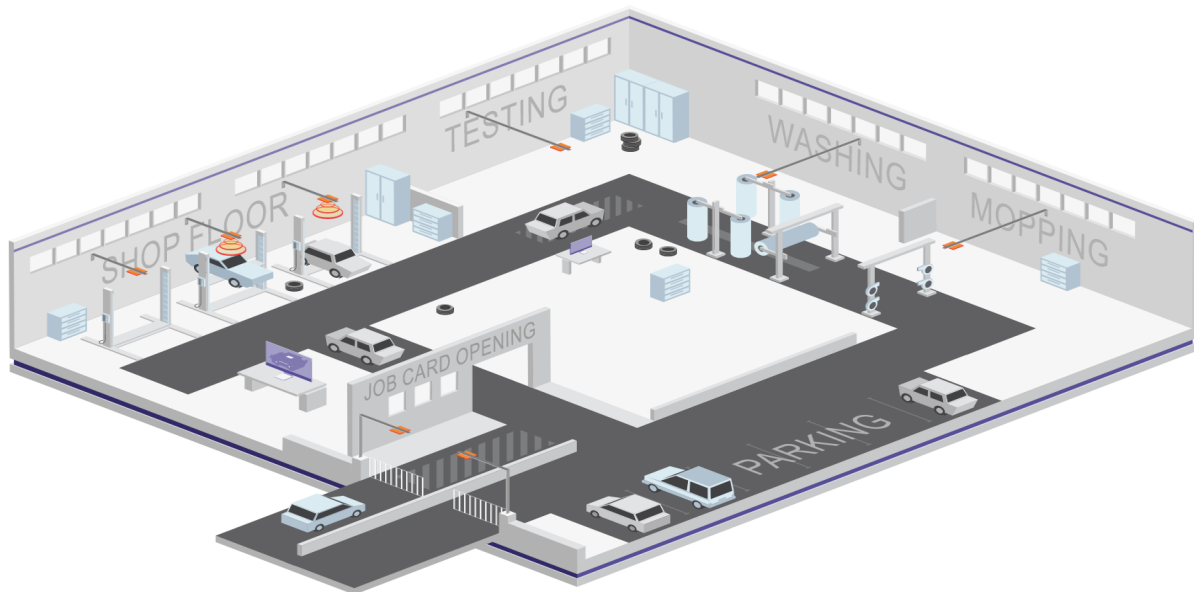


# SMART WORKSHOP

## RFID Vehicle Tracking System



## Background

A large network of Automobile workshops in India was facing the challenge of managing service and repairs on thousands of cars every day. For every car received at the workshop, a Job card is opened. Subsequently the car goes through various departments in the workshop before it is finally delivered to the customer.

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

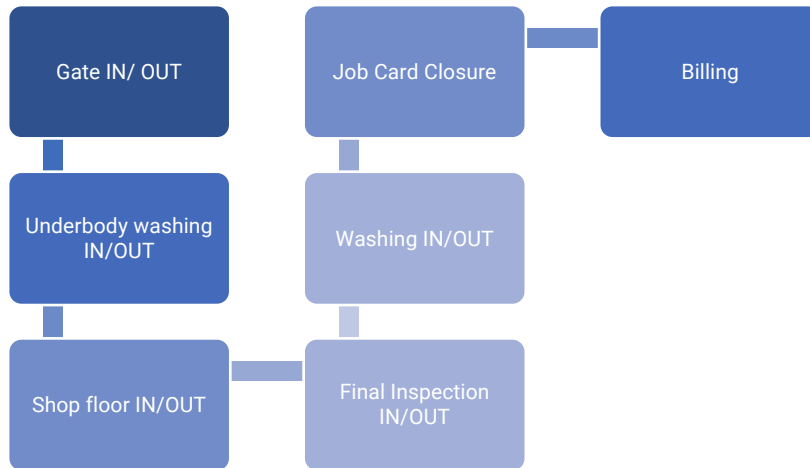
### The objectives of the project were:

- Timely delivery of vehicle leading to customer delight
- To ensure monitoring and accurate data capture of vehicle movement inside the workshop
- To identify gaps (idle time) in vehicle movement between service stages to improve productivity
- To provide real time vehicle service status visibility to customer

## Solution

IntelliStride offered the client an IOT based solution to keep track of vehicles inside the service workshop and service areas. A plan was made to automate the collection of data at every stage.

