

RFID-based Vehicle Authentication Solution





NeoTech Identity Solutions Pvt. Ltd.

About Us

- NeoTechID is a provider of **Business Automation Solutions** based on AIDC technologies such as RFID, bar-code scanning, biometrics, NFC and smart cards.
- NeoTechID was founded in 2009 with a **Vision** of filling the void between the limited capabilities of hardware resellers and the client's requirement of a total solution approach to their needs.
- We offer **Operations Visibility** and **Process Optimization** through innovative use of AIDC technologies to track various assets, integration of AIDC devices with back-end systems and in-house consulting, to maximize business gains
- We aim to become the most preferred and trusted partner for such solutions by providing **Innovative, Reliable** and the most **Cost-effective Solutions** based on latest technologies that will result in better ROI for our clients



Application and Industry Focus

Industry	Solution
 Jewellery	<ul style="list-style-type: none">• RFID based Automated Stock Counting / Verification Solutions with integration to exiting POS applications / ERP systems
 Manufacturing	<ul style="list-style-type: none">• Warehouse automation and mobility solutions with integration to SAP
 Corporate Offices	<ul style="list-style-type: none">• Fixed Asset Management & Tracking• Laptop / Employee Movement Tracking• IP-surveillance, Access Control
 Custom Applications	<ul style="list-style-type: none">• School Bus and Students Tracking• Event Delegate Management• Laundry Management etc.

Vehicle Authentication: Challenges

- Most places track the vehicle entering/exiting their premises through manual verification & data entry processes. Appointing security guards to verify the vehicle and driver and make an entry in a register may seem cost effective, but there are inherent challenges associated with such manual checks.
 - Limited visibility about vehicles moving IN / OUT of the premise.
 - Unavailability of real time information. No information available about vehicle owners
 - Slow manual checks lead to queuing up of vehicles
 - Security breach possible in case guard is absent

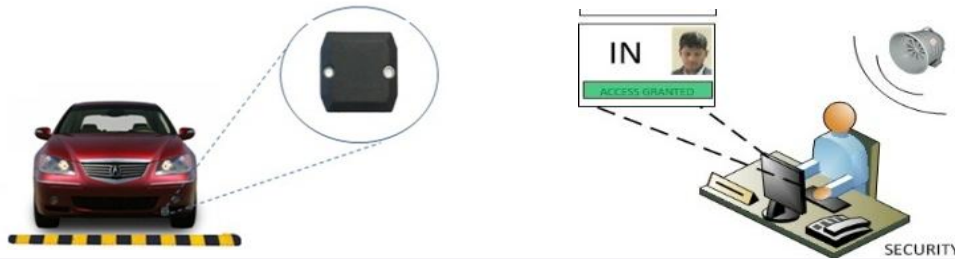


RFID Authentication - Overview

- RFID tags attached to vehicles
- Vehicle 'ID' mapped to vehicle owner / group of owners / authorized personnel
- Scanning mechanism at entry/exit points for:
 - Vehicle identification (RFID scanners to detect tags on vehicles)
 - Person identification, if required (RFID cards issued to vehicle owners)
- Alerts raised for all exception scenarios. Can include SMS and email alerts in addition to standard audio visual alerts
- Customisable Reports



