



Decoding connected vehicle data to design better cars

CHALLENGE

A leading auto manufacturer wanted to improve product development by tapping into customer experience data. But a fractured data landscape and an inability to synthesize connected vehicle data meant stakeholders had **divergent views of customer experience**, and could not effectively collaborate to enhance future designs.

SOLUTION

The manufacturer integrates field data from customer surveys, connected vehicle / usage data, third-party surveys, OEM surveys, warranty claims, geolocation data, and more. This enables all stakeholders in the product development lifecycle to collaboratively:

Cluster customer surveys

Data scientists deploy logic to cluster unstructured customer surveys by topic, such as vehicle performance. From there, non-technical quality analysts investigate the data to identify **the root cause of customer sentiments**. These findings are made available to all stakeholders, subject to security and granular access controls protecting private data.

Understand feature use

At the same time, development engineers perform **statistical analysis on billions of rows of connected vehicle data** to rank features by frequency of use.

Improve future designs

Product teams receive all of these inputs to **contextualize customer sentiment** and make decisions on future designs.

IMPACT

- Product development discussions are rooted in a **unified view of actual feature usage**.
- Product managers **analyze feature popularity by market in minutes**. Previously, gathering and preparing the data alone took months.



Improving vehicle quality and ratings

CHALLENGE

Quality teams at a major automaker could not access or connect in-service vehicle data to plant-level manufacturing processes. Without key information on part performance in the field, it was impossible to proactively identify and improve emerging issues in the quality control lifecycle. The company was searching for a technological solution that would allow them to take ground from their competitors in consumer reviews.

SOLUTION

Identifying emerging issues

The automaker integrates data from warranty claims, diagnostics, dealers, connected vehicle sensors, and vehicle metadata into a shared data asset across plants. Automated pattern matching surfaces trending defects so that teams can proactively address them and share local fixes with the entire organization.

Prioritizing issues for investigation

Issues are automatically ranked for investigation, allowing engineers to address the most pressing and costly defects first.

Operating on universal quality KPIs

The unified data environment allows both assembly plants and C-suite executives to operate on the same set of quality KPIs and performance metrics.

IMPACT

- Issue diagnosis and quality reporting take minutes instead of hours, and issues are resolved 80% faster.
- The ability to identify emerging issues and address them proactively has improved quality, reliability, and consumer ratings.
- The entire organization – from assembly plants to quality teams to executives – operates on a common set of KPIs.



Optimizing production globally

CHALLENGE

A global manufacturer of industrial and consumer goods could only assess a small fraction of all possible production optimization scenarios. Gathering the data needed to make a single optimization decision took 6 months and required constant back-and-forth between global and regional teams, product experts, and plant managers.

SOLUTION

The manufacturer systematically analyzes large numbers of optimization scenarios to inform production allocation decisions across hundreds of plants worldwide by:

Centralizing global and plant-level data

Production allocation models are powered by hundreds of supply chain datasets integrated from plant databases and offline spreadsheets.

Optimizing allocation decisions

When analysts reallocate production, they now account for plant capability, as well as the cost of raw materials, logistics, and production itself.

Improving data quality

Previously, poor data quality compromised the integrity of allocation decisions. Now, analyst teams and plant managers have better transparency into data quality and collaborate to improve data capture directly within the platform.

IMPACT

- Production allocation models can now be run in days (versus months).
- By running significantly more production optimization scenarios in less time, the manufacturer has identified tens of millions in potential savings between scenarios.



Scoping recalls with a leap in speed and precision

CHALLENGE

Lengthy and costly vehicle recall processes posed serious financial and legal concerns for a multinational automotive manufacturer.

Because vehicles are designed with parts from different suppliers and manufactured in different configurations, relevant data is spread across multiple systems. But to identify all vehicles potentially affected by a recall, safety investigators need to further combine this data with service history, ownership, and usage data.

SOLUTION

Automated part-to-vehicle mapping

The manufacturer integrates data from plants, manufacturing processes, vehicles, parts, and warranty claims to create a unified view of the vehicle fleet.

Safety investigators quickly filter vehicle data by all possible criteria, such as when and where vehicles were built, sold, used, and repaired. Now, the automaker accurately scopes recalls and reduces the risk of costly over-scope.

Full audit trail of recall scoping processes

Compliance regulations require automakers to maintain a full audit trail of recall scoping processes.

Foundry automatically saves every step of the process so that recall scopes can be reopened at any time and quickly amended if needed.

IMPACT

- The population of vehicles potentially affected by a recall can be identified in minutes with significantly higher accuracy. Defining campaign scope at this scale used to take months.
- The automaker significantly reduced costly recall amendments.