

### Key Features

- Optimised Vehicle routes
- Prevent oil pilferage
- Monitor unauthorized stoppage
- Real-time monitoring of procurements and distribution
- Enhance operational transparency
- Controlling deviant behaviour

## “ Executive summary

All industries using a transport system, primarily oil tankers to load and unload Kerosene oil are potential clients for this white paper. With oil pilferage becoming a regular affair and a significant percentage of oil being diverted to the black market in many Indian states, depriving the actual beneficiaries, a good transport system is something which adds a lot of credence in a move that aims to stop pilferage of Kerosene oil. The central government has also asked the state government to introduce vehicle-tracking system for tankers delivering kerosene from various oil storage locations to the wholesalers in a move that aims to stop pilferage of kerosene meant for below-poverty-line (BPL) families.

The paper throws light upon challenges faced by oil tankers in absence of GPS systems and how can those be overcome. Through this white paper we are trying to make oil tanker owners aware of the advantages of using GPS solutions for their fleet. It only thus suits telematics4u, pioneers in the industry to bring out this document and make aware the concerned ones about the uses of telematics, an integration of telecommunications and informatics.

### Challenges faced by the Oil transportation Industry today.

Diversion of subsidized fuels is one of the major threats to the health of the oil sector which leads to adulteration of essential commodities like kerosene oil.



The companies end their watch once the commodities like petrol, diesel, kerosene and oil is loaded into tankers hired by wholesale dealers appointed by the state government. The dealers are the first point of diversion. Each is given a clutch of ration shops for supplying an allocated quantity of kerosene — unloaded and stored in barrels at these outlets. Sometimes, dealers divert entire tanker-loads. But, mostly kerosene is siphoned off in barrels from their godowns and sold to small industries at a discount to open market prices but higher than subsidized cost. There are others who use it to adulterate diesel.

A government report claimed that Kerosene meant for public distribution system is supplied at a highly subsidized rate with the present per litre price of kerosene around Rs 12 with a subsidy component of Rs 19.49 per litre. As there is a substantial price difference between auto fuels like petrol, diesel and PDS kerosene, there are instances of diversion of kerosene away from the targeted beneficiaries.

The challenges of the existing system are as follows.

### 1. **Oil Pilferage:**

Oil pilferage is one of the primary concerns for all oil companies. If we believe the reports given by government officials, a significant percentage (about 40) of kerosene is diverted out of the PDS and sold at higher prices. In spite of various measures taken by oil companies, the pilferage/ sabotage incidents could not be controlled. Oil companies are facing a major concern due to increased pilferage/sabotage incidents.

### 2. **Route Deviation:**

One of the most important challenges that oil companies face are to keep monitoring the route covered by drivers while taking oil from oil storage locations to wholesalers. The existing manual information and control system to keep diversions and leakages in check is completely ineffective. These companies need a solution which can inform them about movement of the tanker in real time to help them find out where the leakage is happening.

### 3. **Sub-Optimal fuel mix:**

The indirect losses from use of sub-optimal fuel mix are very large and may harm the economy significantly in the long run. The kerosene oil intended for the poor, is in fact not reaching them in a proper way and sometimes they are forced to buy the same kerosene allotted to them at a higher price from retailers.

