

Revolutionizing Cement Conveyor Operations: Enhancing Asset Life and Cost Savings with “UptimeAI Expert”

Operational Challenges

Despite the implementation of a Distributed Control System (DCS), the prompt detection and diagnosis of operational issues, particularly in the case of jammed belt idlers in a cement rubber belt conveyor, remains a formidable challenge.

Solution with UptimeAI Expert:

- UptimeAI's 'AI Expert' is revolutionizing the way industrial plants detect and diagnose operational issues. Unlike Distributed Control Systems (DCS) which use threshold-based alarms, 'AI Expert' uses deep learning models and built-in failure modes to detect operational issues early, before they cause significant losses.
- One of the key advantages of 'AI Expert' is that it can detect changes in operating parameters that may not be significant enough to be picked up by a DCS. It can also determine the correlations between multiple process parameters which may be challenging for humans to do manually.
- In a real-world scenario, a global cement manufacturer encountered a significant setback when their rubber belt conveyor exhibited increased current consumption while the material flowrate on the belt remained constant. Although various factors could have contributed to this anomaly, 'AI Expert' astutely pinpointed the root cause as jammed idlers, leveraging its system-level approach by analyzing over 30 critical tags.
- Unchecked, the inefficient operating conditions of the conveyor would have inflicted severe damage on the belt, potentially leading to mill stoppage. Thanks to 'AI Expert's' early warning and diagnosis capabilities, the customer could mitigate these losses at an early stage. Subsequently, the issue was swiftly rectified during scheduled downtime, resulting in savings exceeding \$30,000 in current consumption, belt replacement, and roller costs.
- UptimeAI's unique combination of AI and subject matter knowledge mimics experts by continuously learning without manual rules and explaining complex problems to help mitigate issues. The deep learning techniques learn good vs. bad behavior considering all the operating parameters, while built-in fingerprints with failure modes, recommendations, and fault-tree analysis enable the solution to diagnose and explain the issues.
- Furthermore, 'AI Expert' seamlessly integrates with your current Operational Technology (OT) stack, including maintenance systems such as SAP PM, to assess issues holistically and identify the root cause.
- Overall, 'AI Expert' is a game-changer for industrial plants looking to improve their operational efficiency and reduce losses due to unforeseen issues. With its ability to detect and diagnose issues early, 'AI Expert' helps streamline operations, making it a must-have tool for any industrial plant.

Summary

Savings
\$300,000 annually

Systems moduls
1

Deployment Time
2 Hours

Number of tags:
30



About UptimeAI:

UptimeAI uniquely combines Artificial Intelligence with Subject Matter Knowledge from 200+ years of cumulative experience to explain interrelations across upstream/downstream equipment, adapt to changes, identify problems, and give prescriptive diagnosis like a human expert would.

UptimeAI Expert OEx Platform works as a trusted AI advisor for plant engineers looking to achieve operational excellence.

For more information visit: www.uptimeai.com or email us: info@uptimeai.com