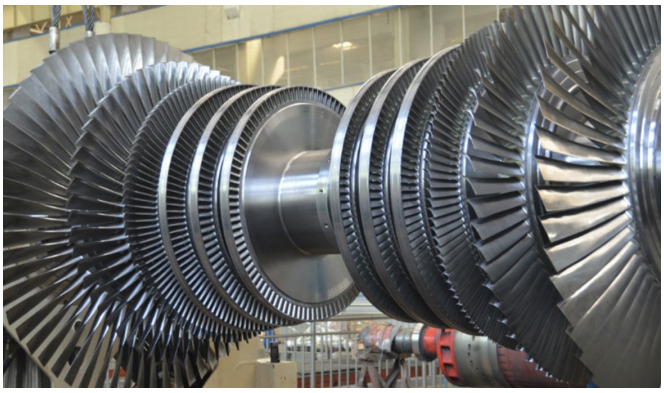
UptimeAI

CASE STUDY

“UptimeAI Expert” Improves Steam Turbine Efficiency Resulting in an Additional Revenue of over $100,000 Annually.



Operational Challenges

One of the main causes of loss of capacity and efficiency in steam turbines is turbine blade deposits i.e., fouling. Though monitoring solutions can eventually detect this issue, they are too late.

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. It is also challenging to manually determine the correlations between many process parameters. For example, determining whether the outlet temperature increase is due to fouling or due to changes in ambient conditions, load, etc. can be highly complex. Further, identifying cause quickly requires skilled technicians, sometimes at the plant, a challenge with the retiring workforce and remote employees. AI Expert was able to identify the issue as soon as the 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. deviations started to occur and helped reduce further damage to the machine and provided recommendations to fix the same.

- AI Expert has correlated over 200 tags to detect that while active power and inlet temperature are within normal range, the axial shift and the outlet temperature have been increasing. Connecting the multiple symptoms via built-in FMEA, AI Expert diagnosed the issue as Turbine Fouling and suggested recommendations to address it.

Summary

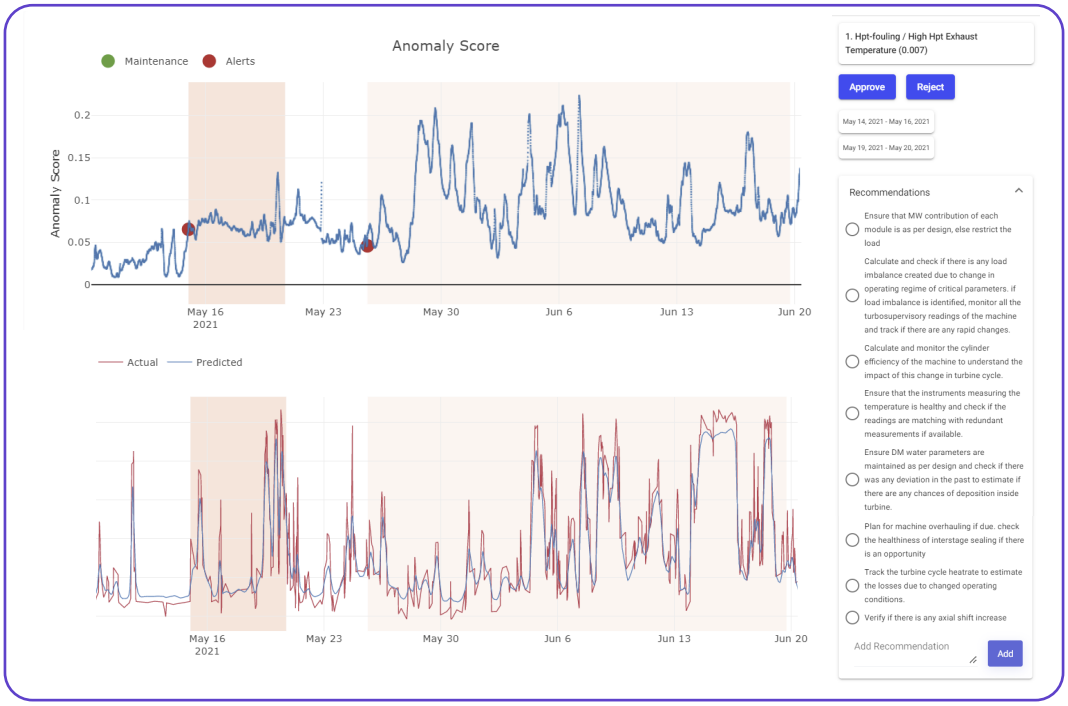
Revenue
$100,000 additional revenue due to increased generation

Efficiency
0.8% increase in trurbine efficiency

Systems models
1

Deployment Time
2 Hours

Number of Tags
200



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.