

Embracing predictive maintenance for life sciences manufacturers

How IoT and AI can minimize unplanned downtime



Benefits

- Reduce costs by preventing annual downtime losses
- Maximize production uptime with 24/7 equipment monitoring
- Enhance safety by identifying critical failures before they occur
- Transform operations with IoT and AI/ML-powered insights

In the highly regulated pharmaceutical and medical device manufacturing environment, unplanned downtime represents not just a financial liability but a significant operational risk. Predictive maintenance leverages IoT sensors and AI and machine learning (ML) technologies to transform equipment maintenance from reactive to proactive, enabling life sciences companies to anticipate failures before they occur and maintain peak operational efficiency.

The growing cost of manufacturing interruptions

Life sciences manufacturers face mounting pressure to maximize production capacity while maintaining strict regulatory compliance. With unplanned downtime costing industrial manufacturers significantly each year, pharmaceutical and medical device companies experience even greater financial impact due to their highly regulated environments and specialized equipment. Traditional reactive maintenance approaches no longer suffice, as unexpected equipment failures lead to costly production delays, batch rejections, and potential compliance issues. The challenge extends beyond immediate financial losses to include compromised product quality, delayed market access, and in worst-case scenarios, safety risks to both employees and patients.

Transforming maintenance from cost center to strategic advantage

Minimize financial impact by preventing costly production interruptions

Predictive maintenance identifies potential failures before they occur, reducing maintenance costs and decreasing breakdowns. This proactive approach protects your bottom line while extending equipment lifespan.

Maximize production uptime with continuous equipment monitoring

Every minute of unplanned downtime represents lost manufacturing capacity. Advanced IoT sensors continuously collect performance data across manufacturing lines, enabling teams to identify subtle changes in equipment performance long before human operators would notice issues. This maximizes production uptime and minimizes disruption to manufacturing schedules.

Enhance safety by identifying potential failures before they become hazards

Equipment failures can pose serious safety risks to employees and potentially compromise product quality. Predictive maintenance systems identify critical failure indicators early, allowing teams to address safety concerns before they escalate. This protection extends to product quality and patient safety by ensuring equipment operates within optimal parameters at all times.

[Success story](#)

Global pharmaceutical leader reduces downtime

When a leading global pharmaceutical manufacturer experienced recurring issues with its fill-finish lines, it turned to predictive maintenance to solve chronic production interruptions that were affecting product availability.

Within six months of implementation, the company achieved:

- Significantly reduced unplanned downtime.
- Decreased emergency maintenance costs.
- Improved overall equipment effectiveness (OEE)
- Complete regulatory compliance, which was maintained throughout transition.

“The predictive maintenance solution transformed our maintenance approach from reactive to proactive. We now identify potential issues weeks before they would cause line stoppages, which has dramatically increased our production capacity while reducing maintenance costs. The ROI was achieved in just 4.2 months.”

– James Robertson, VP of Manufacturing Operations

“What impressed us most was how the system identified subtle correlations between equipment parameters that our experienced technicians had missed for years. This insight alone prevented a major line failure that would have cost us millions.”