RFID Authentication: How It Works



Vehicle reaches entry point

Vehicle ID is scanned

Driver scans his ID card

System performs mapping of driver to vehicle

Valid/Invalid notification given to security personnel

Boom Barrier Opens & Vehicle is allowed to pass



Typical Hardware Installation

Pole Mounted Antenna



Windscreen RFID Tag

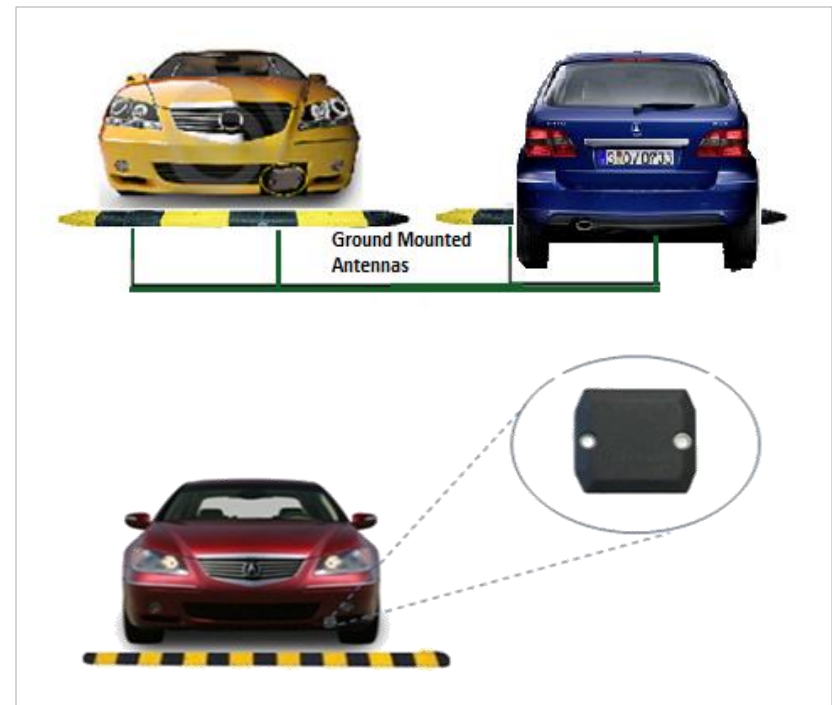


ADVANTAGES	DISADVANTAGES	ADVANTAGES	DISADVANTAGES
<ol style="list-style-type: none"> 1. Easy installation 	<ol style="list-style-type: none"> 1. Critical angle requirement 2. Physically accessible; hence tampering possible 3. Different mounting heights required for large vehicles / small vehicles / two wheelers 	<ol style="list-style-type: none"> 1. Can be easily stuck on the windshield of the car 2. Branding possible 	<ol style="list-style-type: none"> 1. Prone to tampering 2. Exposed to environmental conditions (for two wheelers) 3. Scanning is a challenge when pasted /tied on two wheelers 4. Generally car owners unwilling to disturb the decor

NeoTechID Recommendation

- Ground Mounted Antenna
- IP68 rated RFID tag riveted/stuck on the underside of the vehicle

ADVANTAGES	DISADVANTAGES
<ol style="list-style-type: none">1. Tamper proof2. Concealed installation of antennas3. Weather proof4. 100 % detection for two-wheelers / four-wheelers5. No height restrictions on vehicles as scanning is done from underneath	<ol style="list-style-type: none">1. Comparatively more expensive2. Difficult for initial tag attachment



