled trade roles in Australia, emergency breakdowns place additional pressure on already-stretched maintenance teams.

When the data reveals the problem

The underlying issue with reactive maintenance is a lack of asset visibility.

E.A. Sween, a ready-to-eat food manufacturer, provides a useful example of how better maintenance visibility can change decision-making. As it expanded production from five to seven days a week, its preventive maintenance completion rates plummeted to just 25%.

The facility housed over 7,000 active parts, but its metrics were misleading. Minor, quick tasks were routinely completed, keeping baseline completion percentages artificially high. Meanwhile, complex, high-impact tasks on critical machinery were skipped due to a lack of scheduled downtime.

When management modeled the exact labor hours required, the data revealed technicians faced 120 hours of necessary preventive maintenance during a standard two-week roster — yet they were only clocked in for 80 hours.

This changed the conversation from, "*Why aren't we completing our maintenance?*" to, "*Do we have enough capacity to do the work the plant requires?*"

Without data, the problem looked like execution. With data, the organization could see a capacity problem and make a more informed case for additional resources.

Self-assessment: Where are you today?

Transitioning away from a reactive culture requires a transparent look at your current operational maturity. To evaluate whether your plant is trapped in a firefighting loop or moving toward reliability, ask your team these critical questions:

Maintenance ratio: Do you know your exact preventive vs. reactive maintenance ratio?

Report Insight: Does your system offer reporting that intuitively flags problem areas, saving you from manual analysis?

Work schedules: Are your preventative maintenance schedules automated and based on live runtime data?

Data access: Can your team immediately view asset history and recurring issues without digging through paper records or siloed spreadsheets?

System effectiveness: If you use a computerized maintenance management system (CMMS), are you getting everything you need from it? Do you have effective asset visibility and predictive planning capabilities?

Convincing case: Could you confidently justify a headcount increase or a capital expenditure request to leadership using hard maintenance data right now?

Mostly "No"
Reactive (Firefighter)

Your equipment dictates your schedule. Unplanned downtime is a constant threat, and your team is likely spending much of its time responding to emergency breakdowns.

Mixed answers
Transitional (Planned)

You track some data and complete basic planned maintenance, but blind spots remain. Large, complex maintenance tasks frequently get pushed aside by daily production pressures.

Mostly "Yes"
Proactive (Reliability-Driven)

You possess clear asset visibility. Your data can support budget decisions, your workflows are automated and you are ready to scale to predictive maintenance.

From reactive to proactive: What change?

The journey toward proactive maintenance is often described as a technology transformation. In practice, it starts with something much simpler: **visibility**

A maintenance team needs to know:

- What assets does the organization have?
- Which assets are critical?
- What work has been performed?
- What problems are recurring?
- Which parts are being consumed?
- What work is overdue?
- How much labor is required?
- Where are maintenance resources being spent?

Without reliable answers to these questions, it is difficult to move beyond reactive firefighting.

A computerized maintenance management system (CMMS) or enterprise asset management (EAM) platform can provide the foundation by bringing asset records, work orders, maintenance history, parts and schedules into a common environment.

Manufacturers don't necessarily need to choose between a basic maintenance tool and a large, complex enterprise system. There is an increasingly important middle ground: enterprise-grade maintenance intelligence that can be implemented quickly, adopted easily by the people who use it every day, and is capable of connecting to your factory and enterprise resource planning (ERP) system.

For Australian manufacturers, that balance can be particularly important. Maintenance teams need simple analytics and clear asset visibility but, above all, they require user-friendly, mobile technology that technicians can intuitively learn from and effortlessly use on the factory floor without any administrative burden.

Once that information is centralized, manufacturers can start turning maintenance activity into **operational intelligence.**

What proactive maintenance looks like in practice

Proactive maintenance does not mean eliminating every reactive repair.

Some assets will be appropriate for run-to-failure strategies, and some failures will always be unexpected.

The objective is to understand where reactive maintenance is acceptable — and where it creates unacceptable operational risk. That requires a combination of asset criticality, maintenance history, operational context and cost. It also requires digital technology that works for the people carrying out the maintenance.

Always available parts

SKANA Aluminium, a manufacturing operation, recently found themselves stuck in a cycle of unplanned motor and gearbox failures. By digitizing their workflows, the plant moved away from paper records to track exactly where, when and how frequently components were being used.

This helped them ensure critical parts were sitting on the shelf before an asset showed signs of malfunctioning. They could also review past asset behavior, helping them anticipate component failures.

Maintaining the right machine at the right time

Rinnai America, an appliance and water heating manufacturer, faced a different challenge: keeping track of wear and tear across thousands of tools and machines.

Through automated maintenance tracking, the plant discovered that critical stamping machinery required intervention at precise intervals — specifically every 300 hours of runtime. The platform now automatically sends a reminder so the team can perform maintenance, reducing downtime and allowing maintenance to be scheduled without slowing down production.

Technicians document everything in the software, so every piece of equipment and tool has data associated with it. The data also helps justify requests for additional funding. With technicians required to document their work each day, it showed that each worker was doing the job of one and a half to two people — demonstrating the need for extra headcount.

