

Predictive Maintenance Strategies Address Mining Toughest Challenges



The Digital Industrial Age is defined by the industry-wide implementation of strategies and technologies that collect massive amounts of data from various resources, and then apply advanced analytics to drive real value and meaningful organizational change.

But many mining organizations are ignoring the need for full digital transformation, focusing instead on the struggle to maintain profitability as ore grades continue to decline, skilled labor becomes harder to find, and equipment begins to age and fail. This has caused many operations to invest more heavily in operational technology (OT) and in information technology (IT) as a first step to digitization. Yet without the proper connection between OT and IT, these investments have created more silos for data to hide in and an even more disconnected workforce. Rather than fully solving the problem, this stop-gap approach has created a new set of issues as the industry becomes more heavily dependent on data.

This is where Asset Performance Management (APM) comes into play. Asset Performance Management helps bridge the gap between OT and IT while making your assets more reliable and more efficient at a lower sustainable cost. APM does this by collecting real-time machine data with its asset condition data and applying powerful analytics to recommend intelligent asset strategies that balance three traditionally competing priorities—reducing cost, improving availability, and increasing reliability—all while managing risk.

Robust APM also paves the way to the adoption of a more prescriptive maintenance strategy—a “living” maintenance approach that enables organizations to quickly change course based on real-time machine data collected at the edge. This means that every piece of equipment can be tracked and monitored so that repairs and disruptions only happen as needed, which allows for a more proactive approach to maintenance rather than traditional reactionary tactics that only address failures and disruptions as they occur.

For a prescriptive maintenance strategy to be effective, an organization must have:

- **Agility.** Your operations must be flexible and robust enough to adapt to rapid changes in asset conditions and maintenance requirements.
- **Data.** You'll need a holistic, 360-degree view of key assets and their performance.
- **Infrastructure.** OT and IT must be able to handle the massive influx of complex data—and share what they learn.
- **People.** Most important – the right pool of talent to bring all of the above together.

As mining operations of every size and scale search for new ways to improve efficiency, throughput, and productivity, it's important to first define goals and develop smart APM strategies to achieve them.

At Wabtec's Digital Mine, we have taken the knowledge, experience, and technologies gathered from our own digital industrial transformation journey and applied them to many of the mining industry's toughest challenges. Wabtec's Digital's Asset Performance Management suite gives mining operations a complete, integrated view of assets and equipment at all levels—allowing for more intelligent, data driven decision-making, improved operations, and a more predictive approach to asset management and maintenance.