Tag Mounting Examples



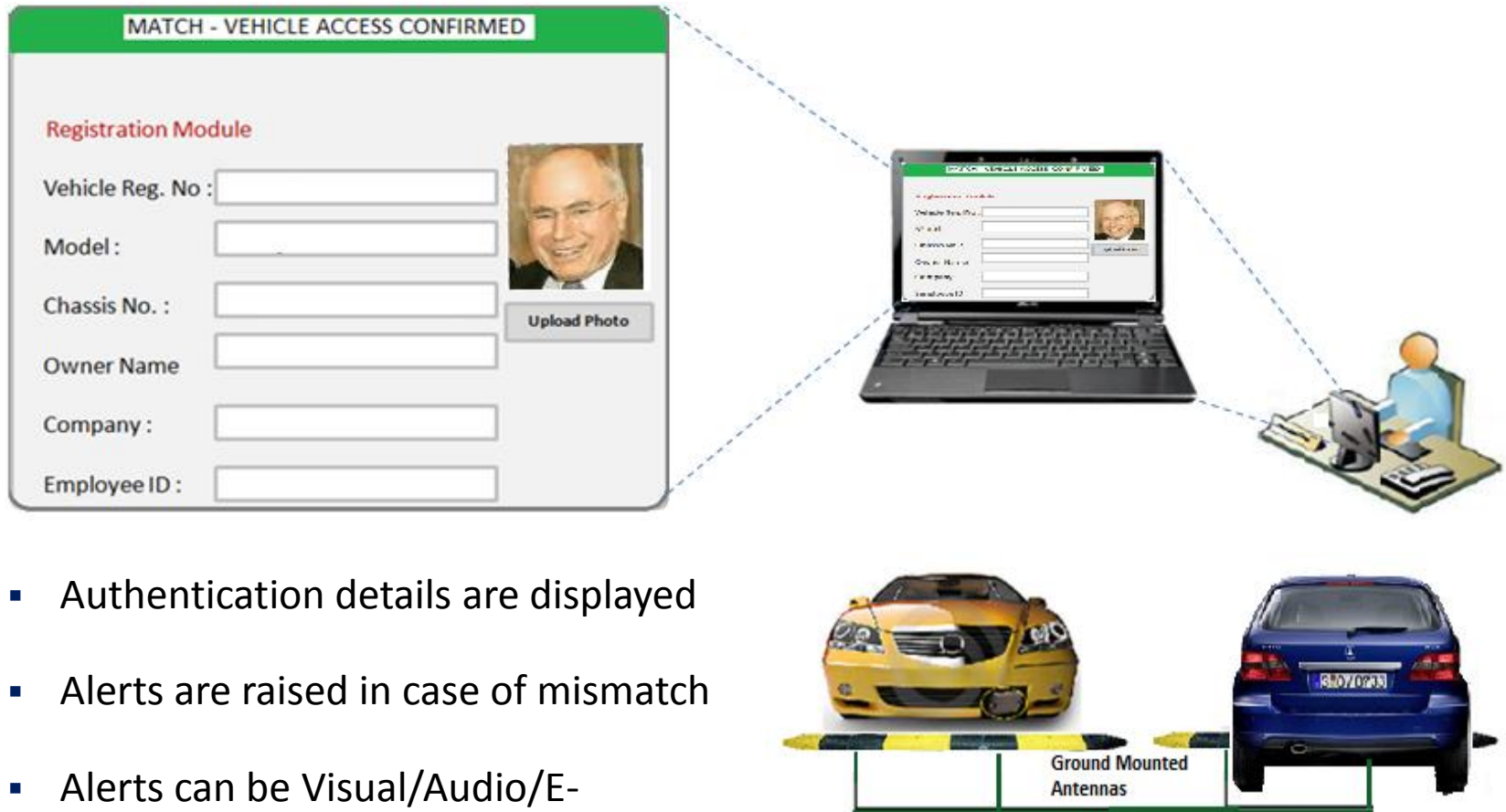
4 - Wheeler

IP-68 rated, All Weather, Tamper-proof Tag Mounted under the vehicle is more secure and durable as compared to wind-shield stickers



2 - Wheeler

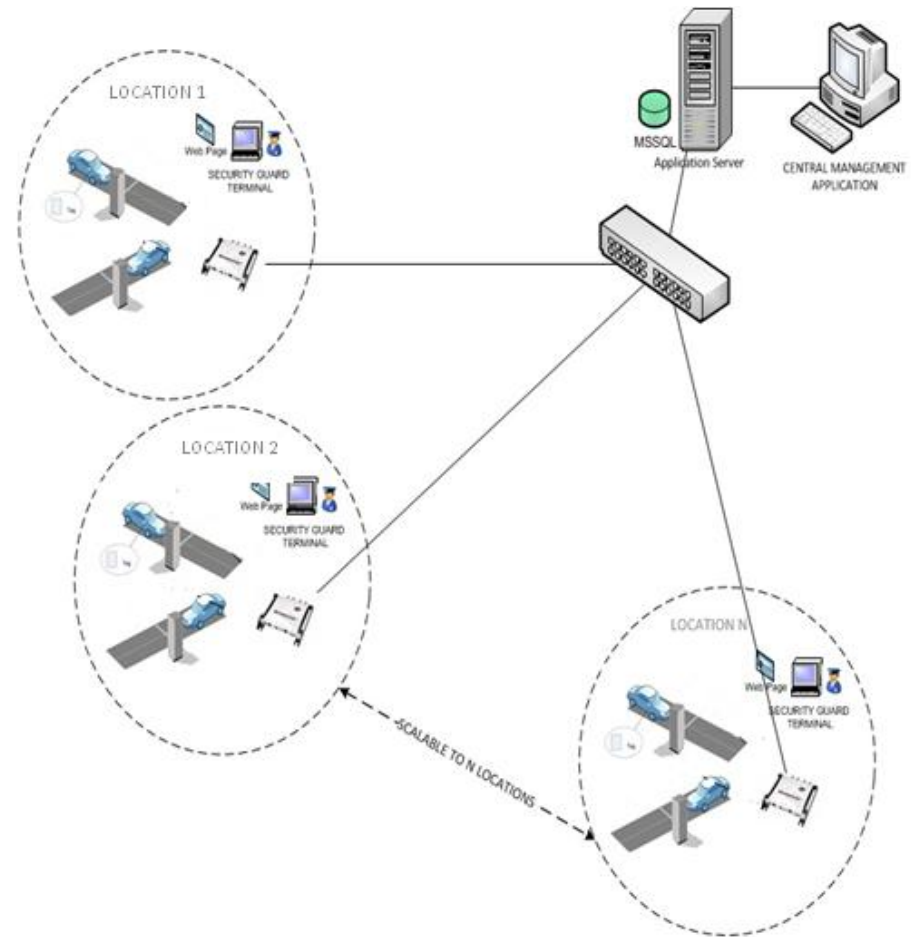
Registration and Alerts Application



- Authentication details are displayed
- Alerts are raised in case of mismatch
- Alerts can be Visual/Audio/E-mails/SMS

Multi-Gate System Architecture

- Only hardware is required to be installed at individual locations
- Entire system will be centrally controlled via a web based application
- Online as well as offline transactions possible
- For corporate customers - Active Directory integration is possible for master data input



Key Benefits

- Real-time and historical tracking information
- Improved data accuracy
- Auto IN-OUT tracking of vehicles
- Easily scalable to include features such as access control and monitoring
- Manageable Locally & Centrally
- Replicable to any number of locations
- Easy to fulfill MIS reporting needs
- Possible to integrate with different types of barriers



Our Value Proposition

- **Expertise in RFID** and practical experience gained through our projects.
- **Knowledge Centers** made up of our IT engineers, advanced equipment, and consultants are able to derive the best solutions for our clients.
- **Support Infrastructure** comprising of software and hardware channel partners help achieve client satisfaction every single time.
- **Focus** on consistently meeting the expectations of our customers and more. We do our level best to offer you a solution that not only meets your requirements but is also cost effective.



Partners



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Thank You

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