FLUKE®

SMARTER CHEMICAL MANUFACTURING STARTS HERE

TIME TO THINK DIFFERENTLY ABOUT FLUKE?

FLUKE.COM

Staying safe under pressure

Chemical manufacturing used to mean well-established processes, defined protocols, and steady demand. Not anymore.

Today's chemical production environments are more complex—and more pressured—than ever. From the volatility of raw materials to the risks of ageing infrastructure, site leaders are having to navigate tough operational and environmental demands with tighter teams, leaner budgets, and stricter safety margins.

Safety and uptime are non-negotiable in this space. Chemical plants operate in high-hazard environments, where a single fault or outage can carry serious consequences. But while the risk is high, the resources to manage it are stretched. Maintenance and engineering teams are being asked to deliver more—with less—while navigating digital transformation and adapting to new regulatory expectations.

That's why operational reliability matters more than ever. It's the foundation for safer, more resilient manufacturing—and the key to unlocking performance without introducing unnecessary risk.

This eBook explores the evolving challenges facing **chemical manufacturers** and shows how site managers, engineers, and senior decision-makers can respond

From minimising downtime to modernising safely, you'll discover practical ways to increase efficiency, support compliance, and strengthen performance across your plant. And, along the way, you might find that Fluke has more to offer than you expected.

Navigating a **high-risk, high-pressure environment**

In chemical manufacturing, the stakes are high.

From volatile substances to ageing infrastructure, engineers and maintenance leads face constant pressure to keep operations running smoothly—without compromising safety or compliance.

Everyday decisions carry weight. A missed fault, delayed repair, or equipment failure can result in unplanned downtime, costly disruptions, or serious safety incidents. And as experienced engineers retire and teams shrink, the margin for error narrows even further. That's why reliability isn't just about performance—it's about protection.

At the same time, chemical sites are under growing pressure to modernise. Digital transformation offers powerful ways to boost visibility, optimise performance, and improve energy efficiency. But integrating smart systems and new tools into legacy environments isn't always easy. When every upgrade carries potential risk, decision-makers need solutions they can trust—tools that just slot in without slowing things down.

Regulatory demands are rising too. From emissions reporting to operational safety standards, compliance is more complex and more critical than ever. And with ESG scrutiny growing, manufacturers are expected to reduce environmental impact while maintaining production and profitability.

In short: the industry is evolving fast, but transformation can't come at the cost of safety, uptime, or operational certainty. And that's where Fluke can help.

Five **key operational issues** impacting chemical manufacturing

1 Hazardous operating environments.

Sites must manage risk from flammable materials, extreme temperatures, and pressurised systems, so every tool and process needs to support a safety-first culture.

2 Aging infrastructure and legacy systems.

Many facilities still rely on outdated equipment that's tough to monitor or integrate with modern tools, increasing the risk of faults and failures.

3 Fault detection and unplanned downtime.

Urgent issues often arise without warning. Fast, accurate diagnostics are essential to maintain uptime and avoid production disruptions.

4 Compliance and regulatory pressure.

From emissions monitoring to safety standards, chemical manufacturers face evolving and increasingly complicated regulatory demands.

5 Skills shortages and knowledge gaps.

Smaller, leaner teams are asked to manage complex systems, creating a need for intuitive tools and smarter, data-driven maintenance strategies.

Making reliability your secret weapon

In high-risk environments like chemical manufacturing, asset reliability isn't just a maintenance goal—it's a business-critical function.

It keeps operations stable, staff safe, and output consistent. It protects margins and ensures compliance. And increasingly, it's what separates responsive, resilient sites from those constantly playing catch-up.

But reliability doesn't happen by accident. It's the result of clear visibility, proactive strategies, and tools built to perform in harsh, safety-critical settings.

That's where Fluke comes in.

From rugged handhelds to connected diagnostics and condition monitoring, Fluke's tools help your teams detect issues early, respond faster, and avoid unplanned downtime. Whether you're troubleshooting on the plant floor or planning predictive maintenance across multiple sites, our solutions give you the insight and confidence to act decisively—without adding complexity or risk.

