



# RAILCAR GPS TRACKING & MONITORING

*The Lat-Lon wireless GPS tracking and monitoring system provides location and productivity information you need to manage your railcars.*

## REGULATORY COMPLIANCE

Use Lat-Lon tracking solutions to support compliance with many regulatory requirements. Effectively manage the additional demands that complex shipping regulations can place on your company, to minimize the effect on your operating budget.

## CONDITION MONITORING

Monitor the critical systems of your assets, to keep them in good condition and reduce maintenance costs. Our solution helps you pinpoint the main problem areas that affect asset efficiency, productivity and maintenance. Sensors available based on you needs:

- GPS (Standard in every unit)
- Impact
- Temperature
- Handbrake (On / Off)
- Pressure
- Hatch (Open / Closed)
- Bearing Temperature

## CAMERA

Get the information you need to help ensure the safety of your crew(s) and equipment, and take security steps to limit damage or loss. Using a camera internal or external to our unit, you can see the status of your assets real-time, and capture color photos triggered by sensors. Infrared capability captures photos in all light conditions, including complete darkness. You can easily have this photo sent to any mobile device.



## TIMELY

It is your business and you can choose how frequently you would like to receive data. Easily adjust how frequently you would like the device to "check-in" from every ten minutes to every few hours.

## WEB REPORTING SYSTEM

Turn sensor monitoring data into actionable information with the powerful reporting functionality in our Web Reporting System.

There is no software to install; all you need for 24/7 access to your password-protected account is an Internet connection. For a low monthly fee, you get unlimited access to data, reports, photos, maps and dashboard displays.

We make it easy to view standard reports or create customized reports using our online system, or export your sensor monitoring data.

### • Standard Reports

Analyze common business issues using a variety of standard reports including: dwell, pooling, crew productivity, impact & more.

### • Custom Reports

Use our Report Builder to create an unlimited number of reports to meet your specific business requirements. Features include filters to see as much or as little data as you need.

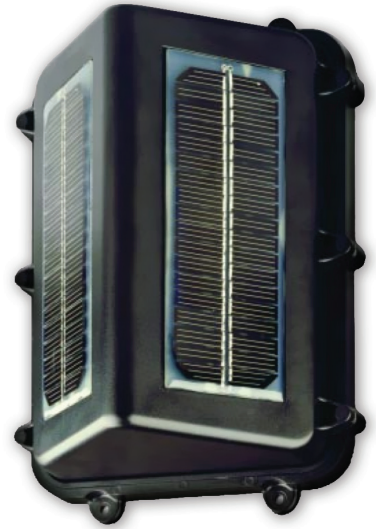
### • Export Data

If you prefer, use industry standard IP/XML data exchange tools to import Lat-Lon monitoring data into your existing fleet management software. Or, export data for use in many programs including Microsoft® Excel®.

## Interactive Maps

Monitor your assets easily using our interactive maps.

- Locate assets immediately on our base map.
- Use Google Earth™ or Bing™ Maps to display aerial or birds eye views to provide valuable 3-D perspective.
- See the latest position of your entire fleet using our dispatch display view.
- Choose the details you want displayed on-screen, including the time of message, event, status (moving, stopped, and direction), and speed for each asset.



Solar Tracking Unit (STU)



Unit	Time	Location	Speed	Direction	Altitude	Signal	Power	Temp	Humidity	Pressure	Light	Acceleration	Roll	Pitch	Yaw
101	12:00:00	1000 W of Highway 10, 100	0.00 mph	North	1000	Good	100%	70	50	1013	0	0	0	0	0
102	12:00:05	1000 W of Highway 10, 100	0.00 mph	North	1000	Good	100%	70	50	1013	0	0	0	0	0
103	12:00:10	1000 W of Highway 10, 100	0.00 mph	North	1000	Good	100%	70	50	1013	0	0	0	0	0

Bird's eye map view of railcar movements

## Administrative Tools

Manage your units using our comprehensive Web-based Administrative Tools, available 24/7 from your computer. Use these tools to:

- Create and update alerts with the parameters you set for your equipment and the sensors.
- Establish other report users in your team, and define their access and resources.
- Renew unit software "Over the Air" with easy updates from the comfort of your computer. Results in no down-time removing units, and eliminating the need to buy all of your units at once.

## Alerts & Alarms Real-Time

Get real-time information when you use Lat-Lon systems to monitor your assets.

- You configure the thresholds that trigger an alert. When sensors detect conditions outside those parameters, the system automatically sends an alarm message.
- Choose an email address or any mobile device for notifications. Every message includes detailed information so you are fully informed.



