LTIMindtree

Case Study

Remote Monitoring of Critical Assets Using Engineered Algorithms

◯ Client

The client is a global upstream oil and gas major producing over 121 million barrels of oil every year from over 20 oil and gas field operations.

◁ Challenges

- ✓ **Productivity Losses:** unplanned shut down of the compression assets caused revenue losses as high as USD 4 million per day due to a single asset failure.

- ✓ **High Maintenance Spends:** since real time asset health monitoring was not available, the customer faced a high breakdown rate calling for unplanned maintenance.

- ✓ **Environmental Costs:** compression asset downtime at a remote location is a critical event with possibilities of fires and other safety and environmental risks.

◯ LTIMindtree Solution

- ✓ IIoT and Big Data Enablement.
  - IOT sensor-based solution to digitize legacy assets.
  - Real-time collection of multiple performance parameters for each asset feeding into the plant historian to create a repository for baselining and running analytical models.

- ✓ Engineered Algorithms: modeling the behavior of a compressor required research and engineering to understand the operating parameters and performance characteristics. On-line and real-time aerodynamic performance modeling capability was developed. Analytics capabilities deployed for building predictive maintenance models.

- ✓ Data Visualization and Alerts.
  - Intuitive dashboards for up-to-date analytics on asset performance.
  - Diagnostic alerts to monitor the health of critical upstream equipment.

◯ Business Benefits

15%
Reduction in OEM monitoring efforts.

20%
Elimination of breakdowns.

USD20Mn
In productivity improvements.