tor™
IoT Solutions
Talk To Your Machines

Tor Loco
Equipment Management System
Edge Gateways | Application | Analytics

The construction industry is a capital intensive industry with projects that are spread across various locations. Each project requires a host of earth moving equipment such as cranes, transit mixers etc. Such heavy-duty equipment has to work smoothly and efficiently to ensure on-time project completion. Equipment downtime, tampering and fuel theft are quite common at project sites. Un-monitored equipment can lead to higher operating costs and unplanned breakdowns.

Over the years, we have worked with a variety of construction companies, both **OEMs** and **Fleet owners** to understand some of the most pressing problems at project sites. Our insights have led us to develop targeted solutions to simplify equipment management in the construction industry both for real estate as well as infra projects.

The **Tor Loco Equipment Management suite** covers **solutioning, edge gateways, state-of-the-art IoT platform, remote monitoring applications, analytics** and **services.**

Equipment Management Challenges

Keeping track of projects spread across multiple locations with manual data logging

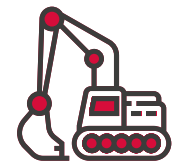On-time project delivery within the allocated budget

Limited real-time visibility of cost leakages due to inefficiencies, breakdowns & fuel thefts

Maintenance and service scheduling

No proactive mechanism to avert downtime

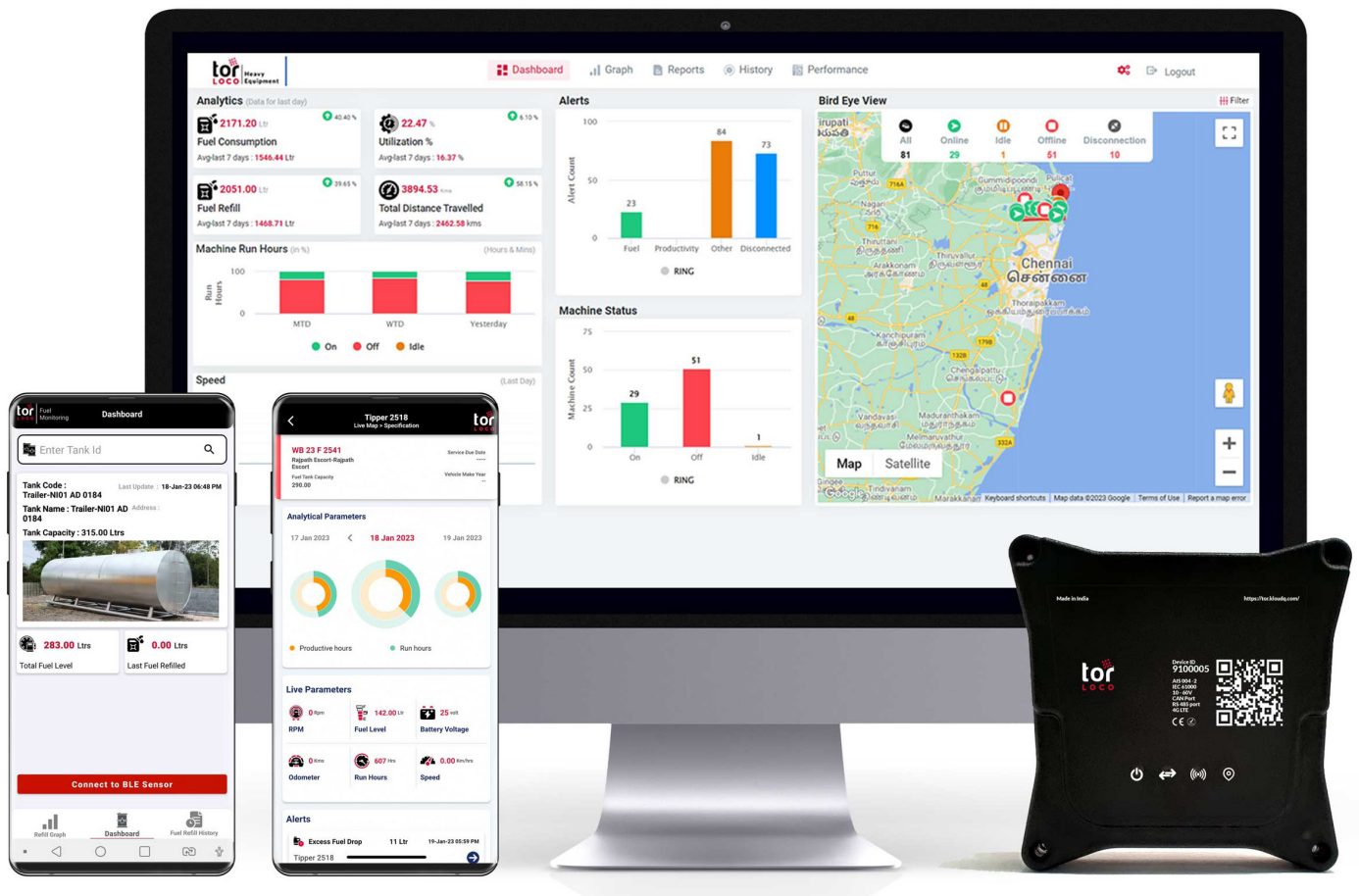Keeping up with leased fleet and asset utilization

