

Case Study

Increased Asset Shelf Life for US-Based Midstream Oil Major





# The client is a Fortune 500 company that provides midstream petroleum services.

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LTIMindtree helped a major petroleum services company proactively generate views on asset health that helped increase the shelf-life and performance of assets.

# \lambda Challenges

- Inability to leverage large amounts of data generated by the infrastructure.
- Frequent failures and maintenance increased service costs, impacting plant throughput, and revenue.
- Need for an analytics solution to help drive optimization and reduce costs.



#### **LTIMindtree Solution**

- Leveraged machine learning (ML) algorithms to deep dive into the state of midstream equipment – six boosters with 23 components in total.
- Analyzed 70+ critical Key Performance Indicators (KPI) such as engine and compressor oil pressure, engine RPM, engine crankcase level, local stop, engine knock alarm, and cylinder to help detect anomalies and forecast potential asset failure.
- Detected three severity levels ESM alarm, engine knock alarm, engine RPM -that had the most impact.
- Performed time series analysis at minute/second level, which provided 71+ million records for observation, increasing the sample size for better accuracy.

### Business Benefits

**08%** improvement in the prediction of booster component failure.

Identified 20% environmental and health factors that impacted an asset's shelf-life. 02%

improvement in field resource management and spare parts optimization.

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