### 4. **Unauthorized Stoppage:**

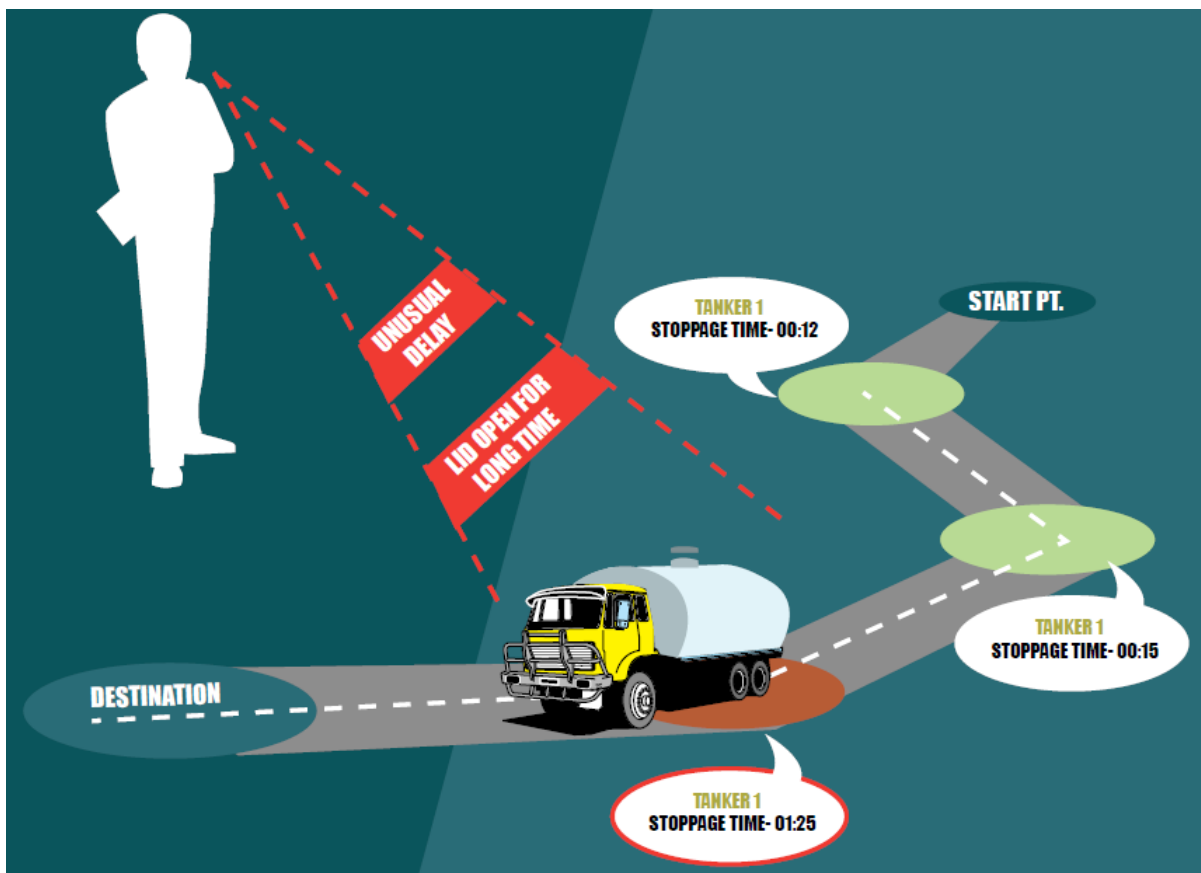
All oil companies face a variety of transport related issues including late deliveries due to unauthorized stoppages and route deviations, growing number of road accidents mainly due to over speeding which results in a great financial losses. Without a good monitoring device, transport owners who run tankers never know where the tanker is at a given point of time. In case a tanker loses track, there is no way to reach the driver.

Tanker drivers, especially in Asian countries are generally irrational and only a monitoring machine mounted on the vehicle can make them follow speed and route instructions very honestly.

### **5. Lack of transparency:**

Lack of transparency in the whole operation is one of the major concerns which can only be possible if oil companies has central database where users would be able to see the status of vehicles on digital maps, along with MIS reports and receive real-time alerts on mobile devices whenever required.

How t4u's solution can help Oil Transportaion?



### 1. Stop oil pilferage:

telematics4u's solution enables the company to monitor its fleet of oil tankers to improve efficiency and reduce cost by having real-time information about vehicles' position, speed, stoppages, detours etc. The lid sensors attached to the tankers ensure that the operator is informed of every instance when the lid was opened. This way, if it is found out that the lid of the tanker was opened at an unauthorized place, suitable disciplinary actions can be taken.