Introducing
Tor Loco

Tor Loco is a **modular and customizable equipment management solution** for the **construction industry** allowing **remote monitoring of the entire fleet at equipment, manpower as well as project level**.
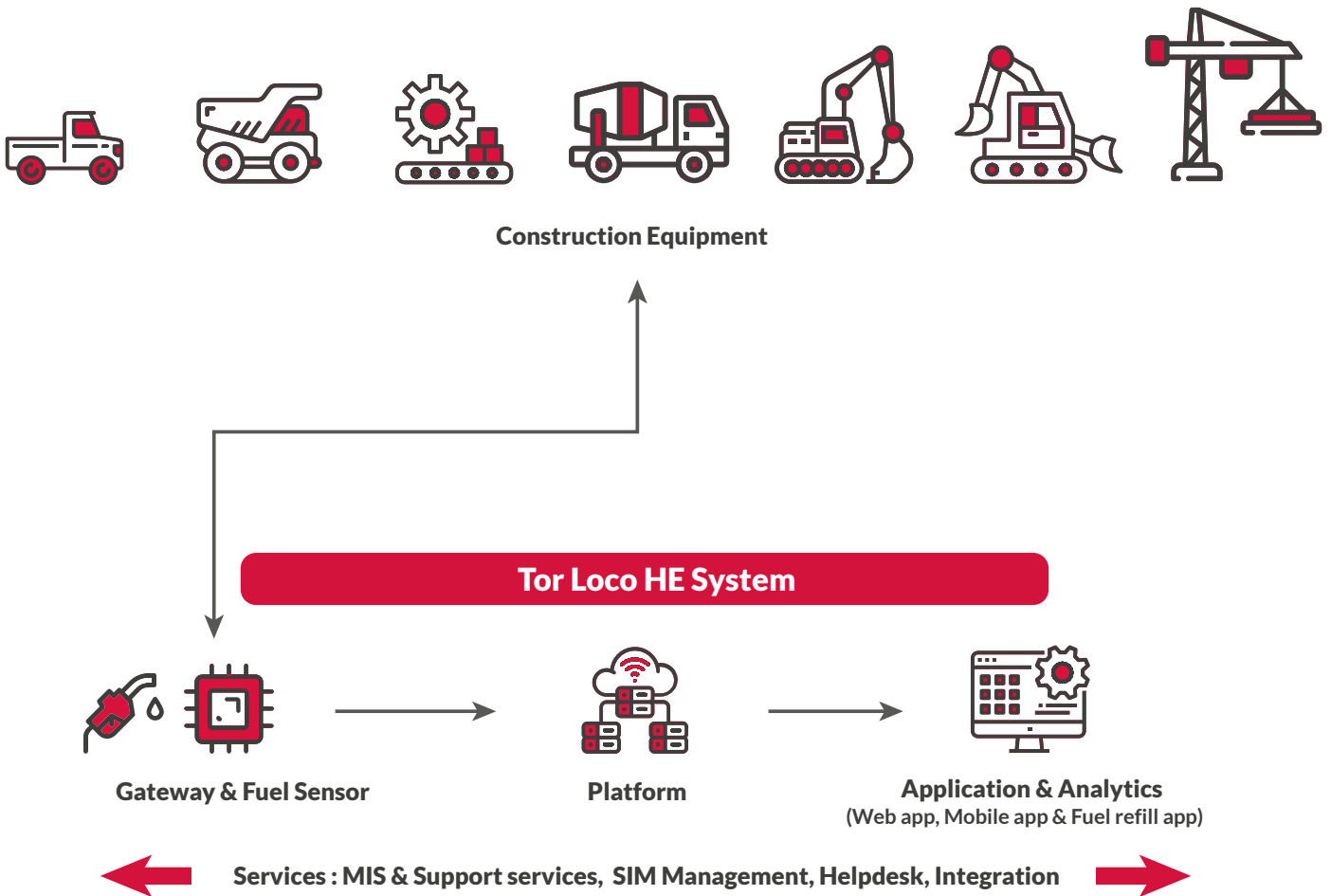
The application gives complete visibility and control of your fleet. The application is filled with features like insights on asset health, fleet utilization, service scheduling, fuel and mileage alerts, and asset breakdown prediction, to name a few. The approach that Tor Loco provides is highly modular and adaptable. Data is collected from various touch-points by our proprietary edge gateway, which transfers the data to a