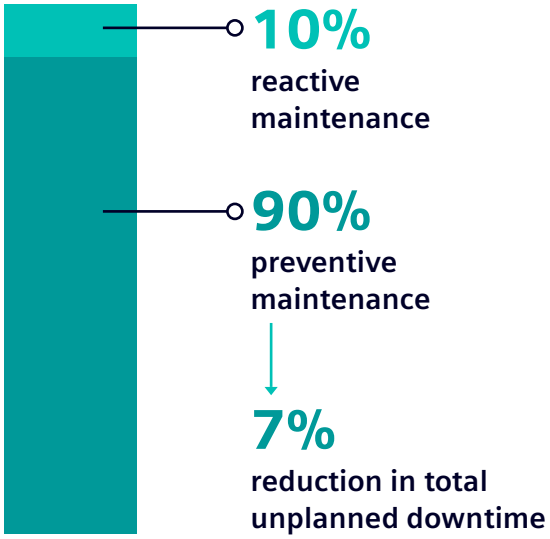
The compounding payoff

When a manufacturer successfully transitions from reactive firefighting to reliability, the operational and financial benefits can begin to compound over time.

For example, by standardizing their maintenance strategy on a unified digital ecosystem, Southern Glazer's Wine & Spirits recently achieved a 90% preventive to 10% reactive maintenance ratio. This resulted in a 7% reduction in total unplanned downtime over a three-year period.

Better data transparency also caused on-time work order completion rates to surge from 60% to 83% within three years, ensuring critical machinery tasks are less likely to be deferred. And real-time visibility into parts utilization generated an 11% reduction in spare parts inventory on hand, with a strategic roadmap to achieve a 25% reduction by 2030.

This level of maturity transforms maintenance from an unpredictable cost center into a strategic lever for business growth. By freeing up capital locked in spare parts inventory, maximizing asset lifespans and stabilizing the factory floor, operators can focus on scaling production lines rather than just trying to keep them running.



Looking beyond proactive: The AI and predictive horizon

The shift from a reactive firefighting mindset to automated preventive maintenance is a critical operational milestone, but it is not the final destination.

By taking the step toward a fully connected asset ecosystem and centralizing your workflows, manufacturers are better positioned to integrate Industry 4.0 innovations including:

Predictive maintenance: Moving past fixed calendar schedules by embedding Internet of Things (IoT) remote monitoring to track real-time asset condition and identify potential failures earlier.

AI-assisted diagnostics: Empowering technicians with AI-driven tools that can surface safety summaries and instant, task-specific guidance on the factory floor.

But advanced technologies are only as useful as the data foundation underpinning them. Predictive models need reliable asset information and historical maintenance records.

10 steps to proactive maintenance

1
Establish your asset foundation

Create a reliable digital register of equipment, assets and critical spare parts.

Use a modern CMMS or EAM platform to capture the information maintenance teams need: asset identity, location, criticality, maintenance requirements, parts and history.

2
Digitize work orders

Move away from paper forms and disconnected spreadsheets.

Give technicians a mobile-first way to receive work, access asset information and record what they find while they are on the job. Barcode and QR scanning can make it easier to identify assets and parts without manually searching for records.

3
Identify your critical assets

Prioritize a small group of critical assets first.

Identify those assets where failure could have a significant impact on production, safety, quality, compliance or customer commitments. Align inventory levels with these critical assets to ensure there are no delays from parts being out of stock and to boost your supply chain resilience.

4
Measure the real maintenance workload

Look at the actual labor hours required to complete preventive maintenance.

Compare this with available capacity. The food manufacturing case study demonstrates why this matters: its data revealed a substantial gap between the preventive maintenance workload and available technician hours.

5
Address staff shortages and skill gaps

Deploy technology to increase your existing team's effectiveness.

Capture the institutional knowledge of experienced technicians in digital work orders and asset records, preserving their expertise before they retire. Technology can also guide less-experienced technicians through complex procedures and minimize the impact of team transitions.

6
Review preventive maintenance frequencies

Make schedule optimization an annual review process, not a set-and-forget decision.

Review and adjust frequencies based on actual failure history from your CMMS data, current operating conditions including hours run, load factors and environmental stress, and condition-monitoring data that shows actual wear patterns. Or connect directly with your control systems to automatically trigger preventive maintenance based on plant usage.

7
Introduce condition monitoring where it makes sense

For critical assets, consider implementing sensors and monitoring technologies.

Temperature, vibration, pressure and acoustic data can provide additional signals about asset health by monitoring for subtle physical deviations. Start with a focused group of assets rather than attempting to instrument the entire plant.

8
Build towards predictive maintenance

Deploy scalable machine learning models to forecast future risks.

Use analytics and machine learning to automatically read your condition data and identify potential future risks. Predictive maintenance can flag subtle deviations that human inspection or manual analysis may miss.