Alerts are also set up for transport managers to receive a message as tankers enter a no-go zone, or drivers engage in unsafe driving.

### **2. Easy two-way driver communication:**

With the help of t4u application, transport managers can easily communicate with drivers at all times. This allows drivers to be warned about potential dangers ahead. Drivers can also communicate to transport managers for assistance in times of bullying, breakdown or some other emergency during the journey.

**3. Time Savings:** A lot of important time is saved through the t4u application. Fleet activity reports are generated through a system and manual labor is avoided. Because of system driven collection and reportage of fleet activity, both time and errors are minimal for both drivers and fleet managers.

### **4. Better maintenance of Tankers:**

t4u's solution makes sure regular and timely maintenance of tankers can happen. The Fleet Maintenance System (FMS) enables the companies to know in advance when the tanker is due for service. This knowledge of preventive mechanism helps in numerous ways. It minimizes downtime and unwanted breakdowns and also allows sufficient time to schedule substitute tankers in case a tanker is down for maintenance. Accurate mileage tracking also means better warranty recovery another cost saving.

### **5. Safety:**

t4u's solution would make sure all tankers are tracked in real-time and thus transporters are aware of the actual time of arrival of the tankers. They are also alerted in situations of panic and emergency so that adequate and timely aid can be sent to the site of emergency. Alerts are also set up for transporters to receive a message as tankers enter a no-go zone, or drivers engage in unsafe driving.

### **6. Increase ROI by Cost Savings:**

Once a driver's driving pattern is monitored, it's easier to make sure that driver operates his vehicles efficiently, which in turn eliminates unnecessary idling, over speeding, detours etc. By choosing shortest and safest routes between two places, drivers reduce the amount of fuel they use as well as the time spent driving.

## Monitoring features by t4u solution in real-time

### 1. Online Monitoring:

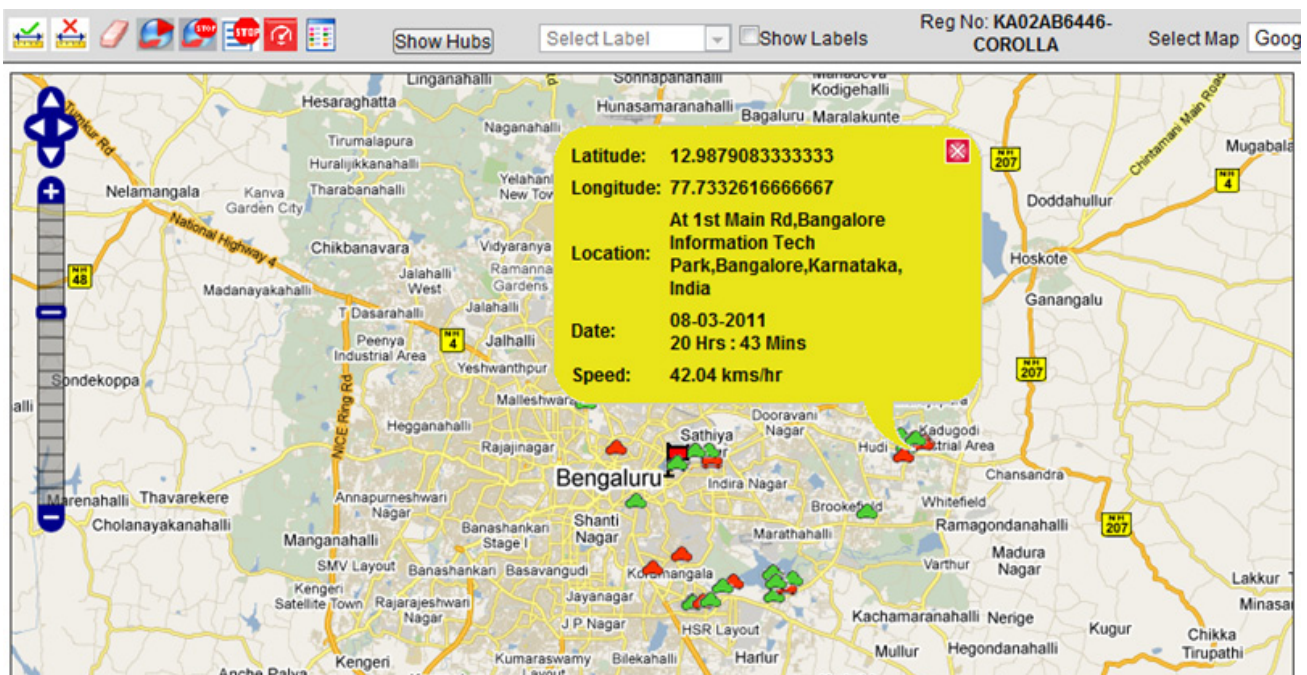
Online Monitoring would enable the operator to view the current location of the tanker accurately at any given point of time.

