

LTI

Let's Solve



Machine Learning-Based Plant Production Forecast Improves Contract Fulfillment for O&G Major



A Larsen & Toubro
Group Company

Client

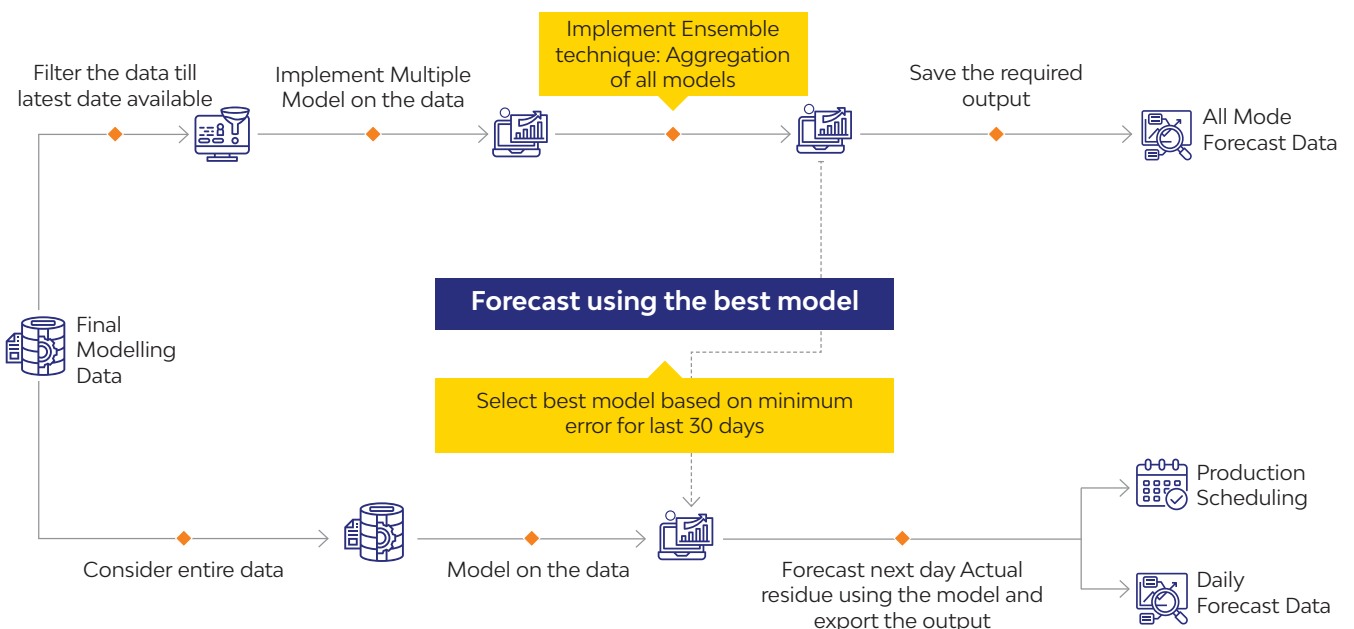
The client is a leading midstream oil and gas company with more than 60 gas processing plants across the US.

Challenges

- ✓ Over 15% average error in forecasting of daily gas production, resulting in partial fulfillment of contracts due to shortfall or loss of profit due to excess production
- ✓ Unplanned and abrupt downtimes, rescheduled gas supply, internal/external events data uncertainty, error in sampling, and static approach making production forecasts difficult
- ✓ Need for predictability in production of processed gas from 75+ plants with different capacities and variations

LTI Solution

- ✓ Developed a multi-model machine learning framework capable of processing data from multiple data sources like SCADA-OSI PI, FLOWCAL, and Snowflake
- ✓ Enriched data by eliminating data anomalies and creating additional 45+ derived variables based on forecasting principles
- ✓ Applied business rules considering unplanned and abrupt downtimes, rescheduled gas supply, and internal/external events
- ✓ Implemented ensemble technique (aggregation of models) for real-time selection of the most accurate prediction model (based on error rate) to forecast
- ✓ Leveraged advanced Azure durable functions to improve scalability and performance of the prediction solution
- ✓ Developed persona-driven dashboards with historic data summary of readings for current and past performance of forecast for better governance



Business Benefits

98%

accuracy in gas production estimation and forecasts

Optimized volume commitments and better revenue planning

Attained minimum error rate of less than

4%

Reduced dependency on manual labor for forecasting production

Implemented across 11 plants with an average cumulative gas processing capacity of 450000 MMBTU/day

LTI (NSE: LTI) is a global technology consulting and digital solutions Company helping more than 460 clients succeed in a converging world. With operations in 33 countries, we go the extra mile for our clients and accelerate their digital transformation with LTI's Mosaic platform enabling their mobile, social, analytics, IoT and cloud journeys. Founded in 1997 as a subsidiary of Larsen & Toubro Limited, our unique heritage gives us unrivalled real-world expertise to solve the most complex challenges of enterprises across all industries. Each day, our team of more than 40,000 LTItes enable our clients to improve the effectiveness of their business and technology operations and deliver value to their customers, employees and shareholders. Find more at <http://www.Lntinfotech.com> or follow us at @LTI_Global.

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