

# Technical Specification for Commercial Vehicle Fuel Monitoring System (CVFMS)



## 1. Introduction

Greetings from Beacon Tracking Solutions!! Thank you for the opportunity provided to support you with our intelligent **Commercial Vehicle Fuel Monitoring System (CVFMS)**.

## 2. Solution

Beacon, from its expertise, have found a simple and workable solution to know the consumed fuel, current fuel level in the tank, odometer etc. **using the combination of Telematics units and high precision sensor**. The fuel consumption data measured by the fuel sensor in the form of Voltage will be accumulated in the Beacon telematics device and transmit to remote server.

### Communication Method:

The data gathered by the Beacon Telematics unit will be transmitted by GSM technology. Beacon telematics device will be provided with SIM cards works under GSM mode. The transmitted data will be stored in high end Server. Hence SIM card and Mobile network plays an important role in the communication part. The SIM card should be **GPRS Data** enabled one.

### 2.1. Hardware Features:

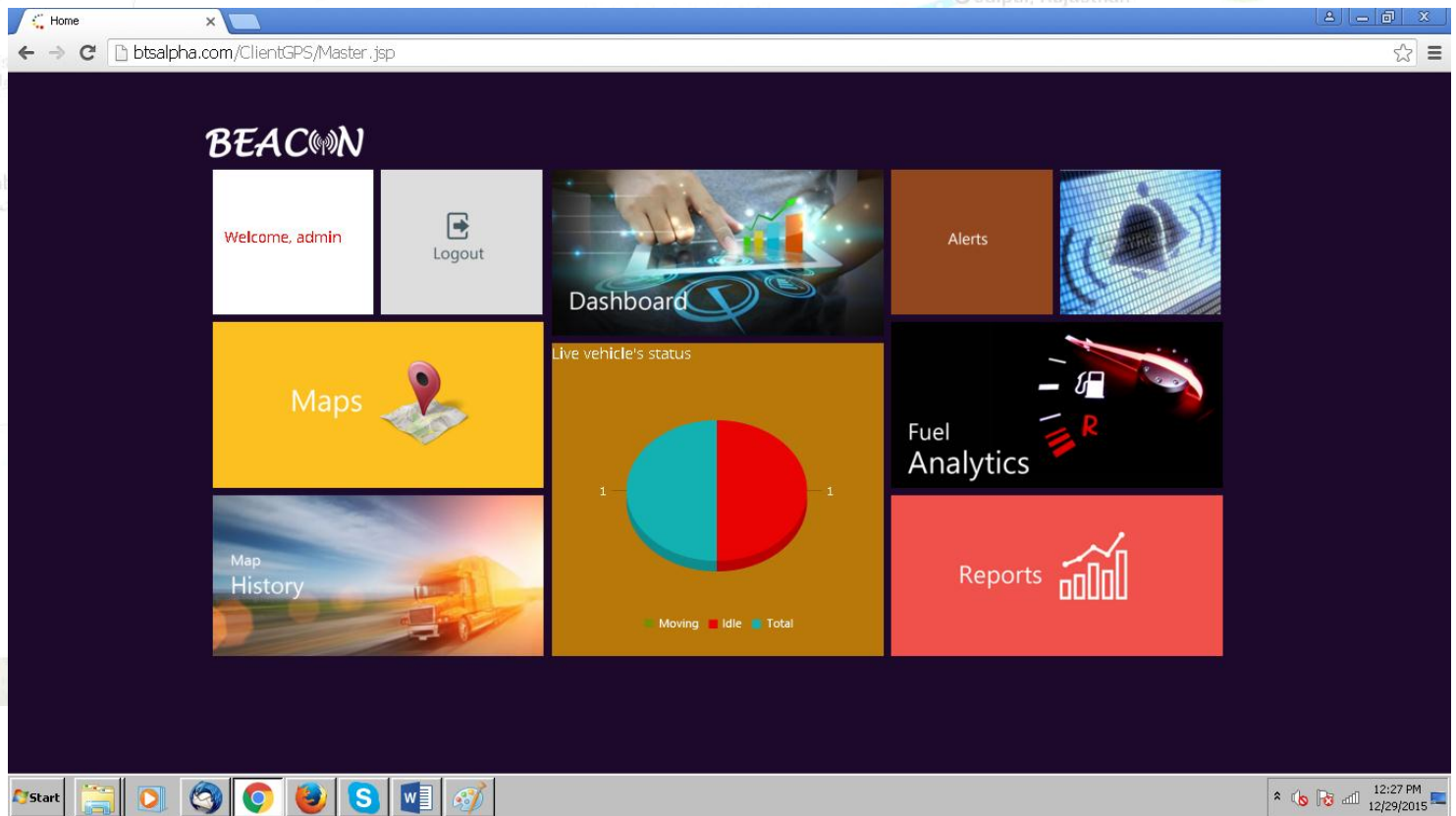
- Inbuilt GPS and GSM Antenna
- SiRFStarIV GSD4E, Tri-band: EGSM 900, DCS 1800, PCS 1900
- Track by GPRS
- Track on Demand
- Track by Time Interval/ Distance Interval
- Track on Mobile Phone
- Internal 1M bit Memory for Logging(Can store up to 24 hours of position data in internal memory)
- 1850mAh Internal Backup Battery
- Geo-Zone Alarm
- GPS Blind Area Alarm
- Speeding Alarm
- External Power Cut Alarm(tamper)
- Mileage Report
- Intelligent power management to save power when vehicle is unused for long durations
- Provision for Internal & External Antenna

### 3. Software and Graphical User Interface

CVFMS has a simple, user friendly web application to view the portal online. The application gives the following data in a very effective way.