secure cloud-enabled Tor IoT platform for further processing.

This data is also fed into our proprietary **Loco Insights analytics** platform which provides actionable insights e.g. productive utilization, consumption rate monitoring, fuel refill authentication, various warnings & alerts through exception management. The modular architecture of the system guarantees speedy deployment both with master uploads via excel and ERP integration without the need for expensive IT infrastructure. The entire system is fully tested and complies with global security standards.

End to end equipment management IoT solution

Construction Equipment

Tor Loco HE System

Gateway & Fuel Sensor

Platform

Application & Analytics
(Web app, Mobile app & Fuel refill app)

Services : MIS & Support services, SIM Management, Helpdesk, Integration

Get the maximum out of your fleet with Loco Insights

- **Weekly & monthly insight report** covering run time (hours), fuel consumption, fuel refill, operational efficiency, total kms covered, mileage (Km/ltr), mileage (Ltr/hr) as well as benchmark performance for each of the assets

- **Productivity Utilization report** of all assets based on working and idle hours

- **Site wise productivity rating** (current vs historic)

- **Fuel theft and tamper alert** triggered in case of sudden fuel drop & any kind of tampering

- **Detailed asset report** covering start-end time, distance covered, start to end fuel level, start to end run hrs, start to end location, average speed, max speed, trip duration and stop duration

- **99% accurate fuel monitoring** with wireless capacitive fuel sensor

- **Alert & warnings** to monitor equipment health

- **Trip analysis** to get insight of pre defined trip effectiveness
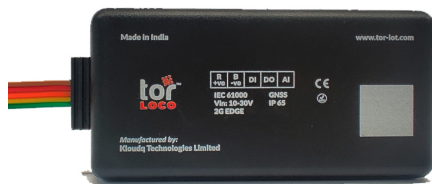
Gateways & Fuel Sensor

Tor Loco edge gateways

- 4G/3G/2G wireless connectivity
- CE & RoHS certification
- IP 65 enclosure
- Built in accelerometer Built in hour meter
- Analog and digital inputs
- RPM measurements
- Inbuilt battery backup

