

CASE STUDY | RFID-ENABLED SMART AUTOMOTIVE WORKSHOP

A large network of automotive workshops faced the challenge of managing service and repairs on thousands of cars daily. The implementation of RFID technology in their automobile workshops enabled them to measure the vehicle delivery time and other servicing parameters to improve efficiencies and customer experience.



INDUSTRY | AUTOMOTIVE

About the Case Study

- Implementation of RFID technology in automobile workshops to measure the vehicle delivery time and other servicing parameters
- Reduction of servicing/delivery time
- Improvement of efficiencies, profitability and customer experience

CUSTOMER BENEFITS

- Development of an automated vehicle tracking system to measure vehicle delivery time

KATHREIN PRODUCTS

- RAIN RFID Reader RRU 4500
- RAIN RFID Antenna WRA 6060
- KATHREIN RFID Tags
- CrossTalk IoT software suite

KATHREIN PARTNER:

- INTELLISTRIDE TECHNOLOGIES PVT. LTD.
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Illustration: Factory fitted RFID tags (given at co-driver side on front windshield)



Illustration: Manual RFID card (to be hung on rear view mirror)

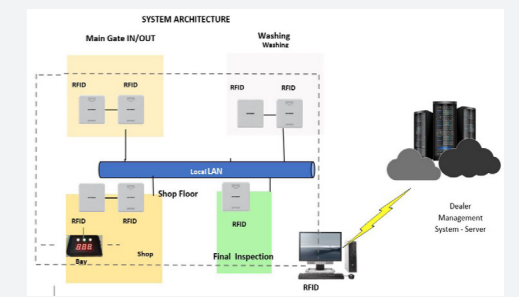


Illustration: The system architecture of the automated tracking system

Lack of efficiency while managing service / repairs

A large network of automotive workshops faced the challenge of managing service and repairs on thousands of cars daily. For every car received at the workshop, a repair order is prepared. Subsequently, the car goes through various departments in the workshop before it is finally delivered to the customer.

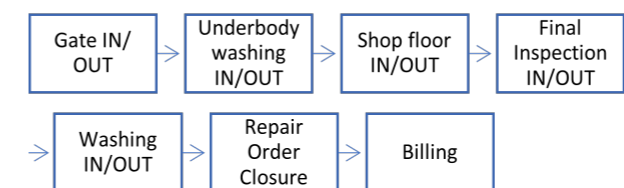
Given this scenario, the management aspired to make the servicing and repair process more efficient and reduce both time and cost. Keeping records manually or capturing the data manually or in a semi-automated way is not helping the client achieve their objectives.

Aiming for timely delivery of vehicles

The main objective of the project was the timely delivery of vehicles to increase the customer satisfaction. To do this, it was necessary to ensure that the vehicle movement was monitored inside the workshop and data was collected accurately. In addition, it was desired to identify gaps respectively idle time in vehicle movement between the service stages and thus improve efficiency and productivity. Another objective was to provide the real-time vehicle service status visibility to the customer.

RFID solution to track each vehicle throughout the service process

An RFID based solution enabled the service provider to keep track of the vehicles inside the service workshop and service areas detecting the movement direction In and Out while cars change their position between different service processes. A plan was made to automate the collection of data from every stage. Tracked stages were:



This required the use of RFID hardware components, CrossTalk IoT suite, and a Dealer Management System. The

Kathrein CrossTalk IoT suite was used for autoID, device management and track and trace visualization. With the Dealer Management System (3rd party ERP) it was possible to maintain the availability of spare parts, display the history of vehicles and organize the advance booking of vehicles.

RFID tags on the cars provided data to the antennas and readers, which were installed at all entry and exit points.

The customers waiting in the customer lounge could see a screen with the current vehicle status, which reassured them. In addition, the management had live data coming in from all devices through CrossTalk for analysis and corrective action.

Key Performance Indicators

These are the metrics that the management was able to track for making improvements:

- Total number of cars attended in a day - run rate
- Average time gate IN to repair order opening
- Average time in car washing
- Vehicle time spent on the shop floor
- Time spent on bay
- Average time spent in workshop
- Average idle time of vehicle in workshop

Results

The implementation of RFID technology in their automobile workshops enabled the client to reduce servicing/delivery time and improve profitability. The customers were pleased with accurate information on the status of the car service and timely delivery. The management of the workshop was able to improve efficiencies in each department. Some of the KPIs for key processes improved as follows:

- "Gate Entry" to job opening efficiencies improved by ~50%
- Delivery Speed improvement of around 20%
- Reduce vehicle idle time in the workshop by 25%

The solution implementation by Intellistride managed to achieve customer business objectives.