– Sarah Chen, Director of Engineering

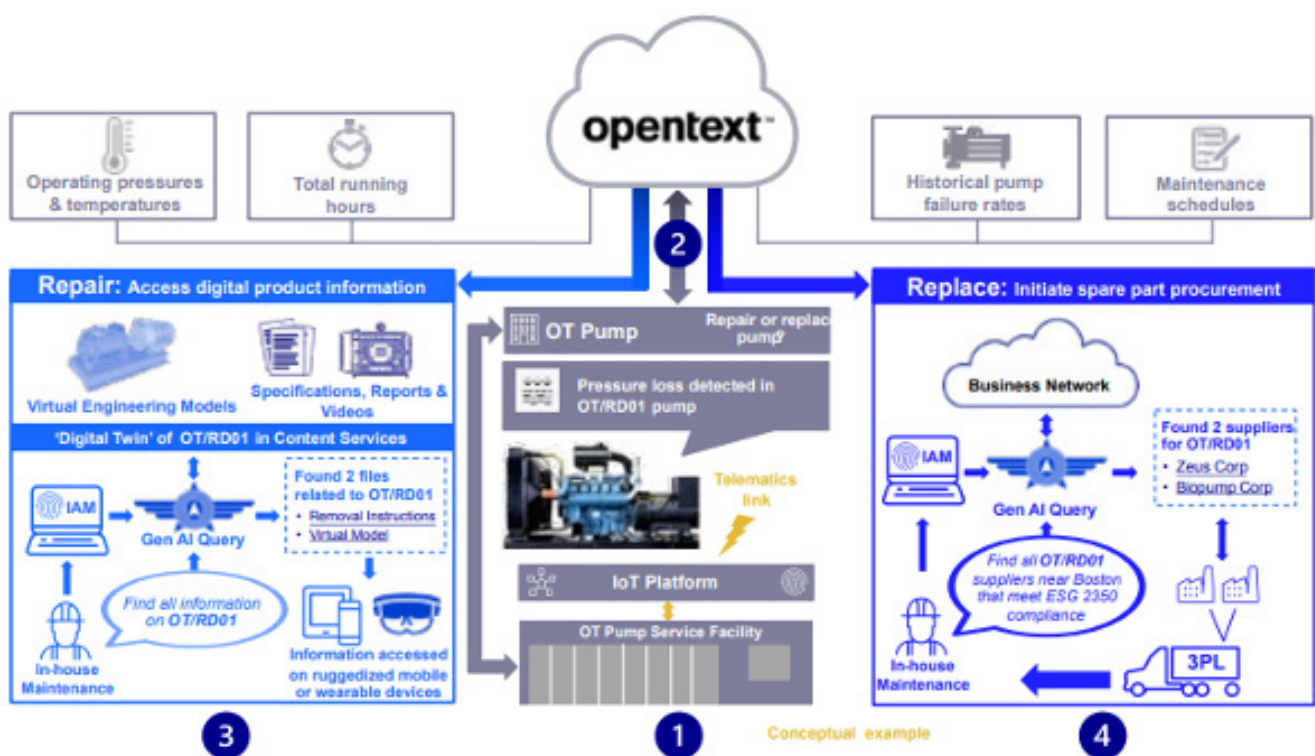
Transform operations through data-driven maintenance insights

By combining IoT sensor networks with AI and ML analysis capabilities, maintenance teams gain unprecedented visibility into equipment performance patterns. These technologies identify correlations between operating conditions and failure risks that would be impossible to detect manually. This data-driven approach delivers immediate cost savings, medium-term efficiency gains, and long-term competitive advantage through manufacturing intelligence.

Building manufacturing resilience through predictive maintenance

In today's competitive life sciences manufacturing environment, predictive maintenance has evolved from a technological advantage to a business necessity. By transforming equipment maintenance from reactive to proactive, organizations can significantly reduce the substantial annual cost of unplanned downtime, maximize production capacity, enhance safety, and generate actionable operational insights.

OpenText's predictive maintenance solution stands apart through its purpose-built approach for highly regulated industries. By combining industry-leading IoT connectivity with pharmaceutical-specific AI models trained on decades of manufacturing data, OpenText delivers unmatched accuracy in predicting equipment failures in GMP environments. Our platform integrates seamlessly with existing manufacturing systems while maintaining regulatory compliance, enabling life sciences companies to achieve operational excellence without compromising quality or documentation requirements. With implementation expertise spanning more than 200 life sciences facilities globally, OpenText provides a proven pathway to manufacturing resilience.



Resources

[Embracing predictive maintenance for life sciences manufacturers](#) ›

Comprehensive services to maximize your investment

- **Implementation Consulting**

Expert guidance from industry specialists who understand predictive maintenance technology and life sciences regulatory requirements. Our consultants develop deployment strategies tailored to your specific manufacturing environment and business objectives.

- **Managed Monitoring Services** Let our dedicated team of maintenance specialists monitor your equipment 24/7, providing expert analysis of predictive alerts and recommended actions. Includes regular performance reports and continuous system optimization.

- **Validation Support Services** Complete documentation and testing support to ensure your predictive maintenance implementation meets all regulatory requirements, including IQ/OQ/PQ validation protocols and 21 CFR Part 11 compliance.

- **Technical Learning Services** Comprehensive training programs for maintenance teams, engineers, and management to build internal expertise. Includes both technical system operation and strategic maintenance planning curricula.

- **Integration Services** Seamless connection between predictive maintenance systems and your existing manufacturing infrastructure, including MES, ERP, CMMS, and quality management systems.