### 2. History Tracking:

This is a facility to replay the historical data for any given period. Companies can find out which driver has performed his duty well and who is taking different routes quite often.

### 3. Multiple Vehicle Monitoring:

This shall enable the operator to view all the vehicles with latest locations. It brings transparency in the whole operation.



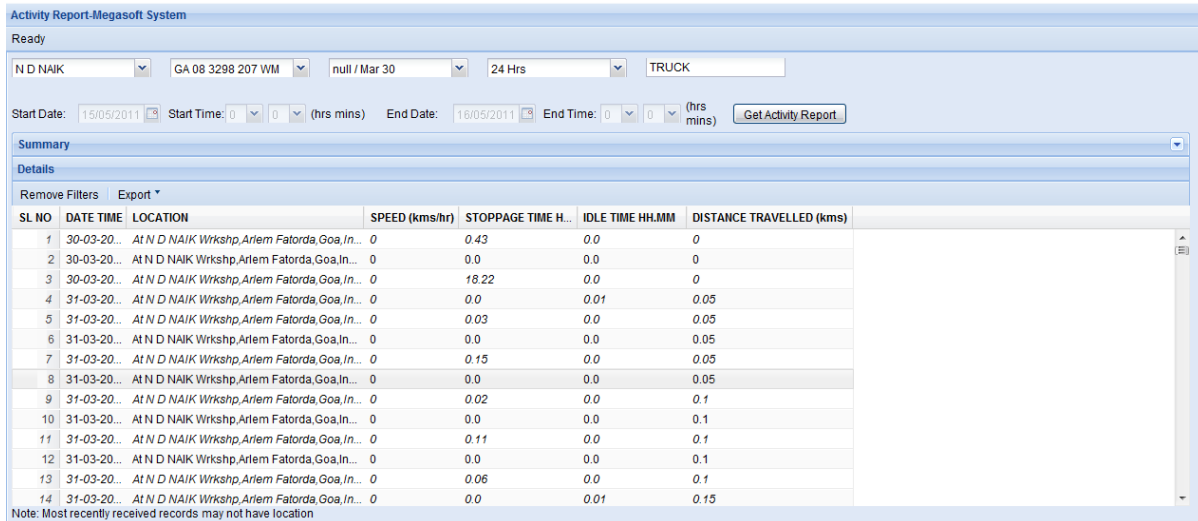
## Reporting features by Oil Transportation Management System for the administrator in real-time

### 1 Activity Report:

This shall display the position of the oil tanker as well as stoppage time for any given period. The summary at the end of the report shall provide the total distance traveled along with total stoppage time.

### 2 Stop Report:

This shall display the locations at which the tanker stopped with stoppage time for any given period. It will allow the operator to find out if the tanker is stopping at some place regularly or if some suspicious activity is going on.



