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

Yang Wang, Cofounder & President, and Stan Shantz, Cofounder & VP

## PART 2

In Part 1, we briefly discussed how artificial intelligence (AI) and machine learning (ML) can be used in the asset management and maintenance operations areas. In Part 2, we will briefly discuss how data found in asset management and maintenance operations can be used to drive the benefits of AI and ML technologies. We must reflect on the data asset management and maintenance operations currently collect to do this.

Most asset and maintenance operation areas have historical work orders, spare parts procurement, MRO human resources, financial budget and asset engineering data in one or multiple CMMS/EAM/ERP/AMP systems. When we talk to senior asset and maintenance operation leaders about the quality of CMMS/EAM/ERP/AMP data residing in these systems, there is a trending belief that the data could be better and is of little value to drive AI and ML technology. This reasoning refers to a long-standing concern with software end users only sometimes providing the correct information in free-text fields or consistently linking purchase orders or spare parts usage to work orders. This concern is a challenge for some organizations, and it can affect the quality of data for root cause analysis (RCA) or failure mode effect analysis (FMEA).

> *Tip: The data inconstancy concern mentioned above can be resolved in less than a year for most asset and maintenance operations organizations.*

Does this inconsistent or limited data in free-text fields stop an organization from reaping the benefits of AI or ML technologies? The short answer to that question is no!

Even with anomalies in data quality within CMMS/EAM/ERP/AMP systems, AI and ML technologies can drive high value to organizations. How you ask? In addition, there is more valuable data in your CMMS/EAM/ERP/AMP system than just the free text fields. This additional data is usually of high quality and can be used by AI and ML technologies to identify

improvements in equipment reliability, financials, human resource efficiency, business process, inventory, procurement and more. This precious data can feed Predictive and Descriptive AI/ML technology categories. These are precious "gold nuggets" of data in history that only AI and ML technology can see.

> *Tip: Do not delete your history if changing or upgrading your CMMS/EAM/ERP/AMP system. Carry it over to the new system. If the historical data does not match your new asset hierarchy or value lists, there is an inexpensive way of merging the old historical data with the new* CMMS/EAM/ERP/AMP system.

Asset and maintenance organizations also have historical maintenance health sensor data on critical equipment or systems either through a predictive time-based route or in real-time through data historians or IoTT software systems. Natural language processing (NLP) technology can electronically extract maintenance sensor readings to feed AI/ML technology, even if this data is in a written report or free text field.

There is usually existing quality data that can be used by AI/ML technology to drive value in the asset management and machine operations area. Additional non-MRO data that may be readily available and can add value to AI/ML technology to drive asset management and maintenance operations are historical weather data, historical energy (utility) usage data, production scheduling data, asset health condition assessments, sales forecast data, vendor spare parts inventory, etc.. You may add road traffic conditions and estimated travel time to assist with workforce scheduling if you are a service organization.

> *Tip: If unsure your data will drive AI and ML technologies and Industrial 4.0, perform a data gap analysis on your current MRO data.*

If you want additional information on an AI/ML Data Gap Analysis, email me at stan.shantz@perspectanalytics.com .

**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 continuous operational improvements.

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