



Hi-Tech

Provided foolproof predictive maintenance solution for an energy major

*Seen exponential in business efficiency and
personalized marketing strategies*



Industry

OTA (Online Travel Agency)



Function

Marketing



Data Used

1. Customer profile
2. Search data
3. Bookings & trips data
4. Campaign attributes



Tech Stack

1. PaySpark
2. Cassandra
3. AWS
4. Unica

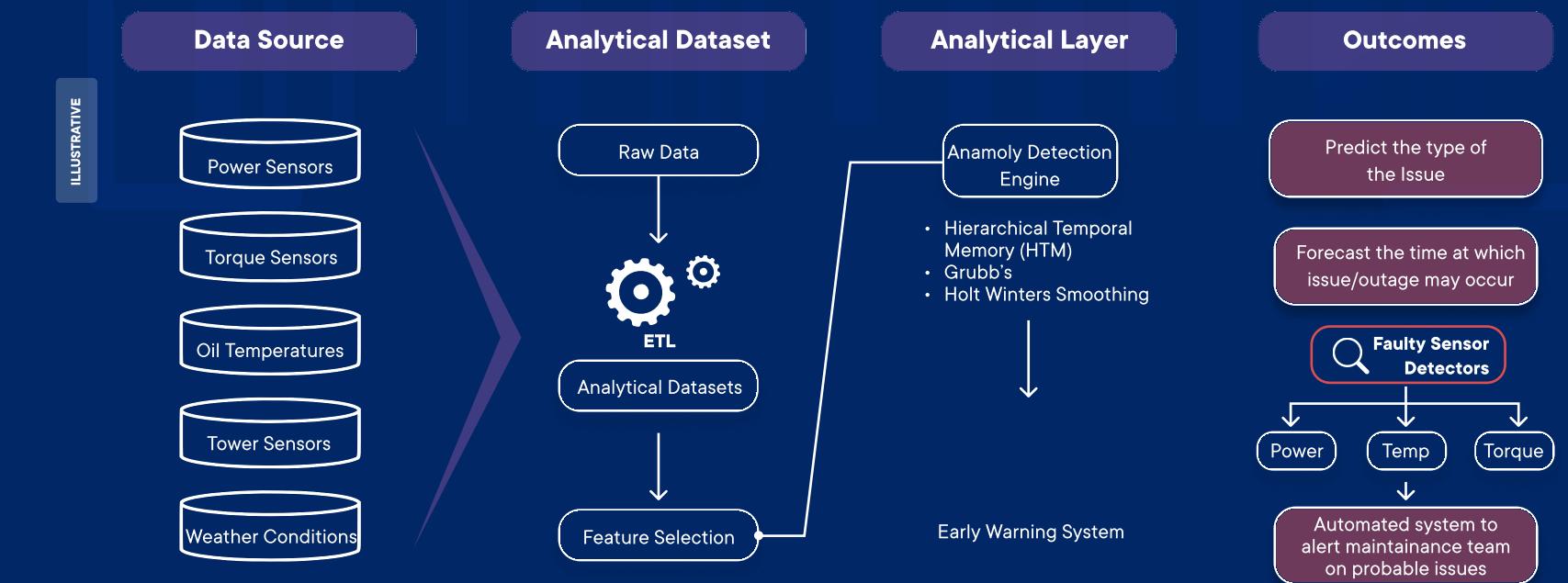
Who Is The Client?

The client is one of the top energy majors based in the US, pioneered in producing renewable energy using wind turbines across the country with constant innovation and technology adoption that combines energy industry domain knowledge with leading edge machine learning technologies.



How Did We Solve The Problem?

Our team of manufacturing & Data Science experts conducted a technology assessment and identified the various data sources. Later, developed the solution architecture comprising of four stages for building the predictive maintenance system. The effort put in was powered by advanced Machine learning and Deep learning algorithms to predict the occurrence of anomalies in near real-time.



Business Quandary

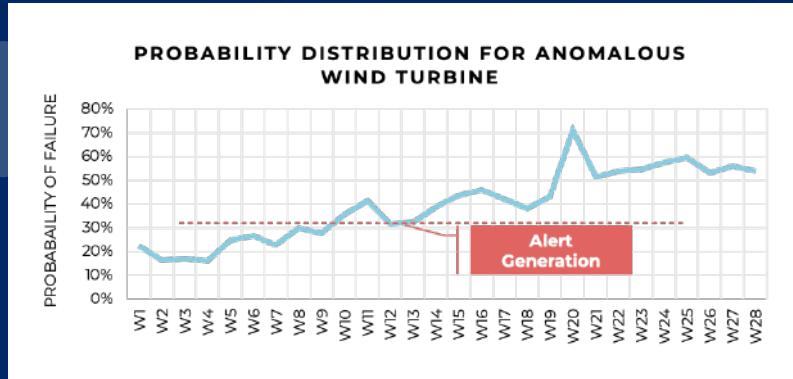
Monitoring the performance of wind turbines was a challenging factor for the client across multiple locations. Proactively identifying possible performance anomalies to reduce inefficient energy production and long-term machine failure was a major bottleneck. The necessity of a foolproof plan and strategy to overcome this problem was the need of the hour for the client.



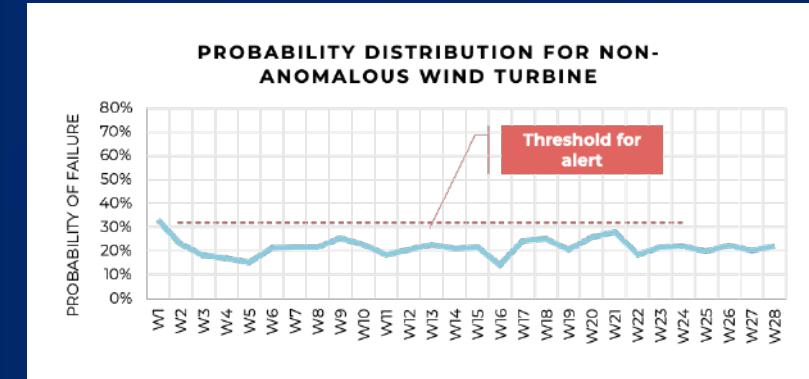
The Pay Off

Using Affine's predictive maintenance system, our Analytics Engineering team captured the probability of failure in wind turbines. Consequently, the AI team used the same captured data to develop an automated warning system to predict the possible faults in sensors to alert the maintenance team on probable issues. The threshold values are customized for every wind turbine type and automatically identified based on historical performance and desired workload.

ILLUSTRATIVE



Predicted the remaining useful life of the critical components & in accordance to that a maintenance ticket is raised



The probability of failure doesn't vary a lot hence identified as non-anomalous

Augmented Outcomes

12%

improvement in OEE

30%

reduction in maintenance cost

15%

reduction in spare parts inventory

8%

reduction in manpower

Interested To Learn More?

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