Get can't-miss asset management advice from our expert panel

As automation and artificial intelligence advance, asset management is rapidly evolving. Our panel of experts offer can't-miss advice.

Learning Objectives

- **Identify the ways** in which asset management are changing as artificial intelligence and automation advance.
- **Learn how technological advances** are changing the way workers gather data and use it to predict maintenance needs.
- **Understand how** asset management roles are changing as the engineering skills gap continues.

Question: How is artificial intelligence (AI) transforming asset management decision-making?

Brian Fortney: Artificial intelligence (AI) is changing how organizations manage and optimize production assets by enabling better, faster and more confident decision-making across the entire asset life cycle. Instead of reacting to failures or relying on fixed maintenance schedules, AI helps anticipate issues, prioritize the right actions and extract greater value from assets every day.

Ben Swisher: One of the biggest challenges of the digital transformation revolution has been trying to make good use of the mountains of data coming in from the sensing devices that are now ubiquitous in the field. Teams have more access to data than they've ever had before, but with a shifting workforce, the expert personnel necessary to decode that data and turn it into actionable insights are becoming increasingly scarce.

FIGURE 1: Three jars representing three key components of a rust-removal station for restoring assets. (Left to right) biobased rust removal fluid, water and alkaline cleaner with flash corrosion protection. Courtesy: Cortec

Modern industrial AI can parse tremendous amounts of data in a fraction of the time a human can. That has lowered the bar for entry into a successful predictive maintenance program — if a team implements the right tools. Bolt-on solutions typically add more complexity, both in engineering connections to external systems and in training users to drive value from the systems. Fortunately, today's most advanced automation suppliers are helping organizations navigate this challenge by engineering industrial AI directly into the tools reliability teams use every day. Edge environments, asset monitors and even wireless vibration monitors use on-board AI and pattern recognition to help cut through the complexity of raw data and instead deliver actionable information to personnel.

In addition, machinery health software at both the plant and enterprise level is incorporating an increasing amount of AI-powered predictive and prescriptive maintenance technology. The AI is built into existing software instead of executed on an external system, making it an intuitive extension of the reliability team's existing workflows. When done right, AI insights are seamless.

Scott Campbell: Nearly every organization is exploring this question and testing different methods to drive productivity with AI. GenAI chat capabilities using large language models are the most common starting point. It is providing a new way to interact with asset and work order data, get quick answers to previously difficult maintenance questions and operation trends. Ironically, these AI interactions are also helping organizations realize, in many cases, they lack quality data. This inhibits their ability to go beyond inquiry into the higher value insights and automation. It has shifted the

FIGURE 2: Plant technicians are increasingly leveraging enhanced commissioning, diagnostic and troubleshooting technologies available via wireless devices, such as the Endress+Hauser Field Xpert SMT70B, to help conduct daily work and discover valuable instrument and process insights. Courtesy: Endress+Hauser

focus for many to a data first approach for leveraging AI innovations.

The latest innovations tied to agentic AI workflows has the promise to unlock the paths for condition-based, predictive and financially optimized maintenance strategies, which can deliver tremendous value to operations.

Q: What role will autonomous maintenance play in the future of manufacturing?

A: David Tishmack: Autonomous maintenance will increasingly mean automated detection, verification and workflow execution — so routine checks don't rely on manual rounds. As devices provide self-diagnostics and continuous monitoring indicators, systems can trigger alerts, recommend actions and automatically generate documentation. The near-term impact is fewer unnecessary site visits, improved safety and more consistent compliance. Longer term, plants may move toward self-optimizing maintenance schedules based on actual asset condition.

Brian Fortney: Autonomous maintenance will play a critical role in helping manufacturers achieve more reliable, efficient and resilient operations as assets, processes and workforce models become increasingly complex. Rather than replacing people, autonomous maintenance enables teams to prevent problems earlier, respond faster to emerging issues and focus on higher-value work, while digital intelligence handles routine monitoring and decision-making.

Scott Campbell: Eventually, it will play a major role for of the decision points that require human knowledge in operations today. But there are still many inhibitors to overcome.

Among those inhibitors are things like trust in the underlying data leveraged for triggering work events and auto approvals.

System integration between maintenance and MES systems for example, where plant operations and maintenance must be working in unison. For true autonomous operations, maintenance decisions need the intelligence to understand production impact, safety, inventory levels, supply chain and the full financial risk for stopping a production line to avoid asset failure.

Q: What emerging technologies are most likely to disrupt asset management in the next five years?

Eric Uutala: Drone inspections have made a tremendous impact in the last five years and that will likely continue. It started with drones being able to do external inspections on oil and gas modules and piping systems and we now have robots that can perform floors scans in aboveground storage tanks. This type of technology will grow and spread, allowing for increased efficiency and accuracy in asset management.

Participants

Scott Campbell
Global Leader, Product Success Team
IBM
San Jose, California

Brian N. Fortney
Global Capability Manager, Production Optimization
Rockwell Automation
Cleveland, Ohio

Ben Swisher
Vice President and General Manager of Reliability Solutions
Emerson
Austin, Texas

David Tishmack
Solution Architect
Endress+Hauser
Greenwood, Indiana

Eric Uutala
Technical Sales Manager
Cortec Corporation
St. Paul, Minnesota