

Case Study: How a leading Refinery utilised Azure Databricks for data analysis & visualisation

Our client holds a prominent position in the global refinery sector, specializing in products such as Benzene, Toluene, White Spirit, Polyisobutene, and Sulphur. With an annual production capacity of 10 million tonnes, they are a key player in the industry.

Challenges



Integration of diverse data sources

The refinery had to integrate different data types like production data, sensor data, and maintenance logs into a unified framework.



Data analysis

After integrating the data, the challenge was to analyze it effectively to improve operational efficiency and decision-making.



Scalability

It was essential for the analytics solution to be scalable, capable of handling increasing amounts of data and complexity without compromising performance or accuracy.

Business Scenario

Before Maventic, the customer aimed to optimize refinery operations by analyzing production data, equipment sensor data, and maintenance logs.





Solution

To tackle the integration, analysis, and scalability challenges, Maventic adopted a comprehensive solution utilizing Microsoft Azure services. This approach focused on leveraging Azure's robust cloud infrastructure and advanced analytics capabilities to streamline data management and enhance operational insights. The key components of this approach included:

- **Azure Data Factory (ADF)**
Used for orchestrating the extraction, transformation, and loading (ETL) of data from diverse sources, ensuring seamless integration.
- **Azure Databricks**
Employed for advanced data analysis, helping the refinery to gain deeper operational insights and optimize production processes.
- **Predictive Maintenance**
Advanced analytics techniques were applied to sensor data to predict equipment failures, enabling proactive maintenance scheduling.
- **Environmental Performance Monitoring**
Analysis of production and emissions data helped in monitoring environmental performance and ensuring compliance with regulatory standards.
- **Power BI Dashboards**
Intuitive dashboards were developed to present actionable insights to refinery operators and management, facilitating informed decision-making.



Benefits

-  **Improved** equipment breakdown prediction
-  **Enhanced** decision-making
-  **Optimised** refinery operations
-  **Increased** environmental performance monitoring

maventic

+91 829 6969 824

experts@maventic.com

www.maventic.com

AECS Layout - C Block, Brookefield,
Bengaluru, India - 560 037