MFPT 2024 Abstract:

TITLE: Data Management, Artificial Intelligence, and the Role these Technologies play in Machinery Failure Prevention.

MOBILE ABSTRACT: Data for Failure Prevention: Select, Organize, Analyze, Act

PRESENTATION CHALLENGE: Scalability from one machinery use case to many.

ABSTRACT: In the new digital data driven manufacturing environment, data provides a range of information that helps us keep production running at capacity. With the advent of machinery connectivity tools, in plant wireless infrastructure, and a plethora of new industrial sensors, there is an endless supply of data to sift through, to organize, to analyze, and to correlate such that actionable information is produced. When done right, it is possible to detect machinery and process degradation early such that orderly planning and scheduling of mitigation activity can occur. Avoiding reactive or emergent maintenance goes a long way to smoothen our production schedules. In addition to preventing machinery failure, the workforce is under less stress, and consumption of resources including electricity and water is reduced.

This presentation offers a step-by-step approach to prioritize data sources based on machinery failure and performance parameters; to organize the data in hierarchical namespace approach with associated reference materials; to analyze real-time feeds of data for failure and degradation parameters; and to suggest action based on diagnostic indicators from the analysis. Attendees will receive an adaptable roadmap to apply in digital transformation efforts within their plant.