### Tracked Stages



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

### Hardware Components

- RFID Reader, RFID Antenna, RFID Tags
- VTS Server
- Customer Lounge Display
- Washing Stage Display
- Bay Timers

### Software Used

- API Integration
- Dealer Management System (3rd party ERP to maintain Spare parts availability, history of vehicles, advance booking of vehicles.

RFID tags on the cars provided data to the Antennas & Readers installed at all entry and exit points.

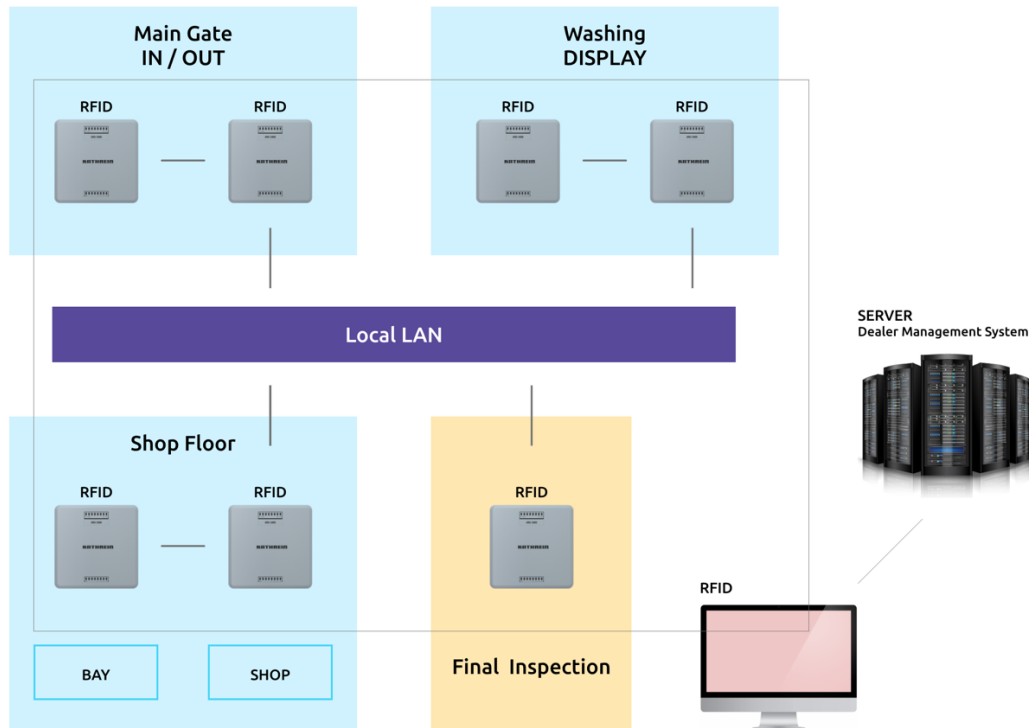


Factory fitted RFID/Fastag  
( Front Windshield)



Manual RFID Card  
(To be hanged on Rear View Mirror)

## SYSTEM ARCHITECTURE



The customers waiting in the Customer Lounge could see a screen with Vehicle status, which reassured them. The management had live data coming in from all devices through CrossTalk for analysis and corrective action.

### KPIs (Key Performance Indicators)

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

- A. Total Number of Cars attended in a day - Run Rate
- B. Average time Gate IN to Job card opening
- C. Average time in Car Washing
- D. Vehicle Time spent on shop floor
- E. Time spent on Bay
- F. Average time spent in workshop
- G. Average Idle time of vehicle in workshop

### Outcome / Results

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 status of the car service and timely delivery. The Management of the workshop was able to improve efficiencies in each department:

- Gate IN to Job opening improvement: 45% to 50%
- Delivery Speed improvement of around 20%
- Reduction in idle time by 25%