How an REC Candidate used AI to Reduce Downtime and Increase Profits for his Company

Life Cycle Engineering's Reliability Engineering Certification (REC) program provided training and guidance for a major international manufacturing company to apply Artificial Intelligence (AI) to their production system.

The REC program consists of four key courses and a capstone project. The capstone project requires the candidate to apply the knowledge and skills learned in the courses to demonstrate proficiency and, more importantly, to create value for the company. An LCE Reliability Engineer coaches the candidate as they work on their project.

While working on his capstone project, a recent REC candidate began a failure analysis process for his plant. Using what he learned through the REC courses, this Reliability Engineer installed an AI system for failure pattern recognition at his site. Each time a failure occurs, the system "learns" the data patterns leading to the failure. As the system has progressed, the plant is notified of the pending failure when a similar pattern appears. The maintenance organization then uses the work management processes to ensure needed repairs are completed promptly to minimize loss. Since the site program has been so successful, it is now fully integrated across all sites worldwide. The AI system currently uses data from all sites globally to predict the pending failures at one site.

The plant's initial capital expense was for additional process instrumentation and the programming to learn to identify the failure patterns. The Reliability Engineer began to determine the instrumentation needed, and in 12 months most of the instrumentation was installed. This included equipment to monitor vibration, temperature, and ultrasound, as well as capture production data such as time in a station or line speeds. The company used lessons learned from LCE's Root Cause Analysis course to understand any failures not predicted and define the data needed to identify failures in the future. The company recouped the initial investment on the first piece of equipment identified with a pending failure. The company has since been able to use savings to grow the system worldwide.

Because of his program's overwhelming success, the Reliability Engineer was tasked with leading a global effort to implement the program throughout the company. His career is accelerating as he leads this project – a once-in-a-lifetime dream opportunity for many engineers.

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Lead your plant to reduced downtime and higher profits by incorporating failure pattern recognition into your reliability programs. Get started today! Visit our website or call Life Cycle Institute at 800-556-9589.