Power Generation Solutions

Growing pressure to leverage data analytics to manage complex plant infrastructure assets.

Executives and managers that own or operate power generation plants face unprecedented change due to accelerating technological advancement, constant business process innovation, aging infrastructure, a shift in workforce demographics, constrained budgets, and regulatory flux. By adopting a data-driven analytics approach to managing assets, leaders can better align their people, processes, and technologies to clear, well-defined strategic objectives and performance outcomes.

UPWARD TREND IN RENEWABLE ENERGY: An increase in availability and affordability of renewable energy sources will strain baseload plants designed to operate at constant production levels. Operators are being forced to run these plants under suboptimal conditions, such as using lower-quality fuel or at production levels well below rated minimums.

INEFFECTIVE AND OUTDATED PROCESSES: Industry maintenance practices are predominantly time-based, not condition-based. This leaves plants vulnerable to failures caused by equipment defects and human error.

PRODUCTIVITY LOSS: Operators often become aware of problems only after a failure occurs, too late to head off productivity loss, downtime, crisis-mode reactions and emergency shutdowns.

Rapid change demands process innovation.

- VOLATILE AND DYNAMIC MARKET: Frequent changes in political, economic and regulatory climates create market uncertainty. This uncertainty has forced operators to shift from long-term to short-term asset ROI strategies.
Only **18 percent** of assets have a failure pattern that increases with use or age. This means that “preventive maintenance” alone is not enough to avoid failure in the other **82 percent** of assets and a more advanced approach is required.

_ARC Advisory Group, Proactive Asset Management with IIOT and Analytics_

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**A Data-Driven Approach to Managing Assets.**

- **DRIVE OPERATIONAL EFFICIENCY:** Streamline operations and simplify issue lifecycle management, allowing operations teams to spend less time responding to problems and more time on strategic or innovative work.

- **INCREASE SUSTAINABILITY:** Define sustainable strategies, implement efficiency targets, and simplify quantitative performance tracking.

- **IMPROVE SERVICE QUALITY:** Manage outcomes, asset performance, and operations to higher tolerance levels in order to improve service quality.

- **MAXIMIZE ROI:** Implement a proactive management solution to maximize the return on capital investments.

- **ENHANCE RELIABILITY AND SAFETY:** Enhance reliability through early detection and quantification of emerging issues, and protect plant operations from unwanted actions and unauthorized users.

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Plant operators must rigorously manage downtime and ensure availability from their aging assets. Growing reliance on renewable energy sources can strain baseload power generation plants optimized for constant production levels. Preventable failures hurt overall plant efficiency.

Fortunately, data-driven insights provide early warning of emerging issues and can streamline daily operations to improve reliability and efficiency.

Effective asset management solutions help plant managers predict outcomes, shorten issue response times, respond to problems well before they trigger alarms or force shutdowns, and ultimately extend the life of their infrastructure assets. The ability to manage assets holistically can benefit organizations through reduced costs and risk, more reliable service, and improved customer satisfaction.

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