



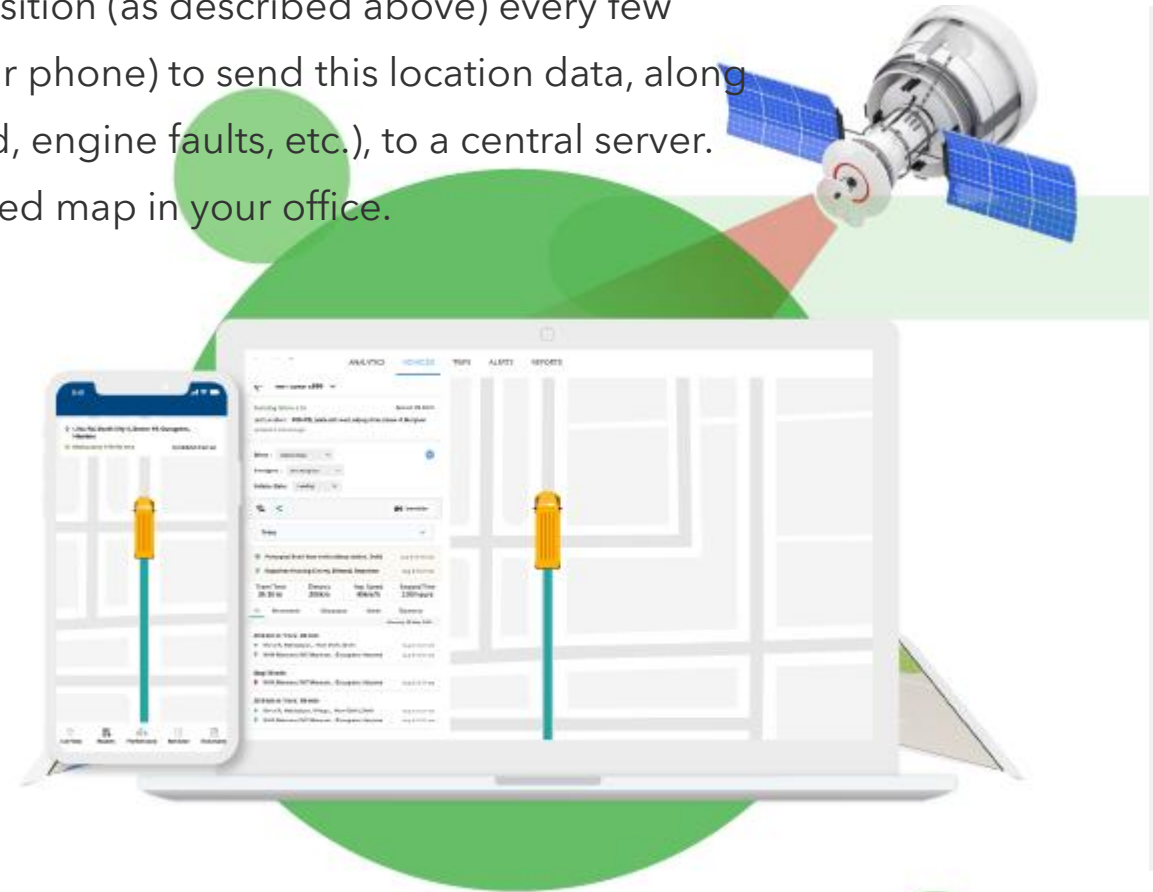
# Fleet management solutions

# Fleet management system

## Fleet Management?

In fleet management, the GPS receiver in the vehicle calculates its position (as described above) every few seconds. It then uses a **cellular network** (like the mobile data on your phone) to send this location data, along with other information from the GPS Device in the vehicle (like speed, engine faults, etc.), to a central server. This server processes the data and displays it for you on the web-based map in your office.

