

Predictive QA

Predictive Quality Analytics in Manufacturing Quality Management to reduce costs, recalls, and defects

About Client

- Global automobile manufacturer with a production capacity of 100,000 units of cars per year
- Exporting vehicles to Middle Eastern countries (Saudi Arabia, United Arab Emirates, Kuwait, Bahrain, Qatar, Oman, Jordan, Syria, and Lebanon), Pacific island & Asian countries

Business Drivers

- Loss in business revenue with failed engine blocks
- Protect company brand integrity and customer trust
- Increased QA costs ranging between \$1500 - \$5000 per engine block
- Reduce the vehicle recall and improve quality management

Approach and Deliverables

- Implemented AI & Machine Learning solution to predict the engine leakage failure
- Developed a big data warehouse to analyse the IoT data collected from various sensors at the factory production line
- Analysed 106 data attributes, build algorithms to reduce false positives and false negatives

Outcomes/Benefits

- Real-time well-informed decisions, saving per engine quality costs
- Reducing the risk of downtime saving 116 workdays spent per site every year
- Better utilization of resources in prioritizing the cohort of engines that are at risk of failure
- Removing failed engine blocks from the production line with the predicted engines

