

Asset Health Process as a Thrust for Asset Performance Management (APM)

C. Perez, Y. Fedichkin

1. Advanced Lead Engineer, Digital Mine from GE Transportation, a Wabtec Company, 6164. Email: Christopher.Perez@ge.com
2. Senior Reliability Consultant, Digital Mine from GE Transportation, a Wabtec Company, 6164. Email: Yury.Fedichkin@ge.com

ABSTRACT

In our fast-evolving world, it is more and more becoming fundamental for companies to move from a reactive to a predictive asset management approach.

During the initial process of system/equipment design, it is advantageous to bring-in all the discrete information (e.g., condition data and process data) on to a single location making it easier to draw actionable insights for site personnel regarding process abnormalities or impending failures on assets. On the other hand, when it comes to the mature and/or aged facilities, redesign investment can hardly be justified due to different priorities. Companies, however can still achieve a lot even with limited data by properly documenting the Asset Health Process and the guiding principles that were followed for the process.

Asset Health Process enablers include the design of an appropriate IoT architecture and proper data flows, documented procedures and training.

Key points and consideration are follows:

Designing an IoT architecture and data flow

- To which extent is data integration possible?
- Cloud deployment, on-premise or hybrid?
- What is the most optimal communication/transfer protocol to use in terms of quality, security, throughput, reliability and cost?

Establishing Asset Health Process

- Improves planning accuracy by giving the visibility on asset condition;
- Assists in developing and forecasting precise lifecycle costing of an asset;
- From firsthand information regarding equipment component failures, not only from CMMS/EAM;
- Based on complex conditions auto evaluation or process CMMS/EAM data for Maintenance Actions and Bad Actors alerts;
- Evaluate the current risk exposure vs. acceptable level;

Asset Health Process as a necessary thrust of APM unlocks value in other business processes of organization (i.e., Defect Elimination, Maintenance Strategy Evaluation, Life Cycle Costing, Criticality/Prioritization.).

Conclusion: Full business value can only be achieved, if we can close the loop by continuous optimising the asset maintenance strategy through the knowledge we captured from all data sources available.

Keywords: IIoT, Analytics, APM, mobile asset, maintenance, reliability