RF Sensor

## Extensive Geo-Fence Capabilities

Define, update and monitor these "Virtual Fences" you draw at your computer.

- Get a message when your asset enters and/or exits a geo-fence location.
- Run reports for geo-fence locations.
- Use geo-fence locations as "Triplines" for alarm triggers.

## THE LAT-LON DIFFERENCE

Lat-Lon wireless GPS monitoring technology helps you run an efficient and profitable business by providing accurate, real-time information

on the condition, location and performance of your industrial assets in the field.

## Technological Benefits

Lat-Lon has patented technological advantages that set us apart.

- **Solar Advantage**  
The powerful Lat-Lon Solar Tracking Unit (STU) is a GPS monitoring system using multiple wireless sensors to provide the information you want. You can eliminate battery replacement and related downtime expenses, because the self-charging, dual integrated panels use direct or indirect sunlight to replenish their power, year after year.
- **Reliable Communication Choices**  
We customize the wireless technology used to communicate your data to match your business needs. Use cellular for economic and reliable terrestrial coverage, satellite for remote or over water coverage and RF systems for local wireless networks.
- **Actionable Information**  
All you need to turn monitoring data into actionable information is an Internet-connected computer or mobile device. Use the powerful Lat-Lon Web Reporting System, our Mobile Application, or export the data for use with your existing fleet management software.

## Return on Your Investment

Lat-Lon is a leading provider of industrial wireless technology with existing customers that include the largest North American railroads, and major manufacturers and shippers. We used millions of miles of tested performance to evolve our technologies to be reliable, efficient and economical, ensuring a healthy return on your investment.

- **Rugged Equipment That Lasts**  
Lat-Lon equipment is waterproof, shock resistant, and UL913 (explosion proof) rated, with rigorous testing that exceeds industry specifications. To help you avoid downtime, we design and build our monitoring hardware to withstand the harshest environments and operate under the most demanding conditions.
- **Easy, Low-Cost Installation**  
Lat-Lon monitoring hardware is self-contained and designed for easy installation, often requiring less than ten minutes. We also offer a magnetic mount to save even more time and effort in the installation process.
- **Third-Party Credibility**  
As a leading provider of GPS monitoring data, we provide credible, accurate information to give you real-time answers to possible conflicts.

## Lifetime Support

We are here to support you from installation through the lifetime of your Lat-Lon products.

## Learn More Today

Learn more about how Lat-Lon can make a difference for your business. Call 877-300-6566 today, and talk to one of our friendly, knowledgeable experts.

TILX501231		DATE/TIME	UNIT NAME	UNIT_ID	MESSAGE TYPE	LAT_LON	SPEED	SPEED_D ROP	X_DV	X_G_500HZ	X_G_10HZ	Y_DV	Y_G_500HZ	Y_G_10HZ	Z_DV	Z_G_500HZ	Z_G_10HZ
	1	07/05/2024 08:36:50 AM	TILX 501231	4103259416103805	Impact Alarm	47.387697, -98.959242	44		5.4	5.4	1.6	0.3	1.4	0.2	1.3	3.6	1.3
	2	07/05/2024 08:36:55 AM	TILX 501231	4103259416103805	Impact Alarm	47.387278, -98.958183	39		2.3	3.6	1.1	0.5	0.4	0.1	0.1	0.6	0.3
	3	07/05/2024 08:36:56 AM	TILX 501231	4103259416103805	Impact Alarm	47.387198, -98.957972	38		7.8	4.4	1.6	2.9	0.8	0.5	0.2	1.2	0.5
	4	07/05/2024 08:36:57 AM	TILX 501231	4103259416103805	Impact Alarm	47.387103, -98.957777	40		2.3	6.1	2.2	1.1	2.7	1	6.4	3.2	1.4
	5	07/05/2024 08:36:58 AM	TILX 501231	4103259416103805	Impact Alarm	47.387010, -98.957612	35		8	3.8	1.5	9	4.4	3.4	2.2	1.4	0.9
	6	07/05/2024 08:36:59 AM	TILX 501231	4103259416103805	Impact Alarm	47.386932, -98.957448	18		0.1	2.4	1.1	6.4	3.3	2.4	3	2.6	2.1
	7	07/05/2024 08:37:03 AM	TILX 501231	4103259416103805	Impact Alarm	47.386793, -98.957417	1		3.1	7.8	1.9	0.6	3.8	0.7	0	3	0.4