

Early Detection and Diagnosis of Excess Steam

Background: The Challenge

While a variety of tools are available to track energy consumption, it can still be difficult to determine the cause of high energy consumption in a plant. In this case, a suction strainer choke resulted in efficiency drop that led to high steam consumption.

Solution with UptimeAI Expert:

- » Unlike Distributed Control System (DCS), which uses a threshold-based alarm, UptimeAI's "AI Expert" uses deep learning models and built-in failure modes to detect operational issues early before causing any losses. UptimeAI also seamlessly integrates with your current Operational Technology (OT) stack including maintenance systems such as SAP PM to assess the issues holistically and identify root cause.
- » Many times, changes in operating parameters are not too significant to be picked by a DCS, and operators wouldn't detect these issues until the deviations are too high. Further, identifying cause quickly requires skilled technicians, a challenge with the retiring workforce. UptimeAI's solution identified that the differential pressure is higher than the predicted estimate, while the total steam flow was also increasing. In addition, the suction pressure has dropped significantly while the total steam flow has gone up. All in all UptimeAI is an artificial Intelligence company that offers the world's first virtual AI assistant for plant operations. UptimeAI's "AI Expert" uniquely combines artificial intelligence with subject matter knowledge from 200+ years of cumulative experience to

explain interrelations across upstream/downstream equipment, identify problems, and give prescriptive diagnosis at scale. AI Expert continuously learns while providing prescriptive actions to achieve high availability, improve efficiency, and eliminate unplanned downtime. The company's customers include several in the Fortune 100, indicating a significant efficiency drop and identifying the cause as suction strainer choke.

Without UptimeAI's early detection, the unit would've incurred significant energy loss, inadvertently slipping away from their sustainability goals, and undesired pressure output would mean the operators would have less control over the process. Left unchecked, the strainer would've ultimately impeded putting operators in harm's way and an unplanned shutdown would soon follow.

UptimeAI uniquely combines AI and subject matter knowledge to mimic experts by continuously learning without manual rules and explaining complex problems to help mitigate issues. While deep learning



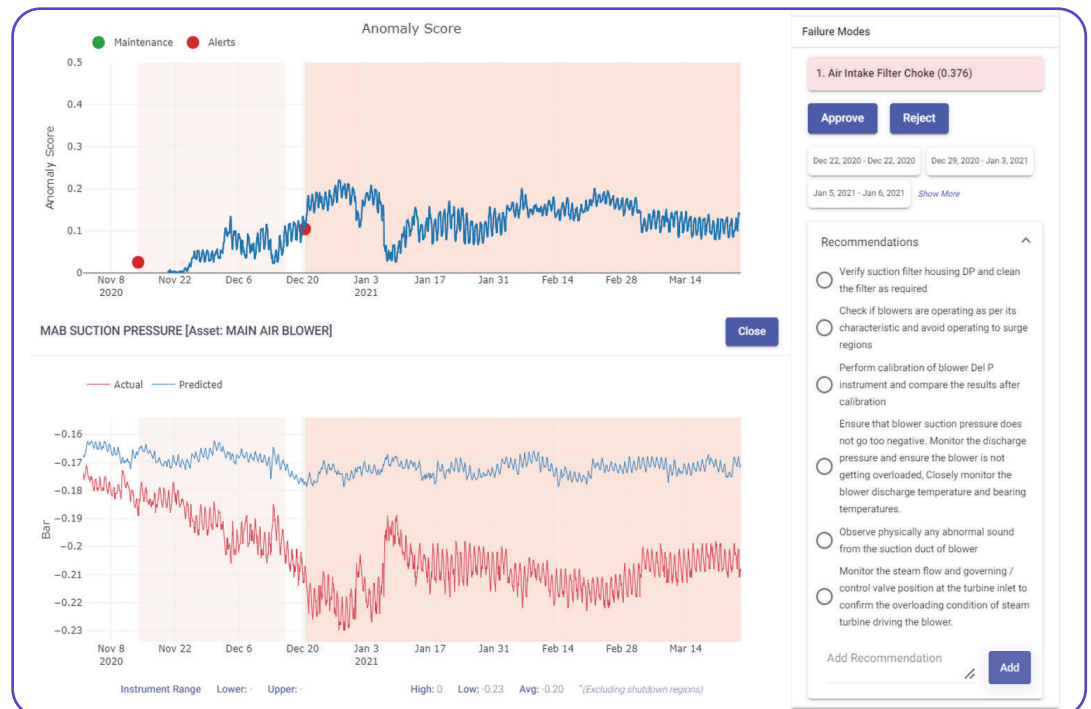
Summary

Savings
\$ 350,000 anual

Systems Models
1

Deployment Time
1 Hour

Number of Tags
25



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.

The UptimeAI Expert OEx Platform serves as a trusted Subject Matter Expert, empowering plant engineers to achieve operational excellence with minimal dependency.