- GPS device / Fuel sensor/ Door sensor
- Connectivity
- Monitoring / Maintenance /Warranty
- Reporting



# How fleet management system works?

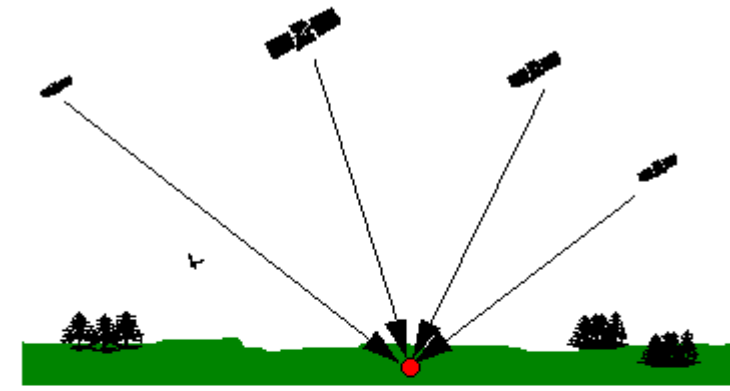


# What is the fleet management with GPS

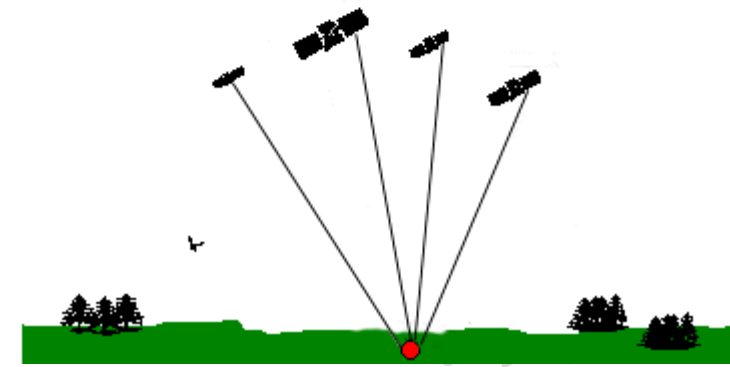
(Global positioning system)



Good Dilution of Precision



Poor Dilution of Precision



## Key Factors Affecting GPS Accuracy

- **Atmospheric Conditions:** The ionosphere and troposphere can slow down the signal.
- **Signal Blockage:** Buildings, tunnels, and dense forests can block or reflect signals (called "multipath").
- **Satellite Geometry:** The relative position of the satellites in the sky matters. If they are clustered close together, accuracy decreases.
- **Number of Satellite Systems:** Modern receivers often use multiple constellations simultaneously (like the Russian GLONASS, European Galileo, and Chinese BeiDou in addition to GPS), which significantly improves accuracy and reliability, especially in urban areas.

# Where Does the Internet/connectivity Come In?



## Mandatory for Fleet Management?

**YES, for data transmission and visibility.** The internet (via cellular data) is the communication link that allows the vehicle's location to be sent to the office and displayed on the web-based software

Function	Without Internet (Standalone GPS)	With Internet (Smartphone/Fleet Tracker)
Getting Location	YES. Uses satellite signals only.	YES. Primarily uses satellite signals, but can use Wi-Fi/cell towers to get a location faster indoors (Assisted GPS).
Viewing Your Location on a Map	YES, if maps are pre-loaded. Dedicated GPS units (like Garmin/TomTom) have built-in maps.	YES. Downloads map tiles from the internet (e.g., Google Maps). Without internet, you just see a dot on a blank or cached screen.
Sending Your Location to Someone Else	NO. There is no way to transmit the data.	YES. This is the key for fleet management. It uses cellular data to send the location to a server so the fleet manager can see it.
Getting Real-Time Traffic & Updates	NO. Uses older, pre-loaded traffic via radio in some cases.	YES. Uses internet to download live traffic, road closures, etc.

# How google identify the exact location in google map without GPS sensor

- **Wi-Fi Positioning System (WPS)**

- Your device scans for nearby Wi-Fi networks, noting their MAC addresses (a unique identifier for the router) and signal strength.
- This information is sent to Google's location servers.
- Google maintains a massive global database that maps Wi-Fi MAC addresses to physical locations.

- **Cell Tower Triangulation**

- Your phone constantly communicates with nearby cell towers.
- It can identify the towers by their unique Cell ID.
- Google maintains a massive global database that maps Wi-Fi MAC addresses to physical locations.

- **IP Address Geolocation**

- Your internet connection has a public IP address assigned by your Internet Service Provider (ISP).



