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Predictive Maintenance

A Deloitte perspective on utilizing advanced technologies and analytics to optimize maintenance for fixed and mobile assets

Why Predictive maintenance? [1,2]

98%

of businesses report that a single hour of interruption affects their productivity, costing them more than $100,000

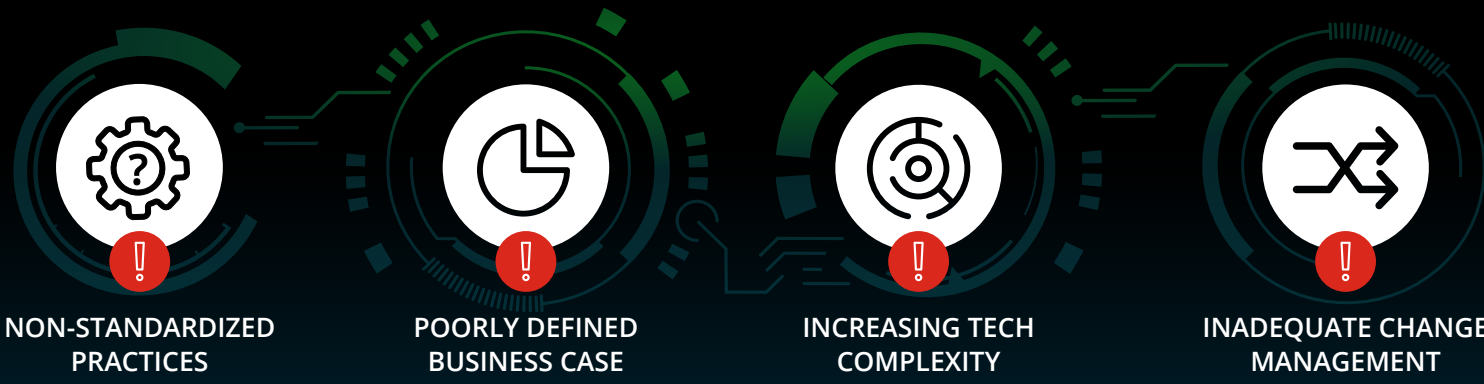As compared to *reactive* maintenance, manufacturers using *preventive/predictive* maintenance report:

- $ **50%** Decrease in lost sales
- **70-75%** Fewer breakdowns
- **20-25%** Increase in production

As compared to *preventive* maintenance, manufacturers using *predictive* maintenance report:

- **80-90%** Fewer defects
- $ **8-12%** Overall savings

Lagging practices → → → → → → → → → → → → Leading practices

| Reactive maintenance | Preventive maintenance | Sensors & conditional monitoring | Predictive maintenance |

Challenges in implementing predictive maintenance [2]

NON-STANDARDIZED PRACTICES

POORLY DEFINED BUSINESS CASE

INCREASING TECH COMPLEXITY

INADEQUATE CHANGE MANAGEMENT

Benefits of predictive maintenance

Well-executed predictive maintenance solutions drive substantial downtime reduction, increase asset life, and reduce overall costs.[3]

5-15% ↓ reduction in facility downtime, freeing up capacity

10-30% ↓ reduction in inventory levels with 5-20% reduction in carrying costs

5-10% ↓ reduction in material costs

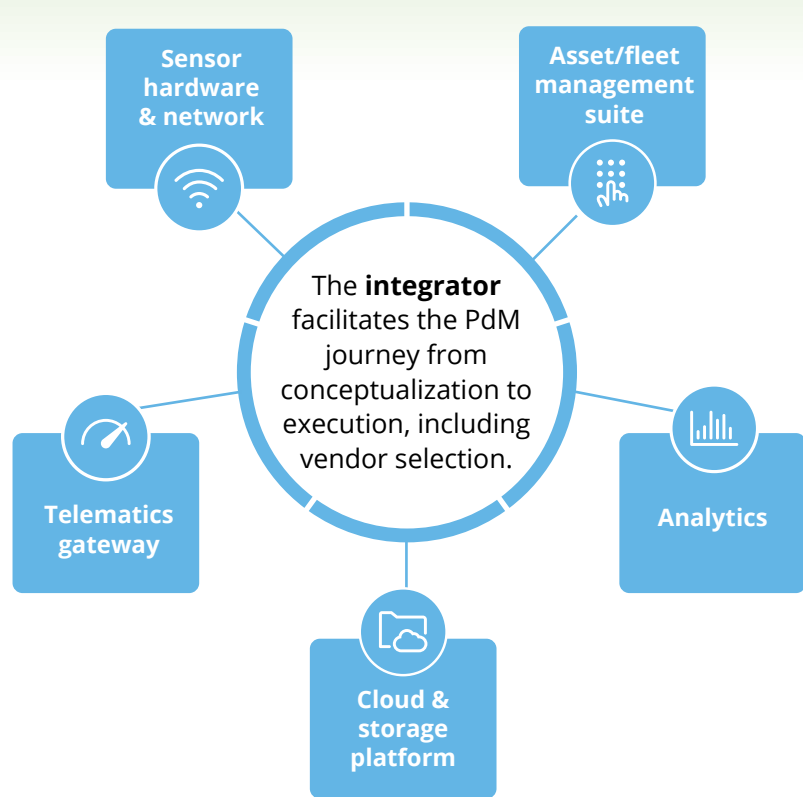**Up to 25%** ↑ improvement in vehicle uptime

Qualitative benefits: Improved safety, health & environment (SHE) compliance, better parts management & predictability, better control over fleet operations planning, enhanced "Track & Trace" capability for better delivery estimation accuracy.

Deloitte approach

| Visioning & alignment | → | Use cases | Technology ecosystem | Change management & governance | Implementation & execution |

How it works

INTEGRATION

Sensor hardware & network

Asset/fleet management suite

The **integrator** facilitates the PdM journey from conceptualization to execution, including vendor selection.

Telematics gateway

Analytics

Cloud & storage platform

PHASED APPROACH

Phase 1
- Strategy & vision alignment
- Design, road map & business case

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Phase 2
- Pilot implementation
- Pilot evaluation

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Phase 3
- Scaled deployment

Why Deloitte?

Implementation: Our approach defines strategy, demonstrates feasibility and scales the solution to track benefits and ensure speed to value.

Speed & scale: We have a portfolio of use cases tailored to your industry.

Advanced analytics: We build and implement custom predictive analytics.

Team: We created a niche in the smart manufacturing space by bridging the gap between traditional business models and cutting-edge data science.

Unique skills: We bring industry experts to activate an architecture that supports maintenance processes.

Assets & Accelerators: We accelerate time to value using a portfolio of accelerators.

Tailored approach: Our alliances ensure you can build a modular, scalable, secure solution.

Change management: We prioritize change management efforts for long-term sustainability.

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