



8 Reasons Manufacturing Facilities Need Predictive Maintenance

For many years, preventive maintenance (PM) has been the gold standard in manufacturing. On a regular cycle, crews take equipment out of service and perform routine tasks that are designed to, theoretically at least, keep it running in tip-top shape and prevent unexpected failures. While PM does interrupt production, the impact is minimal compared to the extended downtime that can accompany equipment failures.

But, the problem with conventional PM is that schedules and tasks are based primarily on assumption and estimation, rather than fact. The PM routine is designed around experience and time—not on actual in-service performance, wear-and-tear or documented impact of production on the equipment. That means facilities might take equipment down for PM when it's not necessarily warranted, wasting valuable production time, crew resources and parts and materials, and still may not fully mitigate their risk of a failure.

Predictive Maintenance (PdM) is giving manufacturers a more efficient, data-driven method for managing routine equipment maintenance to maximize production, safety and efficiency while ensuring ideal operation and reliability of equipment. Rather than relying on a regimented, and often arbitrary, schedule, PdM uses a conditions-based approach that measures and earmarks factory equipment, scheduling repairs and upgrades according to the machine's actual health and performance.

This new approach has the potential to be a game-changer when it comes to optimizing maintenance, production and cost-efficiency, not to mention providing a more reliable method to detect and prevent potential failures. Why is PdM the wave of the future? Here are the top 8 reasons facilities why manufacturers should implement Predictive Maintenance.



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- 1) PdM identifies problems typical PM and visual inspection cannot.** PdM uses advanced diagnostic and sensing technologies, such as ultrasound, thermography, vibration and oil analysis, to identify problems in situ and in real time—as the equipment is running. This provides performance data and insight that cannot be identified when the machine is taken off line for traditional PM, and it gives maintenance staff a clearer picture of the actual wear-and-tear on equipment, rather than making assumptions.
- 2) PdM enables lean manufacturing.** Traditional Preventative Maintenance techniques could take equipment offline far more than necessary, and still not provide assurance against a failure. PdM, on the other hand, can actually improve production and provide long-term savings. Performing maintenance when it's required avoids unnecessary halts in production and means less time, money, parts and supplies consumed by unnecessary maintenance. In fact, PdM has been shown to eliminate as much as 30 percent of time-based PM tasks, freeing up those capital and human resources for other critical tasks.

- 3) **PdM provides continuous insight to improve processes.** The data and analysis gathered through baselining, tracking and documenting equipment performance offers tremendous visibility that can inform production improvements. Knowing that specific conditions or factors help equipment to operate at peak performance, facilities can begin looking at environmental adjustments to ensure those optimal conditions. This not only extends the time between maintenance tasks, but also improves overall production results.
- 4) **PdM technologies integrate with CMMS and other work order systems.** By integrating this data into maintenance software, PdM provides a seamless solution that adds no further burden to the workflow and ensures that repair/replacement work is conducted in a timely manner. This eases the supervisory burden, again freeing up those resources to address more strategic initiatives.
- 5) **PdM could minimize recall and liability risk.** In the event of a contamination or recall event, having a documented log of equipment statistics can help to demonstrate that your facility took every possible precaution to prevent the situation. The data could help to provide some relief to help lessen the damage impact.
- 6) **PdM can improve plant safety.** By better understanding how equipment is performing and where potential risks lie, facilities can mitigate safety situations, such as fluid leaks, overheating, and dangerous electrical or hydraulic situations that could put staff at risk.
- 7) **PdM can aid in asset attrition planning.** With greater insight into equipment performance, issues and expected useful life, facilities can better plan and budget for replacement. The data gleaned from PdM can help to optimize capital expenditure planning while ensuring daily optimal performance of the assets still in place.



- 8) **Partnering with a PdM provider can amplify the benefits.** Working with a PdM maintenance and industrial parts service provider enables CPG companies to benefit from economies of scale, advanced analysis, best practices from across the industry and preferred parts and components pricing. By taking advantage of best-in-class services, companies can save millions of dollars and reduce downtime by up to 65 percent by relying on the knowledge, experience and partner supplier networks of an integrated PdM provider.

As in so many other areas, data is becoming a critical asset in business success, and the manufacturing floor is no exception. By understanding more about exactly how process equipment is performing during production and reducing unnecessary downtime, manufacturers can find previously untapped opportunities to improve production efficiencies and save money. PdM is proving to be the template of the future for equipment maintenance, ensuring optimal performance, minimal downtime and maximum safety and productivity. ■