# GPS Tracking system Vs fleet management system

Feature	GPS Tracking System	Fleet Management System
Core Purpose	Locate and track assets on a map.	Optimize the entire fleet operation for efficiency, safety, and cost.
Primary Question	"Where is my vehicle?"	"How is my entire operation performing?"
Key Features	Real-time location, historical routes, geofencing.	Everything in GPS Tracking PLUS: Driver behavior monitoring, fuel management, maintenance scheduling, compliance (ELD), advanced analytics, route optimization.
Data Focus	Location Data (Latitude, Longitude, Speed).	Operational & Business Data (Location, Vehicle Health, Driver Performance, Fuel Costs, Maintenance Costs, Compliance Status).
Hardware	Basic GPS tracker.	Advanced telematics device (often with OBD-II/CAN-Bus connection) and sometimes dashcams.
User	Dispatcher, security personnel, maybe owner.	Entire Organization: Fleet Manager, CFO (reports), Safety Manager, Maintenance Manager, Dispatcher.
Business Goal	Security and basic visibility.	Profitability through cost reduction, safety improvement, and efficiency gains.

# To whom this can serve

- Ambulances - **Health**
- Garbage collection trucks - **Municipal councils**
- School transportation - **Education**
- Public transportation - **Transport**
- Ministries - **Government**
- Heavy vehicles - **construction**

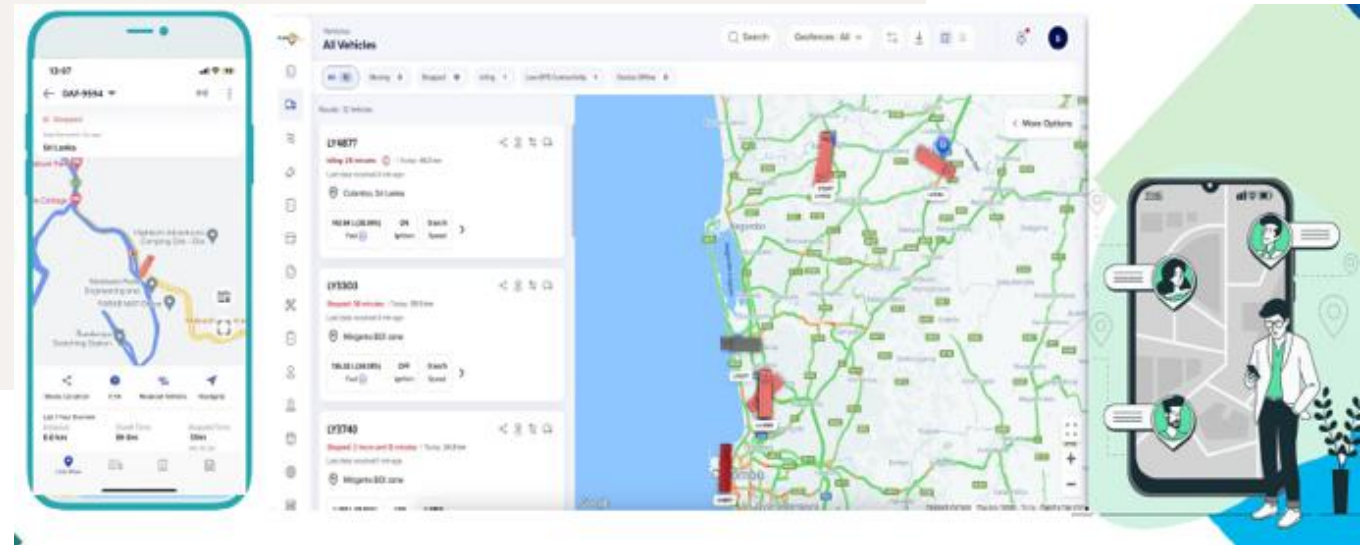
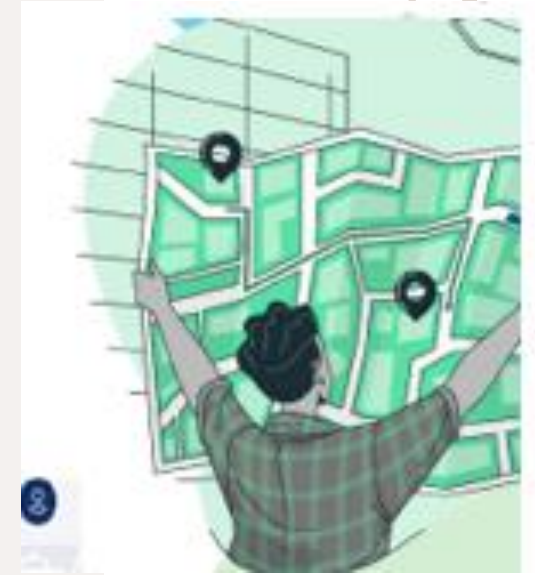




