Operating like clockwork

How asset performance optimization and predictive maintenance maximize production output
Increase operational efficiency by optimizing asset maintenance and decision making

Unforeseen asset and equipment downtime disrupt operations and the key processes running your business, lowering customer satisfaction, safety and profitability.

Imagine if you could achieve continuous operational excellence by leveraging predictive maintenance and gaining holistic asset insights?

Welcome to a new reality.

Asset performance optimization combines artificial intelligence (AI) with asset information to maximize operational output and optimize decision making, using data sources such as field reports and other knowledge not available to competitors.

1 Deloitte, Predictive Maintenance: Taking pro-active measures based on advanced data analytics to predict and avoid machine failure (2017)
Gather data

Asset performance optimization can help organizations improve productivity and operational efficiency by providing the right tools to prevent disruption of high value assets or equipment such as fleets, plants, pipelines, grids and more.

For example, the AI solution continuously gathers mechanical performance information from the IoT sensors in the hydraulic brake system of a train via the cloud.

Asset performance optimization can then check the current condition of the brake system against historical performance records, content management systems (containing manuals, failure reports and more) and associated data to provide predictive maintenance insights. Below are some data input samples which can be blended and analyzed with data from finance, supply chain and other functions for holistic insights.

- Passenger travel analysis
- Rolling stock running hours
- Historical hydraulic brake failure rates
- Brake maintenance schedules
- Supplier quality records
- Weather data
- Heavy or unusual usage data
Analyze information

From this information, the AI software is able to discern patterns. These patterns are used to formulate questions that help field maintenance engineers make well-informed, timely decisions about brake maintenance. For example:

- **Maintenance history**: Are inspection intervals for the braking system done at the correct length of time? Could they be lengthened or shortened to improve overall uptime?
- **Supplier quality records**: Did a defective component of the braking system slip through inspections and therefore contribute to downtime? How can inspection processes be modified to avoid this in the future?
- **Faulty component information**: Can design be improved to reduce future failures? Are there related components at risk of failing?
**Operationalize insights**

Once information has been analyzed to reveal patterns and related questions are answered, the AI software draws a predictive conclusion. For example, it could determine that inspection intervals should be shorter, so that water temperatures can be checked more often. This could find a tell-tale temperature spike before the unit overheats and disrupts service.

Or, perhaps a defective component made its way into production and needs attention. At this point, field engineers can view a digital model of the train and determine how to repair the part. If they determine that the part cannot be repaired and needs to be replaced, the AI system can automatically kick off a replacement part order via the supply chain network and have the component shipped directly to field engineers.
Realize benefits

Asset performance optimization helps you avoid the tradeoff between maximizing the useful life of a part (risking machine downtime) and maximizing uptime through early replacement of potentially still-good parts (creating unnecessary spend). With it you can optimize the useful life of machinery, not to mention avoiding service disruptions and dangerous conditions.

It maximizes operational output, reduces operating costs and improves customer satisfaction.

Read this solution overview to learn how OpenText™ Magellan™ maximizes production output through asset performance optimization and predictive maintenance.

About OpenText

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