5 quick checks to **boost reliability**

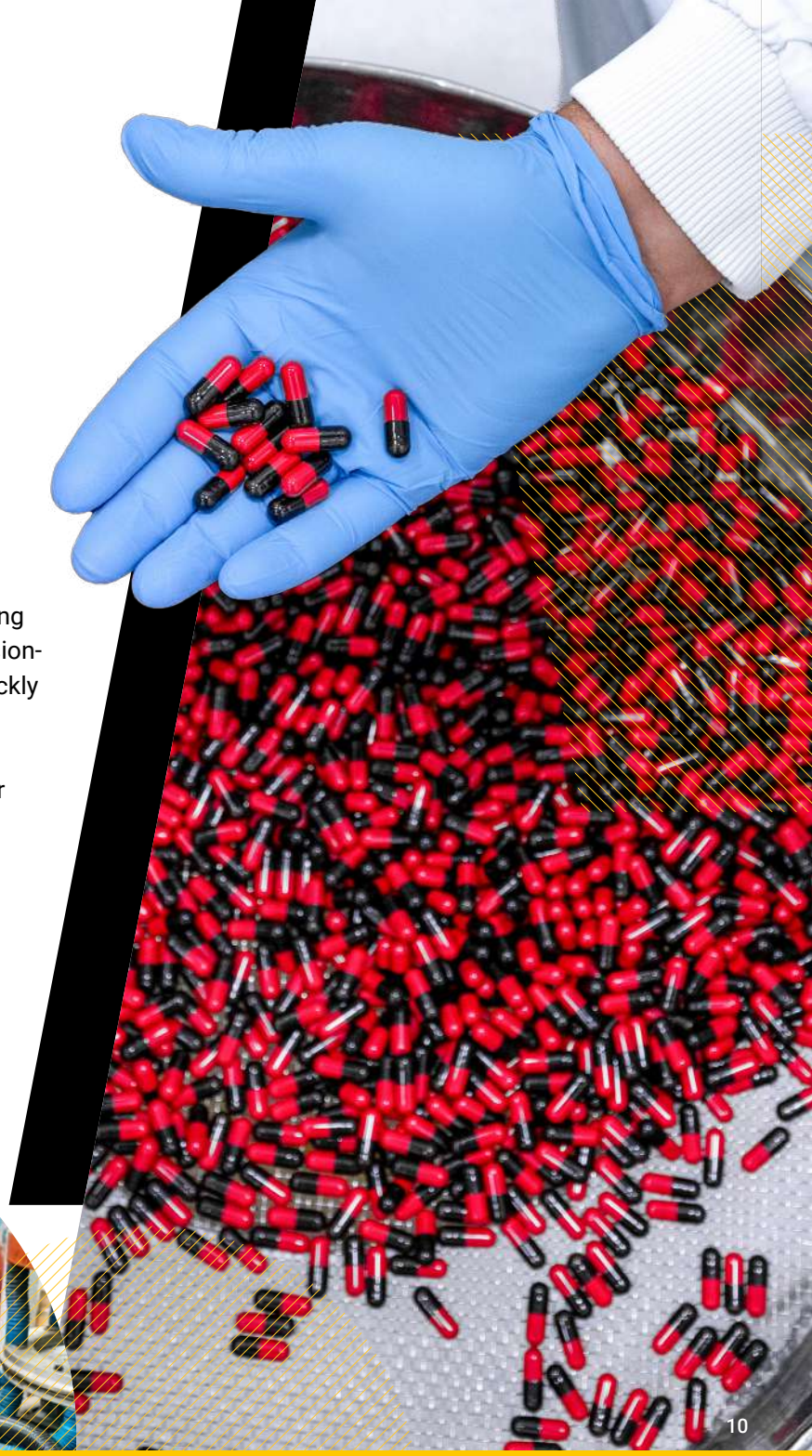
1. Use rugged condition-monitoring tools like thermal imaging, vibration sensors, or acoustic diagnostics to find faults early and predict equipment failures in hazardous environments.

2. Keep your calibration digital and traceable to ensure accuracy, simplify audits, and meet compliance requirements across safety-critical systems.

3. Build proactive maintenance routines that tackle issues before they escalate—reducing downtime, avoiding process disruptions, and extending equipment life.

4. Rely on real-time insights from monitoring systems to support fast, informed decision-making and help engineers respond quickly and confidently under pressure.

5. Track your performance gains with clear metrics that focus on uptime, safety, energy efficiency, and compliance - so you can prove that your reliability strategy is having the right impact.



Your plant, **optimised**

Fluke has long been recognized for delivering the tools that keep chemical plants manufacturing moving—precise, rugged and built to withstand the toughest environments. But today, we're a lot more than that.

From power quality to calibration to thermal and acoustic imaging, condition monitoring and more, Fluke is expanding what's possible. So your engineering and maintenance teams can work safer, smarter, and more sustainably.

Whatever the challenge - reducing downtime, staying compliant, managing energy use or ensuring the integrity of your equipment - Fluke delivers the practical answers your teams need to keep operations safe, resilient and ready for the future.

1 Power management

Chemical processes often rely on sensitive control systems and high-energy loads. Voltage drops or poor power quality can trigger cascading failures or compliance issues. Fluke's power quality analysers, energy loggers and clamp meters help identify and resolve power issues fast—before they impact production.

Key benefits

- Identify and address power issues early, protecting uptime and production stability.
- Precisely measure and optimize energy usage, supporting sustainability and reducing operational costs.
- Simplify regulatory compliance through traceable power quality data.