- ❖ LIVE status of the Vehicle (Map/Report)
- ❖ Vehicle Driven History (Map/Report)
- ❖ Fuel Data Consumption Analysis (Graph / Report)
- ❖ Fuel Refill Analysis Reports (Graph / Report)
- ❖ Abnormal Fuel Drop - Analysis & Alert (Graph / Report)

#### 3.1. Dashboard:



### 3.2. Fuel Analysis Dashboard

**BEACON**

Select vehicle no.:

Tank capacity: 240 Liters  
 Present fuel level: 230 Liters  
 Status: Ignition-Off  
 Current day odometer: 0 km  
 Current day consumption: 0 Liters  
 Date & time: 23:12 Hrs on 11th November 2015

**Fuel Graph**

**Fuel Consumption**

**Reports**

### 3.3. Reports & Analytics

Select Vehicle:  From Date/Time:  To Date/Time:

**Fuel Reports**

Parameters	Value
Total distance traveled	121 Km
Total consumption(excluding fuel drop)	34.28 Liters
Total consumption(including fuel drop)	49.28 Liters
Consumption(per 100km)	28 Liters
Vehicle mileage(excluding fuel drop)	3.53 km/l
Trip mileage(including fuel drop)	2.46 km/l
Total refill	206 Liters
Total fuel drop	15 Liters

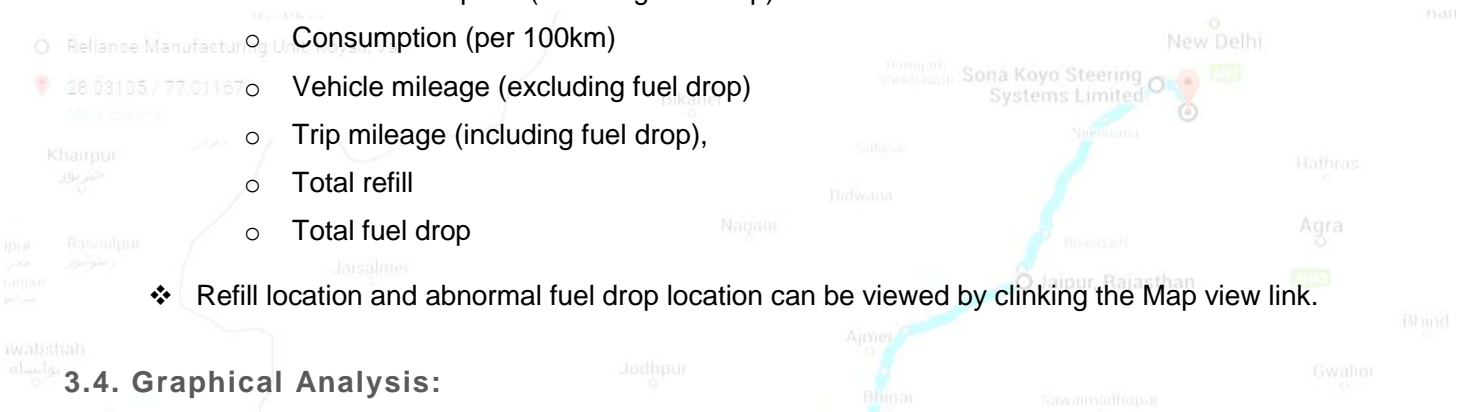
**Fuel Refill Details**

#	Refill(Liters)	Date & Time	Location	Map view
1	206	15:44 Hrs on 5th October 2015	Rose Nagar, Manikandan Nagar, Chennai, Tamil Nadu 600117	<input type="button" value="Map"/>

**Abnormal Fuel Drop**

#	Fuel(Liters)	Date & Time	Location	Map view
1	15	14:08 Hrs on 5th October 2015	Medavakkam Main Rd, Nanmangalam Reserved Forest, Medavakkam, Chennai, Tamil Nadu 600117	<input type="button" value="Map"/>

- ❖ Upon selecting Vehicle and period, fuel report can be retrieved.
- ❖ Fuel Report comprise three sections such as overall fuel reports, Refill Reports and Abnormal Fuel Drop reports.
- ❖ Overall report comprises of the following
  - Total distance traveled
  - Total consumption (excluding fuel drop)
  - Total consumption (including fuel drop)
  - Consumption (per 100km)
  - Vehicle mileage (excluding fuel drop)
  - Trip mileage (including fuel drop),
  - Total refill
  - Total fuel drop
- ❖ Refill location and abnormal fuel drop location can be viewed by clicking the Map view link.



### 3.4. Graphical Analysis:



- ❖ This section provides the user to view the fuel level at any particular time in graphical way
- ❖ Upon selection of the Vehicle and period, the graph in Time Vs. Fuel Level.

- ❖ The graph shows the Ignition ON/OFF status too.
- ❖ A sudden hike means Refill occurred and sudden or sharp low means abnormal or unauthorised fuel drop.
- ❖ Rolling the mouse over the graph provides details of the particular point.
- ❖ The graphical analysis ensures the user to understand the fuel refill, Ignition On/Off, real or abnormal fuel usage etc. in a user friendly graphical manner.

#### 4. Alerts

- ❖ Alerts could be sent to the authorised mobile number for any or all kind of occurrences.
- ❖ Fuel Refill, Abnormal or unauthorised fuel drop, Over Speed, Device Tampering, Route Deviation, Geo Zone Mapping could be intimated thru alert SMS.

