Empowering Global After-Sales with AI-Driven Analytics

Client

A global commercial vehicle manufacturer specializing in trucks and buses, recognized for innovation in connected mobility, zero-emission transport, and digital fleet solutions, serving logistics and infrastructure sectors across North America, Europe, and Asia.

Business Need

The client had challenges with ineffective after-sales operations, which included processing and analyzing vast volumes of service, parts, and sales data spread across multiple regions. Legacy systems lacked the speed, scalability, and intelligence to manage data lineage complexities, ensure transparency, and generate timely insights for decision-making.

To address these gaps, the client required an advanced decision support system capable of:

- Handling large-scale datasets with fast and reliable processing
- Addressing parts lineage complexities to enhance traceability
- Enabling advanced analytics for sales forecasting, anomaly detection, and region-specific planning

Solution

Innominds designed and implemented a modern data architecture leveraging the Medallion Architecture for efficient data management and analytics.

- Built a scalable data pipeline on Azure and HDFS for high-speed data ingestion and transformation

- Employed Change Data Capture (CDC) for processing incremental updates

- Implemented AI-based data profiling to automatically detect outliers, missing values, and invalid patterns across data pipelines

- Used NLP-based entity recognition and matching models to enrich unstructured data (e.g., customer feedback, product logs) with structured metadata

- Developed and optimized big data pipelines to process large datasets with faster turnaround times

- Introduced data lineage mapping from source systems to dashboards to ensure traceability and reliability

- Integrated Tableau dashboards with refactored extracts for improved performance

Value Delivered

- Enhanced operational efficiency through intelligent data orchestration

- Accelerated data processing, enabling faster time-to-insight

- Scalable and reliable architecture capable of supporting 10x growth in data volume

- Delivered actionable business insights to support strategic decision-making

- Improved sales forecasting accuracy across regions

Tools & Technologies Used

- Azure
- Azure HDInsights
- HDFS
- Hive
- Scala
- PySpark
- Spark
- Tableau

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