# Key benefits of fleet management system

# Live tracking and trip management

- Track moment of any vehicle
- Analysis of route/ traffic and idle times
- Hawk-eye view of entire journey
- Create /edit routes
- Add check points within a route
- View entire trip /history on the map



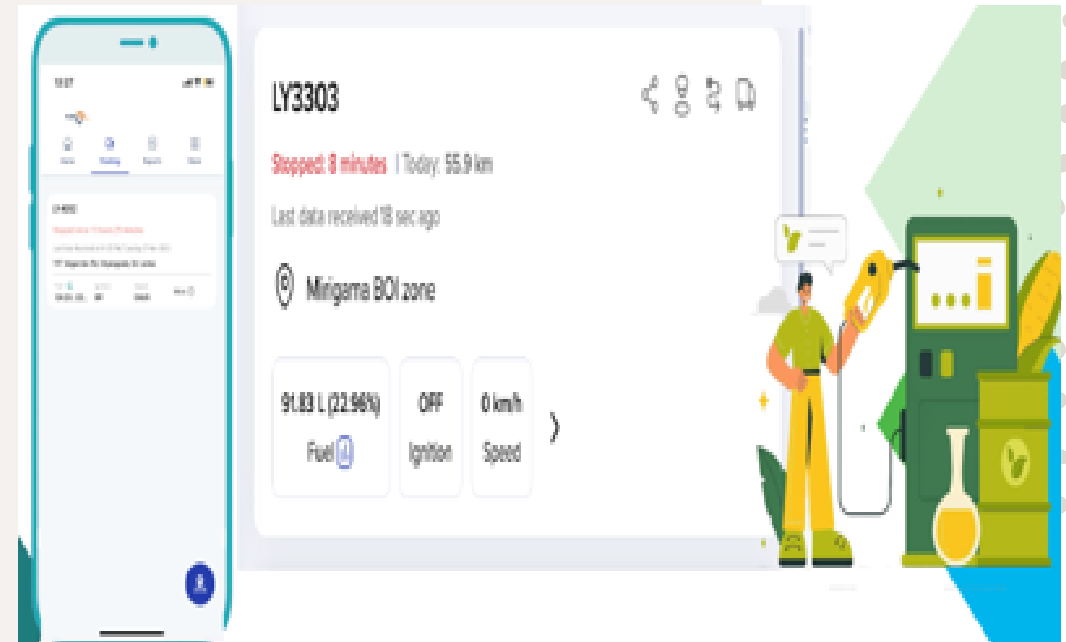
# Managing Vehicle pool

- Alerting routing service activities
- Recording repair/ accident expenses
- Tire /Battery management
- Alerting expiration or revenue / insurance
- Driver license details update
- Manage any kind of expenses and merge it with ERP
- Manage/pre decision expenses relevant to the vehicle pool



