Enhancing Logistics Efficiency/Safety with Vehicle Telematics

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About Trimble

- Founded in 1978, Headquartered in Sunnyvale, CALIFORNIA
- First Commercial GPS product launched in 1984
- Public company (NASDAQ: TRMB), 2016 revenue of $2.4 Bn
- Offices in over 30 countries, Sales & Service in over 125 countries and over 8,000 Employees
- Our portfolio includes over 1,000 patents
Trimble solutions for long haul trucking, field service management and construction logistics track and manage over **1,500,000 vehicles** globally, operating on every continent.
India Logistics: Large opportunity

- Indian GDP growth amongst the highest in the world today
- Logistics growing at a healthy 10% rate consistently
- Transportation accounts for 60% of total logistics cost (Road transportation accounting for 36%)
India Logistics: Overcoming challenges

- India lagging behind leading global nations in key logistics parameters
- Our Logistics Cost amongst the highest globally owing to inefficiencies
- Improving Productivity & Removing system inefficiencies is critical
India Logistics: Need for Safety

- 82% accidents attributed to drivers
- 2.3% due to vehicle defect
- 67 % of accidents in fine weather conditions

Majority of the accidents are preventable
Vehicle Telematics Mission

Efficiency

Safety

Customer Delight
Focus: Inclusive Growth

Vehicle Diagnostics/Prognostics
Warranty Management
Buyer Stickiness

OEM

Improve Vehicle Utilization (Increase Load on Wheels)
Reduce Ops Cost (Reduce Idle Time)
Minimize Accidents

Fleet Owner

On Time Delivery
Lowest TAT (Turn Around Time)
Asset Safety & Security
Minimal Costs

Shipper

More Earnings
More Safety
More Pride

Driver

Accident Reduction
Validate Claims
Asset Recovery

Insurer

Emission Compliance
Road Safety
Toll/Check post Automation

Regulator

Improve Vehicle Utilization (Increase Load on Wheels)
Reduce Ops Cost (Reduce Idle Time)
Minimize Accidents

Focus: Inclusive Growth
Advance Information for Decision Making
Analytics & Performance Ratings

Trip Performance Rating

After every trip this report available to print for driver/transporter counseling

Carrier Performance Ratings

Logistics Analytical Dashboard
Fuel Management

Accuracy 99.0%

Fuel sensor being used in over 2000 vehicles

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### Refueling and Draining Report

**Vehicle:** Volvo26(202005208)  
**Period:** 10.10.2016 00:00:00 - 28.10.2016 23:59:00

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Start time</th>
<th>End time</th>
<th>Event</th>
<th>Volume (l)</th>
<th>Address</th>
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</thead>
<tbody>
<tr>
<td>Volvo26</td>
<td>14.10.2016 11:43:30</td>
<td>14.10.2016 11:51:00</td>
<td>Refueling</td>
<td>54.0</td>
<td>улица Вавилова, Октябрьский район, Rostov-on-Don, городской округ Ростов-на-Дону, ROS, South federal district, 344069, Russian Federation</td>
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<td>Volvo26</td>
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<td>84.9</td>
<td>улица Вавилова, Октябрьский район, Rostov-on-Don, городской округ Ростов-на-Дону, ROS, South federal district, 344069, Russian Federation</td>
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Safety Management

**Voice Alert Box**
- Alerts the driver for:
  - Rash Driving: over speeding, harsh braking, harsh maneuvering, free wheeling, night driving and continuous driving
  - Danger Zones: Entry in 20 danger zones

**Journey Risk Management**
- All above alerts
- Danger Zone alerts for up to 100,000 geo locations
- User able to feed the inputs related to danger zones, accidents, traffic, etc. to the voice box over the air

**Biometric Sensors & In Cabin Camera**
- To capture driver details and link with the safety behavior
## Case Studies

<table>
<thead>
<tr>
<th>Company</th>
<th>Deployment Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>India’s largest Petchem Co</td>
<td>• Deployed in 6,000 vehicles &amp; tankers for over 3 years</td>
</tr>
<tr>
<td></td>
<td>• Used to ensure total safety compliance &amp; schedule adherence</td>
</tr>
<tr>
<td>India’s largest Car &amp; 2 W Cos</td>
<td>• Deployed in over 12,000 vehicle carriers for 6 years</td>
</tr>
<tr>
<td></td>
<td>• Used to ensure load planning, schedule adherence, advance customer notification</td>
</tr>
<tr>
<td></td>
<td>and cargo safety</td>
</tr>
<tr>
<td>World’s largest Cement Co.</td>
<td>• Deployed in over 8,000 vehicles for 5 years</td>
</tr>
<tr>
<td></td>
<td>• Used for load planning, schedule adherence, route optimization, distance</td>
</tr>
<tr>
<td></td>
<td>rationalization and safety compliance</td>
</tr>
<tr>
<td>Leading Indian modern 3PL</td>
<td>• Deployed in around 1800 vehicles with Fuel Sensors &amp; Vehicle diagnostic data</td>
</tr>
<tr>
<td></td>
<td>• Per Second data tracking: location, fuel &amp; engine data</td>
</tr>
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</table>
# Value Proposition

| Economy | • Increase in vehicle utilization: Reduction in vehicle waiting time at loading & unloading, In-transit delays & route detours  
|         | • Manage large loads with smaller fleets |
| Safety  | • Prevention of vehicle accidents through alerting  
|         | • Data driven driver counselling |
| Environmental | • Low carbon emission: High vehicle utilization, optimized route selection, Engine & Fuel consumption data analytics |
| Service | • High System uptime: Preventive Maintenance with EWS (Early Warning System)  
|         | • Automated ticketing based field service network |
Large Scale Adoption – Across Industries