Activity Report-Megasoft System

Ready

N D NAIK GA 08 3298 207 WM null / Mar 30 24 Hrs TRUCK

Start Date: 15/05/2011 Start Time: 0 0 (hrs mins) End Date: 16/05/2011 End Time: 0 0 (hrs mins) [Get Activity Report](#)

Summary

Details

Remove Filters Export

SL NO	DATE TIME	LOCATION	SPEED (kms/hr)	STOPPAGE TIME H.	IDLE TIME HH:MM	DISTANCE TRAVELLED (kms)
1	30-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.43	0.0	0
2	30-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.0	0.0	0
3	30-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	18.22	0.0	0
4	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.0	0.01	0.05
5	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.03	0.0	0.05
6	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.0	0.0	0.05
7	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.15	0.0	0.05
8	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.0	0.0	0.05
9	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.02	0.0	0.1
10	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.0	0.0	0.1
11	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.11	0.0	0.1
12	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.0	0.0	0.1
13	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.06	0.0	0.1
14	31-03-20...	At N D NAIK Wrkshp,Arlem Fatorda,Goa,In...	0	0.0	0.01	0.15

Note: Most recently received records may not have location



### **3 Speed Report:**

It will help operator to see the pattern of tanker's speed for the given period of time. After speed report few important actions can easily be taken care against drivers to avoid accidents.

### **4 Exception Report:**

This report shall display the list of tankers which have exceeded a given condition for a given time period. This report is available for Speed, Stop and Idle time exceptions.

### **5 Route Deviation Report:**

This facility shall provide details of the location of deviation and total distance deviated from the prescribed route.

### **6 Expected time of Arrival (ETA):**

The ETA is calculated dynamically and updated for the designated tanker and route. This report shall be available for all trips started and routes defined.

### **7 Trip Report:**

This will display the trip details like trip name, time taken, distance travelled etc. for any given period.