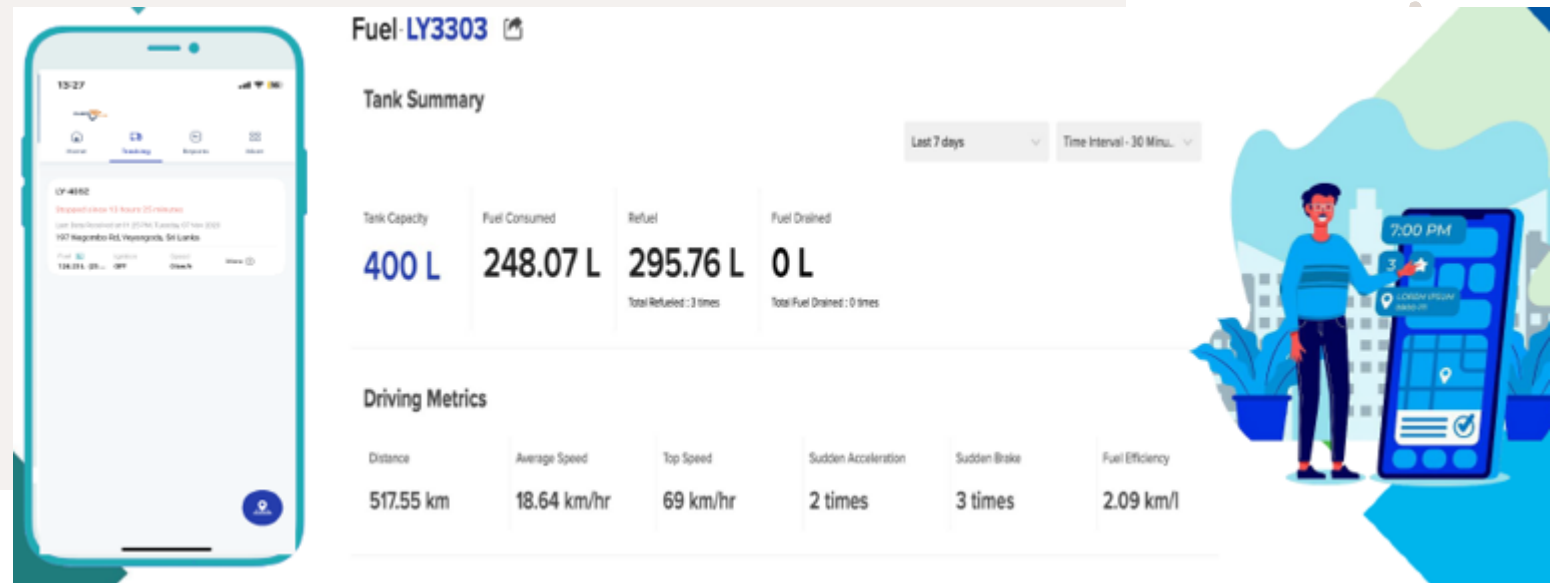
# Fuel Related Matters

- Fuel Monitoring
  - Real time updates
  - Pilferage Detection
  - Analysis Driven Data
- Refilling and Draining
  - Realtime updates of refilling/draining fuel
- Checking ignition modes



# Real time Updates

- Current Fuel level Monitoring
- Accurate vehicle location check
- Vehicle speed detection
- Mileage update

