Perspect Analytics

Are Your Asset Management and Maintenance Operations Ready for AI/ML Technology?

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PART 1

What do you think of when you hear Artificial Intelligence or Machine Learning? Some people link these terms to equipment health requiring maintenance sensors to predict equipment or components' remaining useful life (RUL). Other people link these terms to the ability to forecast future needs, events or outcomes. Some people think of automated robots or self-driving vehicles that could take existing jobs away from humans. This article will examine how artificial intelligence and machine learning can be used in asset management and maintenance operations.

First, we must understand artificial intelligence (AI) and machine learning (ML). In simple terms, they are advanced mathematical formulas or algorithms that can evolve and predict the probability of an event happening. These algorithms require precise quality data to provide an accurate prediction based on probability. Remember back to the days when everyone was installing EAM and ERP systems, and the phrase "bad data in = bad data out" was used? For AI and ML systems to function, having quality and accurate data is even more critical! In a future article, we will discuss the data quality and accuracy required to drive AI/ML technology related to asset management and MRO areas.

There are two categories for AI and ML, Predictive and Descriptive. The Merrian-Webster dictionary definition for Predictive is "based on or generated by using methods of prediction." A maintenance example of predictive is the ability to predict the remaining-useful-life (RUL) of a pump and provide the information to maintenance operations to repair the pump before it fails. The definition for Descriptive is "presenting observations about the characteristics of someone or something**:** serving to describe: or referring to, constituting, or grounded in matters of observation or experience." A maintenance example of Descriptive is the ability to see usage patterns not readily apparent within the spare parts management program. AI and ML technology is essential to determine the correct min and max levels at the SKU/Store/Bin level. Having the proper Min and Max levels based on maintenance usage and risk, vendor performance, supply

chain, procurement, etc., mitigates the risk of stock-outs and ultimately extended outages while minimizing financial liability and ensuring maximum profitability. Both Predictive and Descriptive categories can have a positive impact on profitability.

What asset and maintenance operations data can be used to feed AI and ML technology? We will discuss this question in part 2 in our next article.

About Perspect Analytics Inc.

Perspect Analytics' intelligentMRO™ platform seamlessly integrates and analyzes asset and maintenance data in near real-time from multiple CMMS/EAM/ERP/AMP systems. The AI/ML-based solutions identify improvements in equipment reliability, financials, human resource efficiency, business process, inventory, procurement, and more. Actionable suggestions with measurable ROIs are then provided to facilitate timely implementation for maintenance, repair and operations (MRO) continuous operational improvements.

The intelligentMRO™ Platform

With a holistic approach to all aspects of MRO, intelligentMRO™ enables:

- Data Consolidation
- Focused Action and Strategy Communications
- Evidence and Knowledge-Based Decision Making
- A Data-Driven Culture Providing Focused Improvement and Continuity Between All MRO Silos