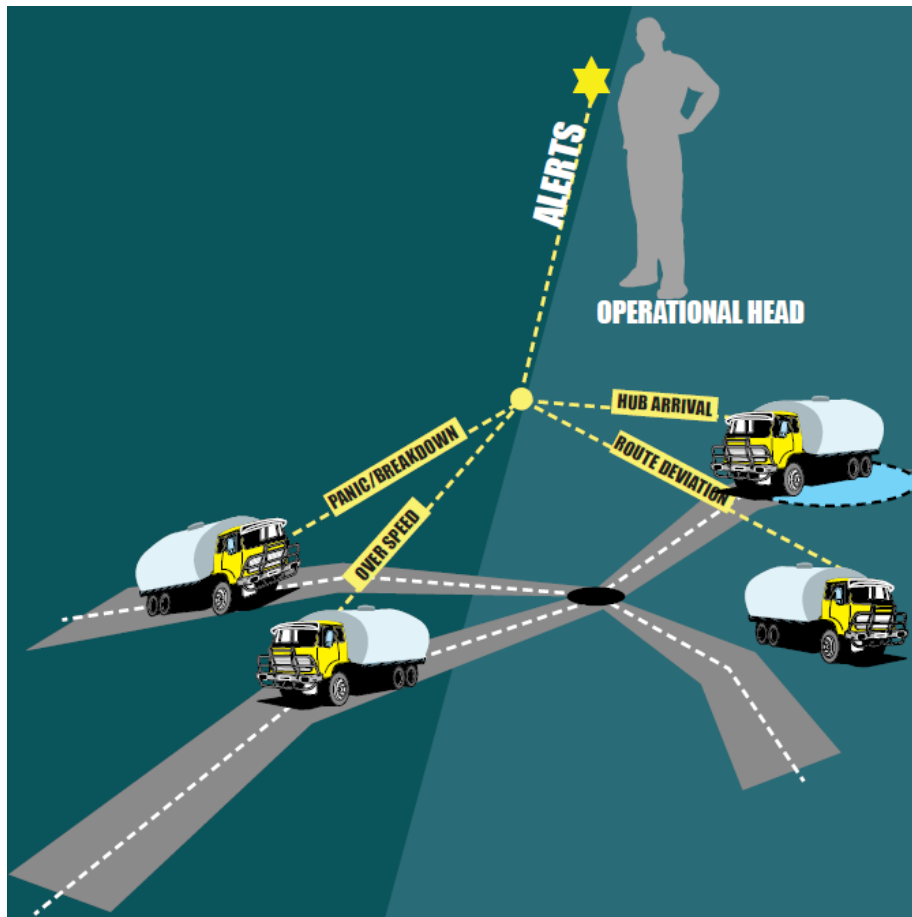
### **8 Hub Report:**

Hub report provides details about the entry and exit of the tankers in and out of various hubs. Hubs can be created easily by the user easily and reports are generated based on that.

### **9 Total Distance Report:**

This report displays the total distance traveled for the selected tanker in a given period of time.

## Alert over Email and SMS



1. Oil tanker on schedule, behind schedule alerts to operators via SMS
2. Timely messages to the operator in times of delays, emergencies etc
3. Overspeed Alert: Users can get notifications whenever the tanker crosses the specified speed limit. Users will be provided with options for setting the speed limit.
4. Emergency/ Panic Alert: Driver can press a RED button provided in the vehicle and the alert is sent to the control center for necessary action to be taken.
5. Route Deviation Alert: This facility shall provide details of the location of deviation as & when the same occurs from the prescribed route.
6. Excessive stoppage alert: If a tanker is parked at an unidentified place for more than a specified period of time, an alert is triggered and sent to the operator so that he can take suitable actions.

How does Oil Transportation Management System work?



*GPS Tracking Device*



VMH unit  
installed  
under the  
dashboard



Completely  
hidden  
installation

*System Integration*

A small GPS device is installed below the dashboard of the tanker. This device upon operation constantly relays data to Telematics4U servers which in-turn is made available to the operator sitting in the oil company on a real time basis. This easily understandable web page can be viewed over a normal computer and gives information regarding the location of the tanker, the route taken, distance travelled and its speed.

*Lid Sensor*



Specially for oil tankers, a lid sensor is placed under the lid to detect any activity involving the opening of the lid. This way, an alert is triggered when the lid is opened.

The server computing the location of the tanker, also sends timely alerts to the operator about the proximity of the tanker, before it reaches the destination. If there is any unusual activity taking place in terms of the route taken or the stoppage time and place, the operator is immediately notified. The installation of the device and its synchronisation with the server takes only half a day's time and thereafter can be easily operated by any person with a basic knowledge of computers.

## Conclusion

Oil companies rely on drivers to deliver oil to far off locations. With the value of oil being so much, the amount of risk in leaving the entire delivery responsibility on the driver is very high. Hence there needs to be a system to monitor the driver and the vehicle throughout the journey. This not only keeps the driver from indulging in any activity to take advantage of the freedom given to him, but also makes sure that suitable actions can be taken at the right time in situations of emergency so that the loss is minimal.

By implementing t4u's solution, oil companies can rest assured that there is no chance of oil pilferage and other activities which hit their profits and their reputation in the market. The solution basically monitors/controls the power handed over to the driver to ensure that he sticks to the rules defined to him.

## telematics4u – Leading the way

telematics4u is one of the largest providers of technology enabled solutions & services to the Road transportation sector in the world with presence and customers across 50+ countries. t4u has a range of Business Solutions and services for Transport operations which are ready to deploy. t4u operates through a network of Local telematics Services providers .

With a huge experience across diverse domains and innovative approach towards specific solutions has created a new waves in the field of telematics. No matter what your company's size and requirements, t4u has the right solution for you. Also, t4u's innovative Pay-as-you-use model can add up greater ROI and reduce deployment cycles.

telematics4u is involved in various domains. Few of them are:

Taxi | Cold Chain Logistics | Long Haul Logistics | Retail Logistics | School Bus |  
Oil and Gas | Milk Distribution | Movers and Packers |  
| Mining | People Transportation |

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