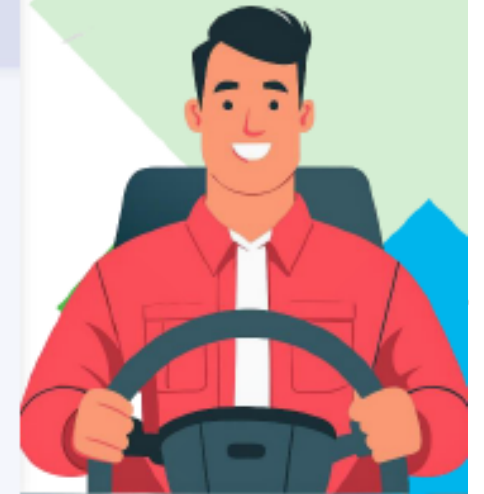
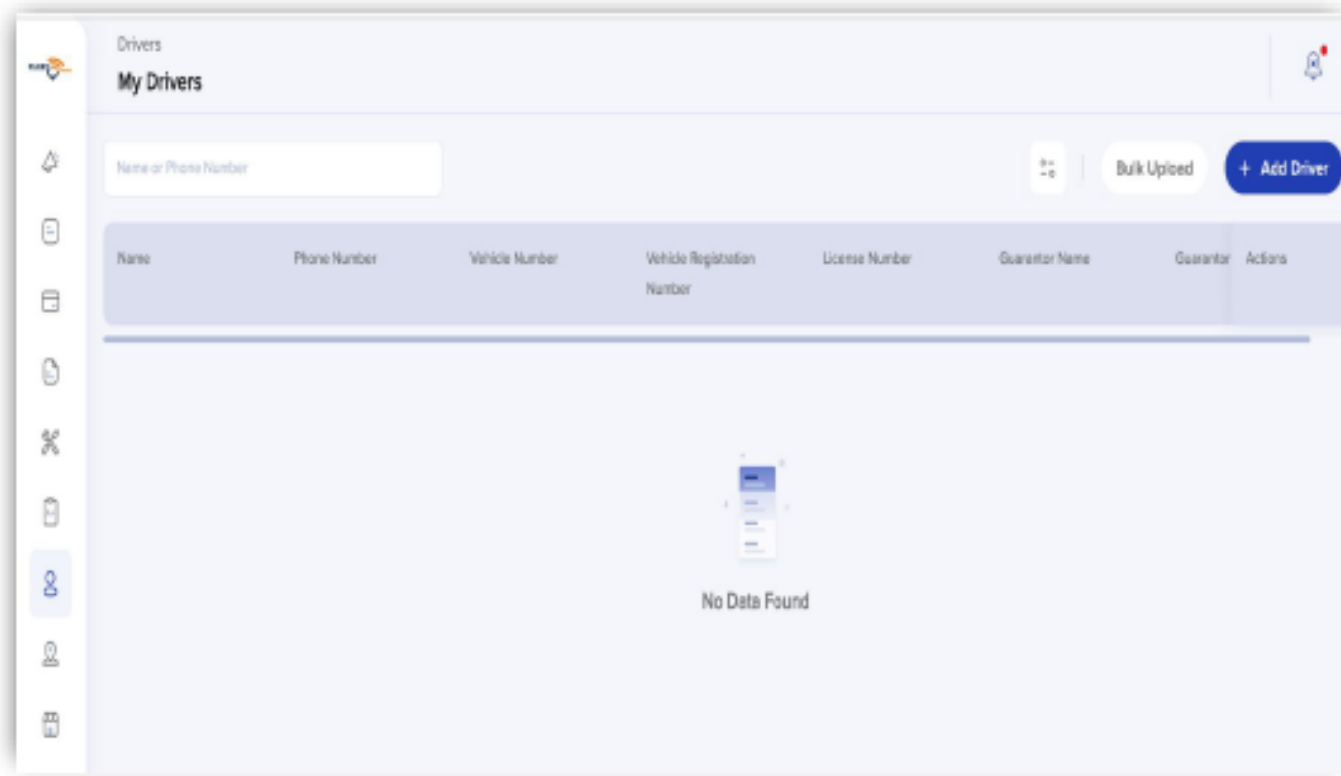
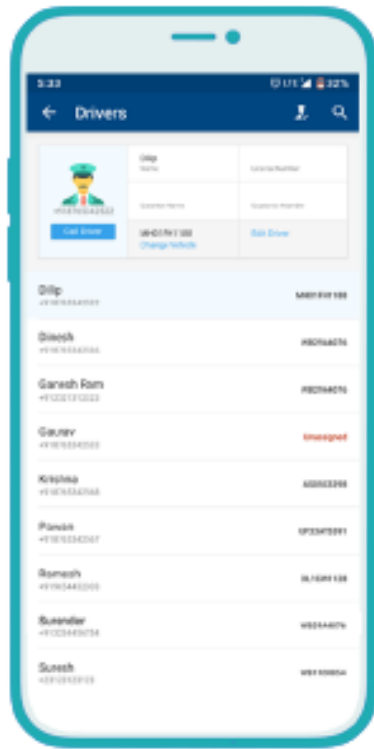


# Managing Drivers and Transporters



- ◆ Assign the drivers to vehicles
- ◆ Group vehicles as per usage

- ◆ Make edits and changes in bulk
- ◆ Compare vendor performance

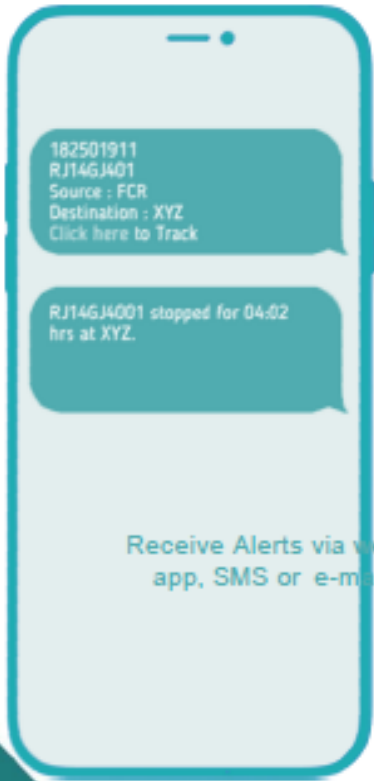


# Real Time Alerts



- ◆ A log of all actions completed by a vehicle
- ◆ Sort by alert type, vehicle no. or time period

- Entry or exit alerts through a preset geofence.
- Planned or unplanned stoppages during trips
- Any attempts made for tampering the devices



**Alerts** Last 24 Hours

Type to search

All 31 Critical 15 Non-Critical 5

Showing Alerts from: 00 Nov 2023, 01:15 PM to 07 Nov 2023, 06:15 PM

**Ignition on/off : 52**  
Ignition alert is triggered when the system detects your vehicle's ignition as turned on or off.

