Upstream

ACTIONABLE VEHICLE QUALITY MONITORING

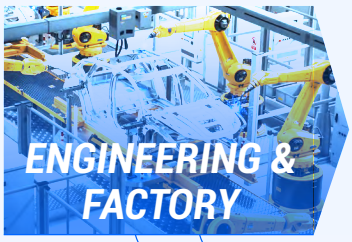
Reduce recalls and maintenance related costs with connected vehicle health monitoring and quality detection.

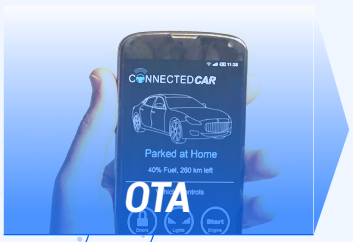
Vehicle quality challenges during production and post-production stages lead to costly recalls, warranty claims, and service expenses. These issues not only pose safety concerns for consumers but also harm brand reputation. They can be caused by various factors, including mechanical malfunctions, manufacturing problems, software bugs, FOTA malfunctions, or a combination.

Detecting quality and health issues in vehicles quickly is crucial, but it's challenging due to the complexity of modern vehicles, the supply chain, and the vast amount of data generated by connected vehicles. Monitoring vehicle health and quality becomes highly complex with numerous relevant components and software libraries installed.

Upstream's Vehicle Quality Monitoring solution

Purpose-built for automotive industry, enabling OEMs to proactively detect quality-related anomalies before they become widespread. By correlating production-stage data with post-production DTCs, sensorial data, OTAs, warranty data, and data from telematics communications channels. The solution empowers OEMs to swiftly and efficiently resolve issues, reduce recalls, and increase customer loyalty and trust.





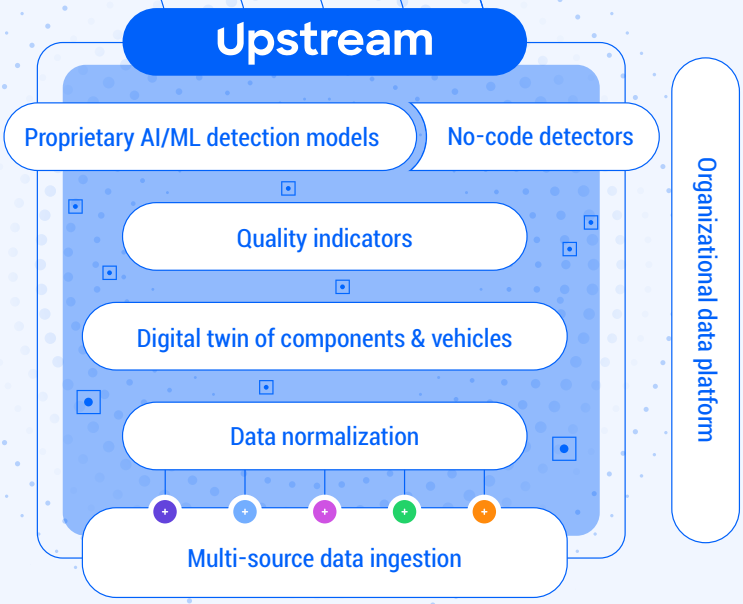
QUALITY BY DESIGN

MONITOR VEHICLE QUALITY ACROSS THE ENTIRE VEHICLE LIFECYCLE.

Upstream's solution is purpose-built for OEM data and has been proven with major global OEMs.

Upstream offers a holistic approach to vehicle quality detection that enables advanced and efficient anomaly detection throughout the vehicle lifecycle.

Connected vehicle data is leveraged to extract quality indicators designed to support proprietary machine learning detection modules in a single vehicle resolution, as well as the entire fleet.



Purpose-Built For Connected & Software-Defined Vehicles

Agentless Platform

Utilize connected vehicle data without the need for any in-vehicle software installation. Monitoring is available throughout the entire vehicle lifecycle.

Component-Based Quality-Related Anomaly Detection

Digital twins of individual vehicle components, including the engine, battery, and software versions, enable anomaly detection at a granular level and across the entire fleet.

Built for Automotive

The Upstream Platform is designed to process and analyze diverse and massive amounts of data generated by connected and software-defined vehicles.

Quick Time-to-Quality

The Upstream Platform is designed to efficiently process various data streams, providing comprehensive visibility to any detected alerts and feeds into existing organizational data platforms.

Built to Ingest Data at Scale

Designed to handle large-scale data, the Upstream Platform ingests an enormous amount of unstandardized data from the entire connected vehicle ecosystem, including vehicle sensors and signals, FOTA, and command and control telematics servers.

Analytics-ready Data Normalizationand Cleansing

Taking the diverse data produced by connected and software-defined vehicles, the Upstream Platform cleanses it and then normalizes the data with a proprietary universal data dictionary while maintaining strict PII protection for regulatory compliance and consumer privacy.

Dedicated Vehicle Quality Indicators

A unique set of parameters utilized to identify potential quality issues, created after extensive, in-depth internal research of DTCs, in-vehicle sensor data, service and warranty claim data as well as public recall incidents.

Contextualize Vehicle Data with Digital Twins

The Upstream Platform builds near-real time representations of each vehicle, component by component, for individual vehicle detection as well as fleet-wide anomaly detection. By utilizing the digital twins the state of the vehicle, can be monitored and anomalies can be contextualized to provide insight into malfunctions or quality issues.

Purpose-built and ML-based Anomaly Detection Models

The Upstream Platform offers a robust pre-configured suite of anomaly detectors. The platform leverages ML-based detection models for unknown anomaly identification alongside detectors crafted by automotive domain experts.