senseye

Cameco

Case Study: **Cameco**

Challenges

Cameco is a Canadian energy firm that started its digital transformation in earnest in 2019. Its longest-running initiatives are in operations management, where it seeks to improve operational decision-making, safety management and sustainability.

A key element in these initiatives is asset maintenance, representing approximately 25% of Cameco's overall operating costs at its mining operations. Improving asset management began with automating data collection.

Cameco had struggled to analyze multiple regular condition monitoring data from assets in the past. As a result, the company found it hard to understand what went wrong in the event of asset failure.

Senseye PdM, using data collected by existing sensors, now gives Cameco a continuous stream of information on the condition and predicted future condition of its machines. This will lead to improved sustainability, efficency and a reduction in downtime.

Solution

Using the technique of multivariate analysis, Cameco is poised to make better operational decisions across the business:

- Better data collection means a clearer understanding of what went wrong and stronger insight to avoid repeated issues in the future
- Importantly, it gives a clearer understanding of where and what you should be monitoring to find the best insights on asset health

- Continuous data analysis reveals which forms of condition data are relevant for measuring asset health – and how the relationship between data points can show an upcoming fault
- It provides an opportunity to change operating regimes before they lead to equipment failure. The sooner you know, the sooner you can plan interventions and take advantage of windows in your schedule to apply a maintenance intervention without compromising production
- The idea of connected data becomes particularly powerful with the inclusion of operational data. This can help you understand how the way a plant operates affects asset health and overall efficiency.

Outcomes

One example could be how a day's operations impact vibration. With continuous monitoring, you can discern in real-time whether:

- Vibrations from today's operations are not causing damage to assets
- Vibration levels are outside of optimal range but excusable as part of one-day operations
- Vibrations from operations are detrimental to asset health and should be stopped
- Machine learning systems are used specifically around operations and advanced process control to make optimal operating decisions. They provide more insight into how your operating conditions or regime impact asset health and give businesses new approaches for optimizing their overall operations.

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