- 2G connectivity
- Immobilizer functionality
- Analog and digital inputs
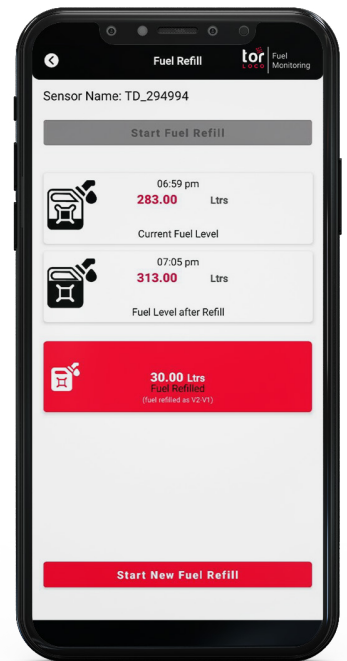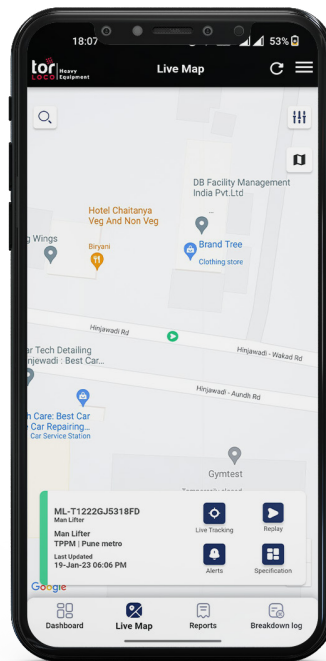- Inbuilt battery backup

Tor Fuel Sensor

- Wireless connectivity
- Capacitive probe
- +/- 1% error
- Onsite cuttable probe

Application

Web app, mobile app & fuel refill mobile app

- Keep track of individual equipment's performance parameters without worrying about scalability.

- Analyze real-time information on the location, usage, and condition of the equipment, including data on fuel consumption, hours of operation, and maintenance needs.

- Setup equipment specific warnings & alerts to get notified instantly on WhatsApp and email.

- Capture instantaneous fuel filling through mobile phone to digitize refill log book and ease reconciliation.

- Customizable detailed reports covering fleet productivity, fuel level, location, speed, geofence, and battery disconnect in a cross-referenced manner to drive decision making.

Analytics

Key parameter coverage

Live monitoring	Run time (hours), fuel consumption, total kms covered, mileage (Km/ ltr), mileage (Ltr/hr), live location, RPM & benchmark performance
Dashboard	Site-wise and asset class-wise configurable dashboards, consumption trends, fuel filling, machine run hours, alerts and warnings, on/off/idle status, speed & total distance traveled
Drill down	Site level & asset class level views
Analytics	Loco Insights, graphical analysis & time series analysis
Reports	Daily and monthly log - site & asset wise, productivity log, geofence alerts, battery disconnect alerts, fuel consumption, location and speed log & unit monitoring log
Alarms and warnings	Custom user defined based on threshold values e.g. fuel level drop, geofence breach & battery disconnect
Add-on features	Productivity & trip report
Bird's eye view	Mapwise cluster & aggregate asset status
Configuration	Master uploads via Excel/CSV or ERP integration

Key Features

1 Adherence to project management schedules

2 Realtime insights about your fleet

3 Keep track of your fleet with geofencing and location tracking

4 Manage your fleet diligently by route mapping & compliance

5 Improve your asset effective utilization by reduced idling & improved asset productivity

6 Cut down your fuel costs by reducing fuel thefts & by optimising consumption rate

Capabilities

1 RnD

Technology refinement by 100+ inhouse team of engineers and subject matter experts in embedded systems, hardware development, type testing - validation, application and platform development.

2 Application & Analytics

Expertise in developing and deploying customized applications with platform and database development along with managing infrastructure and security.

3 Manufacturing

Hardware manufacturing in state-of-the-art pick and place setup for board building with code burning bank for multi-board production in parallel.

tor ™

IoT Solutions

Talk To Your Machines

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