



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.

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