Set by file View Alert Settings

Vehicle idling : 70  
Set by file

Geofence entry/exit : 36  
Set by file

Vehicle Number	Driver	Ignition On Time	Ignition Off Time	Ignition on
LY3740	N/A	07/11/2023 1:14 PM	N/A	N/A
LY3303	N/A	07/11/2023 12:54 PM	07/11/2023 12:54 PM	On
LY4277	N/A	07/11/2023 12:53 PM	N/A	N/A
LY3740	N/A	07/11/2023 12:34 PM	07/11/2023 12:41 PM	7m
LY3247	N/A	07/11/2023 12:34 PM	07/11/2023 12:46 PM	21m
LY4003	N/A	07/11/2023 12:17 PM	N/A	N/A
LY4003	N/A	07/11/2023 12:01 PM	07/11/2023 12:07 PM	6m

Showing 1 - 50 of 92



# Reports and Analysis

## Summary Reports



Obtain analytical reports about fuel volumes, speed, refueling and draining, and much more on a single dashboard

Fuel Level Trend



Speed (km/hr)

## Customizable Reports



Take control over the data that is relevant to you and your business, and manage all the information your way

Setting up the Summary Report

Period: 16.10.2019 00:00 -05:00 16.10.2019 23:00 -05:00

Today Yesterday 7 days Month In the last

Start of period: October 2019 End of period: October 2019

Day	Mon	Tue	Wed	Thu	Fri	Sat
26	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

00 : 00 73 : 59

Tolerance default time zone

Movement and operation

- Mileage, km
- Engine hours meter reading
- Maximum speed, km/h
- Engine operation time when VPI is motion, h:mm:ss (% of the report period)
- Engine operation time at normal RPM, h:mm:ss (% of engine operation time)
- Engine operation time under load, h:mm:ss (% of engine operation time)

Fuel (main tank)

- Initial volume, l
- Refueling volume, l
- Dispensing volume, l
- Maximum volume, l
- Actual fuel consumption when VPI in, l

- Total mileage at the beginning of the period, km
- Average speed in motion, km/h
- Movement time, h:mm:ss (% of the report period)
- Engine operation time, h:mm:ss (% of the report period)
- Engine operation time at maximum RPM, h:mm:ss (% of report period)
- Time during which engine was OFF, h:mm:ss (% of the report period)

- Total mileage at the end of the period, km
- Average speed in motion, km/h
- Engine operation time, h:mm:ss (% of the report period)
- Engine operation time, h:mm:ss (% of the report period)
- Time during which engine was OFF, h:mm:ss (% of the report period)

- Actual fuel consumption, l
- Draining volume, l
- Minimum volume, l
- Actual mileage per 1 l, km
- Actual mileage per 1 l when VPI in motion, km
- Mileage rate per 1 l, km

Save Cancel Save as...

# Identify Theft/Pilferage



With the help of our intelligent algorithms, track and identify the sources of pilferages

BACKLOADING
FORWARD UNLOADING
OFF-ROUTE
THEFT

Dashboard   New (2687)   Traces (2687)   Shipping (2188)   Delayed (175)   Unsuccessful (93521)   Completed (146182)

Refresh Download XLS





Vehicle:    Source:    Destination:    Transactor:    Start Time:    End Time: 
Filter 🔍

Showing 1 - 3 of 3 results

Shipment No.	Vehicle	Transactor	Start Time	End Time	Source	Destination	Total Distance	Distance Covered	Details
1818071			2019-03-26 08:28	N/A			411.45	31.9161	Unloading Type: <input type="text"/> Distance: <input type="text"/> Token ID: <input type="text"/> Shipment: <input type="text"/> Transactor: <input type="text"/> Location: <input type="text"/> (Current State) <input type="text"/> City: <input type="text"/> State: <input type="text"/> Address: <input type="text"/>
1818082			2019-03-26 08:28	N/A			411.45	31.9161	Unloading Type: <input type="text"/> Distance: <input type="text"/> Token ID: <input type="text"/> Shipment: <input type="text"/> Transactor: <input type="text"/> Location: <input type="text"/> (Current State) <input type="text"/> City: <input type="text"/> State: <input type="text"/> Address: <input type="text"/>
1818088			2019-03-26 04:18	N/A	FORWARD	DOOD	411.45	31.9161	Unloading Type: <input type="text"/> Distance: <input type="text"/> Token ID: <input type="text"/> Shipment: <input type="text"/> Transactor: <input type="text"/> Location: <input type="text"/> (Current State) <input type="text"/> City: <input type="text"/> State: <input type="text"/> Address: <input type="text"/>