2 Calibration

Calibration accuracy underpins compliance, process safety, and productivity. Fluke's precise, digitally integrated calibration tools provide full traceability, reduce manual errors, and simplify record-keeping—transforming calibration from an audit risk into a clear operational advantage. From documenting process calibrators to multifunction instruments, Fluke solutions ensure your site meets strict calibration requirements with ease.

Key benefits

- Accurate, repeatable calibration processes, reducing compliance risks.
- Digitally integrated records that streamline audits and regulatory documentation.
- Reliable calibration performance, ensuring consistent product quality.

3 Networking and connectivity

Fluke Networks provides advanced cable testing, fiber-optic certification, and troubleshooting tools, ensuring robust, secure network performance across your manufacturing environment. This reliable connectivity is the foundation for precise real-time monitoring, accurate data capture, and seamless digital integration across production-critical systems.

Key benefits

- Quickly identify and resolve network issues, minimizing downtime risks.
- Ensure stable, secure data flow, critical for real-time monitoring and digital documentation.
- Maintain compliance and integrity of production data through robust network reliability.

4 Acoustic imaging

Fluke acoustic imaging tools make it easy to identify leaks and equipment faults early—without interrupting production or entering sensitive areas. These intuitive devices precisely pinpoint compressed air leaks, vacuum leaks, or electrical partial discharge, allowing your teams to respond proactively and efficiently. Reducing waste and energy costs becomes straightforward and practical, rather than complicated and disruptive.

Key benefits

- Rapidly detect leaks and electrical faults without shutting down production.
- Quickly reduce energy waste and operating costs.
- Enhance safety by pinpointing electrical risks early.

5 Thermal imaging

Thermal imaging transforms predictive maintenance from theory into practice. Fluke's rugged, intuitive thermal cameras rapidly detect overheating, mechanical wear, or insulation issues. Your teams can safely and proactively spot problems in critical equipment, HVAC systems, electrical panels, or production lines—long before they become serious faults. It's a practical, visual approach that significantly reduces downtime risks and maintenance costs.

Key benefits

- Identify potential faults early and safely, without disrupting operations.
- Improve predictive maintenance, reducing reactive downtime and costs.
- Clearly document thermal profiles for compliance and maintenance audits.

6 Condition monitoring

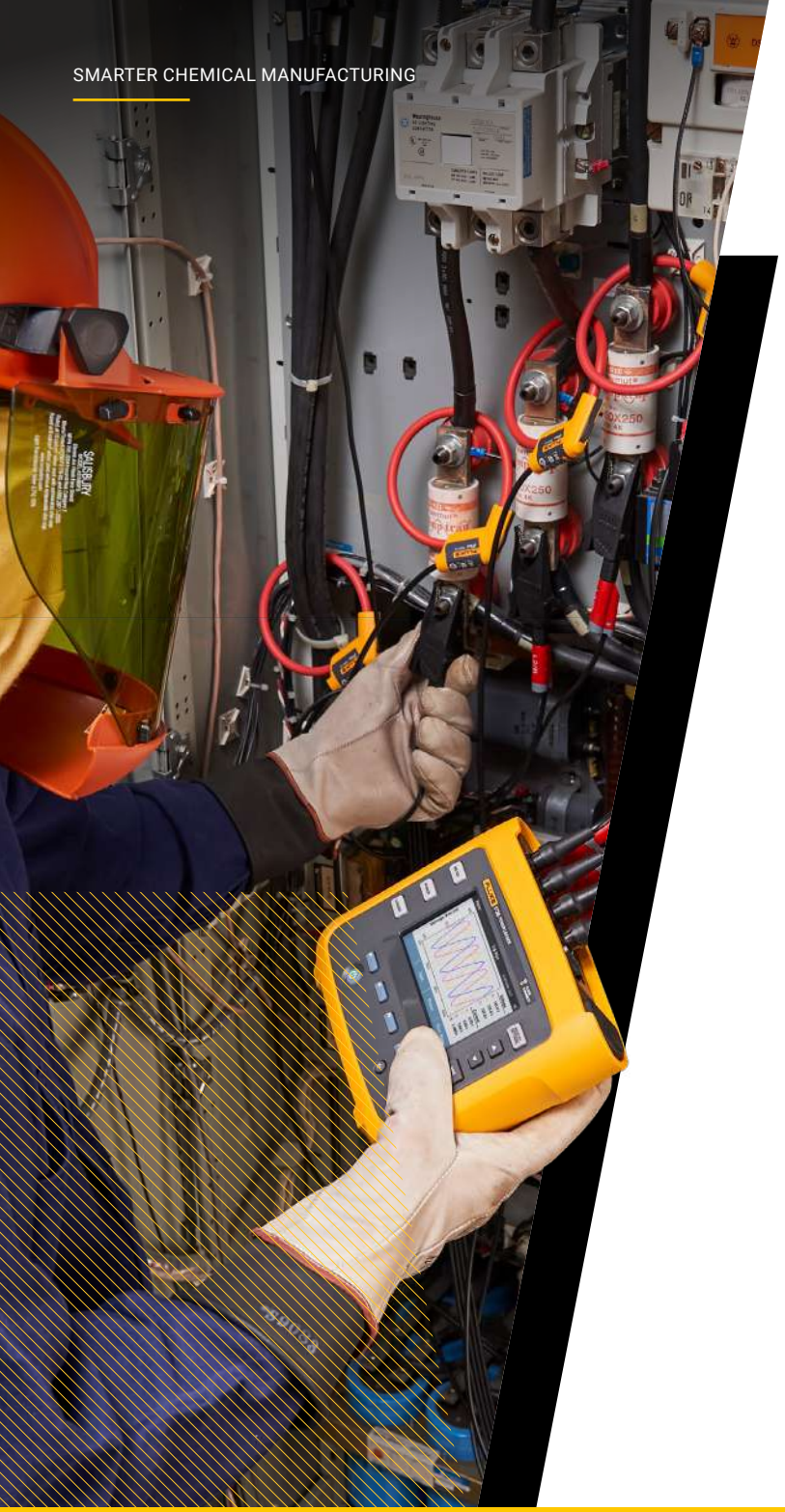
Condition monitoring is your operational early-warning system, turning reactive maintenance into proactive reliability. Fluke's connected condition-monitoring solutions offer real-time diagnostics on vibration, temperature, and equipment performance—providing clear, actionable insights. Your teams get advance warnings of developing issues, enabling well-planned, proactive interventions instead of costly, disruptive repairs.

