



Let's Solve



Prognostic-Diagnostic Engine  
Drives Predictive Maintenance for  
**US-based Global Automaker**



## Client

The client is a Japanese public multinational conglomerate automaker and a leading manufacturer in the US. Aside from their core automobile and motorcycle businesses, they manufacture garden equipment, marine engines, personal watercraft, AI-enabled robots, aircraft, and power generators, and other products.



## Challenges

The client, being a top global automobile brand, needed to ensure a premium customer experience as a key differentiator in the highly competitive US market. The challenges were:

- ▶ Lack of an intelligent system to notify customers to proactively replace car parts prone to wear-and-tear to minimize downtime and prolong vehicle life.
- ▶ Large IT spends ineffective and incompatible with next-gen technology slowing the technological growth and profits.



## LTI Solution

Together with the customer, LTI designed a detailed cloud solution for their application portfolio. Also, we stepped into the shoes of our client's customers to understand their needs and designed a tool to provide alerts on the health status of spare parts. LTI helped the organization by:

- ▶ Simplifying, rationalizing, centralizing, and globalizing information and insights by modernizing the data platform using AWS cloud platform to leverage benefits of cost, scale, and innovation.
- ▶ Designing a cloud-based Data Lake on AWS S3 to host data centrally by building a robust data ingestion pipeline using serverless Glue and Dynamic EMR Spark Cluster.
- ▶ Building a multilayered data hub on S3 to provide data to data scientists and business analysts through engineered data pipelines ensuring data availability for advance data science platform.
- ▶ Creating a unified data hub platform integrating different types of data, as well as telematics data into a single platform.
- ▶ Developing a prognostic engine to track the health management of vehicle parts and predict the Remaining Useful Life (RUL) of the key components.
- ▶ Building an alerts-based mechanism application to help the customer get alerts about the vehicle parts in real-time.



## Business Benefits

Cloud migration and other services are making it possible for the client to access next-gen tools, data, and cloud capabilities such as provisioning new infrastructure to experiment with new products or customer solutions, ensuring they are ahead of the competition. Benefits include:

**Increased agility:** Transformation of 210 unique structural data sets and 2 million telematics semi-structure data files per day.

**Boost in sales around the supply chain,** with timely alerts of parts nearing end of life cycle.

**Enhanced customer experience** with hassle-free vehicle maintenance and reduced downtime.

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