# FLEET & ASSET MANAGEMENT SYSTEM

-  Trip Planning & Route Optimization
-  Rich Analytics & Reports + Custom Report Builder
-  Tyre & Inventory Management
-  Performance Scorecards - Drivers & Vehicles
-  Customizable alerts for email, SMS & App
-  Real-Time Alerts for Geofence Entry/Exit, Stoppages, Idling, Route Deviation & more

-  Fuel
-  Load Monitoring
-  Temperature Monitoring
-  Engine Health Visibility
-  eLocks
-  Live Location Tracking
-  Door Sensing
-  SOS



## SINGLE PLATFORM GETS IT ALL DONE

- **Track Anything On-the-Move**  
Works with all types commercial & passenger vehicles
- **Monitor What Matters**  
Integrates with 2200+ types of IoT devices & sensors for assets & vehicles.
- **Control Operating Expenses & Fuel Pilferage**  
Instant alerts on fuel drainage. Rich analytics on fuel usage
- **Manage Documents, Inventory, & Maintenance Schedules**  
Keep everything organized and running smoothly
- **Improve Trip & Route Efficiency**  
Automate trips & routes to improve TATs
- **Encourage Safer Driving**  
Gamify Driver Coaching and Rewards with Scorecards
- **Protect Drivers, Cargo, & Vehicles**  
Remote vehicle locks, immobilizer, SOS button, emergency alerts, eLocks & more
- **Get Real-Time Proof of Delivery**  
Pairs with driver-side app to automate tasks.

# Optimization | Cost & Operations



## Turn Around Time

Optimize both 'In-Plant' & Outbound movement using recursive analysis. Identify and take action against repetitive defaulters



## Distance Correction

Create a repository of dealer locations & eliminate cases where the distances in the ERP system is leading to unnecessarily high payouts



## Transporter Performance

Insightful reports & analysis on no. of trips undertaken and their statuses. Incentivize or penalize based on their performances to ensure a higher standard of operations



## Dealer Performance

Identify dealer performance via reports generated using trip related metrics such as completed shipments, unsuccessful shipments, deviation, dealer detention etc.



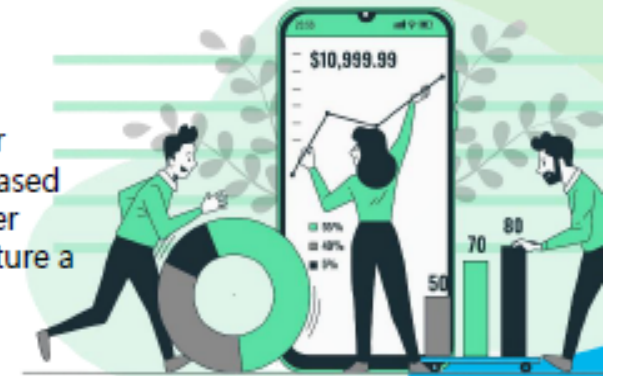
## Increased Trip Frequency

Provide visibility to dealers along with the ETA to ensure the detention time is reduced and thereby facilitate a quicker return to plant



## Demand Forecasting

Daily report of vehicle status for precise planning to aid in increased serviceability to facilitate greater sales volumes and thereby capture a larger market share



# Security Features



## Vehicle Immobilization

In case of vehicle theft, the engine of the vehicle can be turned off with just one click and the nearest police station too will be informed



## Post Accident Analysis

In the unfortunate cases of accidents, the recorded data can be analyzed to present a valid case for the insurance claims



## Fuel Pilferage Detection

Using our advanced sensors, the accurate amount of fuel consumption can be known and hence, pilferages can be identified



## Door Lock Detection

The exact time and location can be noted in the event of opening a door to provide a deeper visibility for controlling goods theft



*Thank you*