9
Transition from predictive to prescriptive maintenance

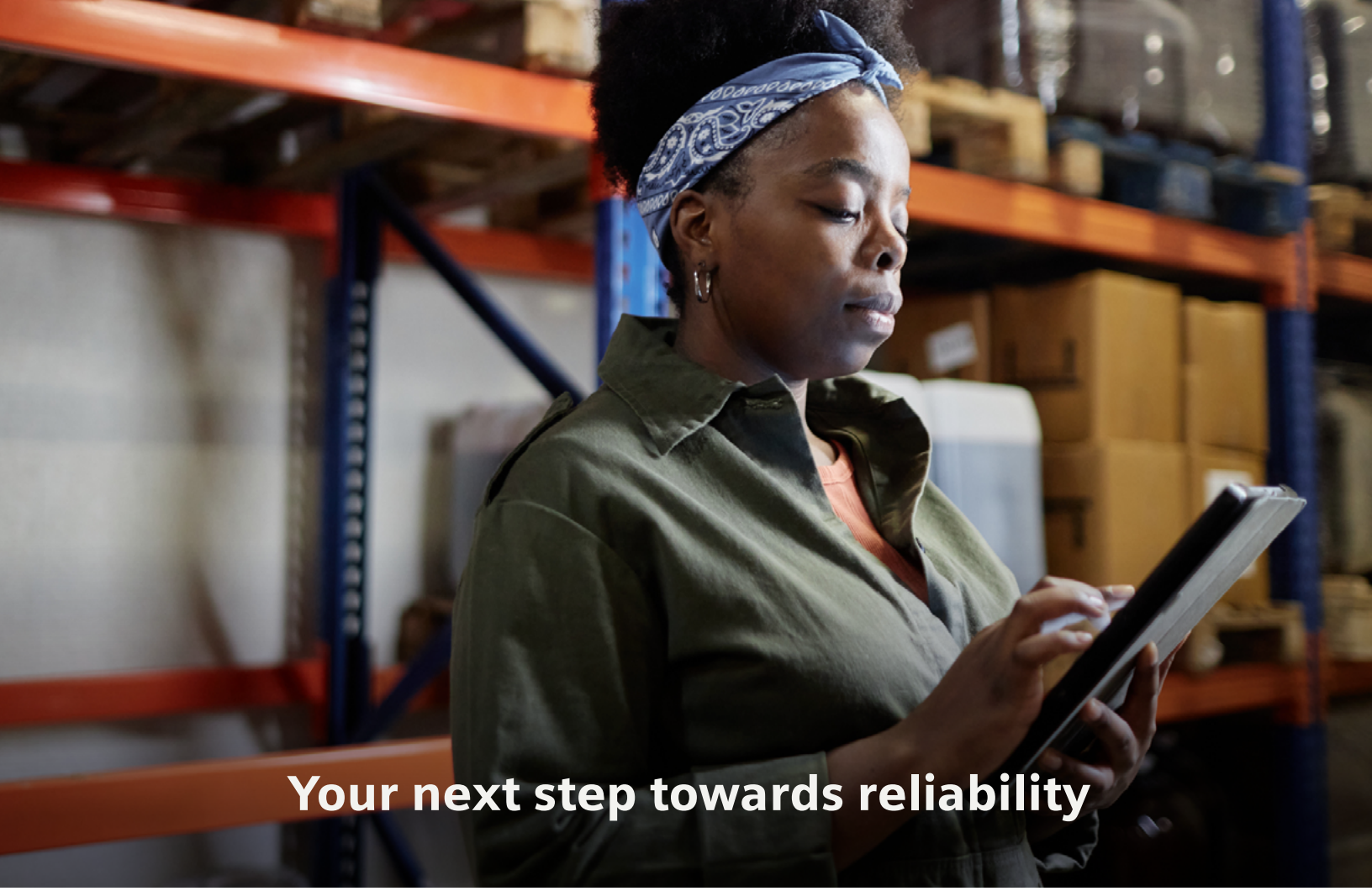
Integrate generative AI tools to automatically generate repair guidance.

When an anomaly is detected, AI can provide specific maintenance steps to the technician's mobile device, cutting down manual troubleshooting friction.

10
Measure business outcomes

Connect maintenance performance to operational outcomes.

Useful measures can include preventive maintenance completion, reduced reactive work and unplanned downtime, mean time to repair, reduction in repeat failures and work order completion.



Your next step towards reliability

Australian manufacturers are being asked to increase productivity while navigating higher input costs, workforce constraints and a more complex operating environment.

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Maintenance cannot solve all those challenges. But it can help manufacturers make better use of the assets, people and resources they already have.

The starting point is not an advanced AI program — it's better visibility into assets, parts, workloads and risks. From there, manufacturers can progressively introduce automated workflows, condition monitoring, predictive analytics and AI tools.

Asset Essentials is designed to provide that digital foundation — combining enterprise-grade asset and maintenance analytics with a mobile-first experience that maintenance teams can adopt without the complexity traditionally associated with large enterprise systems.

It can also connect with existing ERP environments and, within the broader Siemens ecosystem, help connect maintenance workflows with operational technologies including PLCs, SCADA and IoT platforms.

The journey from firefighting to foresight starts with visibility.

Explore Asset Essentials for smarter asset management solutions, or to speak with an expert to discuss next steps in your maintenance journey.

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