Key benefits

- Continuous monitoring of critical assets, reducing unplanned downtime.
- Transition from reactive maintenance to proactive reliability management.
- Improved operational certainty through real-time, predictive insights.

Trusted for today.
Ready for what's next

For more than 75 years, Fluke has stood behind critical industries, helping your operations stay productive, compliant, and safe—no matter how complex the challenges. But trust isn't built solely on heritage or past successes; it comes from consistently solving tough operational problems and actively shaping what's next, right alongside your teams.



Safety is fundamental. Every tool and solution Fluke develops is specifically designed for the demanding environments your teams face. Solutions like thermal imaging let you diagnose equipment issues safely and from a distance—helping prevent incidents, reduce downtime, and minimize operational risks. Here at Fluke, we're all about the outcomes: protecting people, products, and processes—not just adding features.

Innovation at Fluke is driven directly by your real-world challenges. Advanced tools and connected systems simplify workflows, translating diagnostic insights into immediate actions that reduce downtime, errors, and complexity. This streamlined approach means fewer interruptions, less risk, and more reliable results. So your teams can achieve consistently higher operational standards.

We also know the pressure chemical manufacturers face to meet environmental and sustainability goals, so Fluke is here to actively support them. Precision-aligned, properly maintained equipment reduces waste, cuts emissions, and significantly lowers energy costs. Efficient machinery not only boosts performance but also accelerates progress toward your targets—visibly demonstrating your commitment to continuous improvement.

These core commitments—safety, innovation, and efficiency—aren't just concepts at Fluke. They're the daily practices and clear standards that shape how we support your operations today and help you confidently navigate the future.

Our commitment is anchored in **three core values**:

Safety

Protecting people, processes, and products with rigorous testing, trusted accuracy, and tools designed for the highest-risk environments.

Innovation

Solving real-world challenges through customer-driven engineering—from smarter diagnostics to connected workflows that make complex work simpler.

Energy and efficiency leadership

Supporting industries as they modernize and decarbonise, helping sites meet sustainability goals without compromising reliability or compliance.

Your next step toward **safer, smarter manufacturing**

Chemical manufacturing is evolving—towards data-driven decisions, leaner operations, and more efficient ways of working. But the fundamentals never change: operational certainty, regulatory compliance, and the continuous drive for reliable performance are still key.

Your operations face significant change—and significant opportunity. Regulatory standards, sustainability goals, and digital transformation demands are evolving quickly. Navigating these successfully demands more than reactive tactics; it requires practical solutions, reliable insights, and proactive management.

Operational reliability isn't just about managing risk—it offers genuine strategic advantage. From precise calibration to stable power systems, predictive maintenance to advanced thermal and acoustic diagnostics, solutions exist today to help your site confidently meet tomorrow's challenges.

Fluke is more than just your trusted tool provider. We're your partner in operational excellence—helping you modernise with confidence, reduce downtime, and meet tomorrow's challenges head-on.

Think you know Fluke?
It's time to take another look.

To find out more:

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