



**Industry:** Energy & Utility

**Deliverables:** • Web App  
• IoT

**Technology:** Asp.Net MVC, Web API, MS SQL, AWS Cloud

**Country:** India

## Project Goal:

1. To develop an extensive vehicle tracking system for collecting all data of the vehicle and its CNG kit.
2. To create a system that generates unique barcode for all the registered vehicle.
3. To render an IoT integrated hardware device that could simply scan the barcode of the registered vehicle to determine the status of the vehicle and its CNG kit.
4. Build a user-friendly web app for rapid operations with utmost accuracy and reliable statistics.

## Features

- Dynamic Dashboards
- User Management
- Gas Station Management
- Timely & Accurate Statistics
- IoT Integrated Windows CE Device
- Barcode Stickers
- Vehicle Renewal Statistics
- Graphs & Reports

“Leveraged a robust vehicle tracking system with IoT Integrated Windows CE Device to one of the largest gas distribution companies in Ahmedabad. The solution enabled the client to track the registered vehicles and their CNG kits to maintain accuracy and safety with modern technologies.”



## Challenges:

- Lack of a centralized system for tracking details of all the vehicles.
- Absence of a digitized system resulted in delayed processes.
- The traditional vehicle tracking system was full of human errors.
- Uniformity of work process and reports as well as past records were not maintained in all the gas stations.

## Solution

The client wanted a quick yet reliable solution to maintain accuracy and uniformity in all the gas stations of Ahmedabad. Our experts worked with the client to deeply understand their requirements and rendered the following solution:

- Vehicle Tracking System
- IoT Integrated Handheld Windows CE Device
- Amazon EC2 Server

### 1. Vehicle Tracking System

**Dashboard** – The dashboard enables the users to view the statistics of Total No. of Registered Vehicles, Recently Registered Vehicles, Total No. of Renewal Vehicles, Verified Vehicles (unexpired) as well as Non-Verified Vehicles (expired). The users can also view all the information concerning different Gas Stations.

**User Management** – Admin user can simply manage user creation activity for smoother functions. Admin can simply select various preferences like Gas Station, User Type, User Name, Mobile Number, etc. The admin can create two types of users i.e. for web portal and device application

**Gas Station Management** – Admin users can easily manage minute details of the Gas Station enabling quicker and reliable work process.

**New Vehicle Registration** – The user can register the new vehicle with the owner's details, CNG kit as well as vehicle details. The system also prints a barcode sticker for the registered vehicle.

**Barcode Sticker** – The solution prints a barcode sticker for all the newly registered vehicle so it can be easily scanned with the handheld windows CE device the next time it enters the gas station. This, in fact, was beneficial both to the gas station officer as well as the vehicle owner allowing them with quick processes.

**Different Lists** – The solution depicts different lists according to different criteria of the vehicles this includes:

■ **List of Registered Vehicle** – User can simply get the list of all the registered vehicle. User can also register new vehicles, modify details or extend the vehicle expiry date.

■ **List of Expired & Renewal Registration** – User can get the list of expired & renewal vehicles. They can also obtain expiry details based on the vehicle registration. The system also allows them to export the list to Excel, CSV or PDF.

■ **List of Green Check-In Vehicle** – Here the user can get the list of Verified Vehicles that are not expired so the vehicle is allowed to fill the gas. This list can also be exported to Excel, CSV or PDF.

■ **List of Red Check-In Vehicle** – The user can get the list of Verified Vehicles that are expired so the vehicle is simply not allowed to fill gas in order to maintain safety.

## 2. IoT Integrated Handheld Windows CE Device

Our experts rendered an IoT integrated Handheld Windows CE Device to simply scan the barcode of the already registered vehicles. The screen of the device would turn to different colors in order to depict the near to expire, expired or good to go vehicles.

## 3. Amazon Elastic Compute Cloud

Our professionals provided the client with **Amazon EC2 server** which helped them to save cost by paying only for the actual amount of computing capacity they consumed. It also helped them with great accuracy and highest level of cloud security.

### Result:

We rendered a world-class solution to one of the largest gas distribution companies in Ahmedabad. Our automated solution along with the handheld windows CE device helped the client to optimally use modern technologies.

The solution simply enabled the client with smooth work processes, authentic reports, and insightful statistics. The barcode sticker and the hardware device helped the client save a lot of time and manual errors. The client could easily maintain uniformity in all the gas stations of Ahmedabad while rendering safety. Technology has touched every organization today by adding value to its functional accuracy. Our team of experts provides excellent solutions for your business operations to render speed, simplicity, and ease.



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