# CONNECTED RAIL YARD

Watch your yard on-screen with icons representing everything from crew location to switch position. Mesh technology enables increased reporting for optimal productivity.

MONITOR:

- Crew Members
- Locomotives
- Rail Cars
- MOW Vehicles
- Switch Position
- Foul Point
- Blue Flag
- Fixed Derail

HARDWARE:

Mesh technology makes it possible to have hundreds of reporting points throughout a yard at a lower operating expense. Sensors installed on fixed objects within the yard pass data along like a bucket brigade creating a network with multiple paths to an access point. The Solar-Powered Access Point Unit (AP) contains a modem which then uploads the data to secure servers and train
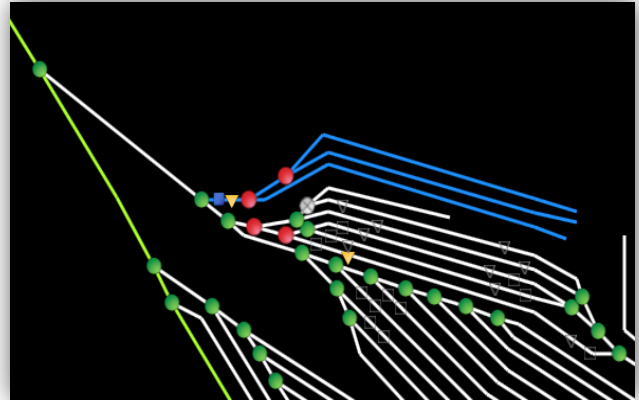

Tracks Screen

dispatcher screens. Equating to fewer modems needed, while gathering more data.

These solar-powered and battery backed MeshRF sensors transmit with high frequency and reliability based on changes in conditions, or programmable over-the-air configurations. The size of a deck of cards, MeshRF sensors are easily installed, and transferrable with minimal set-up.

Moving equipment and personnel can also be tracked on-screen. Through individual tracking devices carried on person, a running man image appears, offering proximity awareness, and increased productivity. Moving assets can be equipped with Locomotive Monitoring Units (LMU) or Solar Powered Tracking Units (STUs), and incorporated upon entering the yard.

SOFTWARE:

The Connected Rail Yard is displayed on two large high definition monitors. One monitor shows a satellite image (Real-Time) with all moving assets as icons. The second monitor shows a custom schematic Rail Yard Control screen (Tracks) with all stationary sensor icons. Each icon is a relay from MeshRF sensors deployed within the yard to an Access Point Unit back to secure servers. The
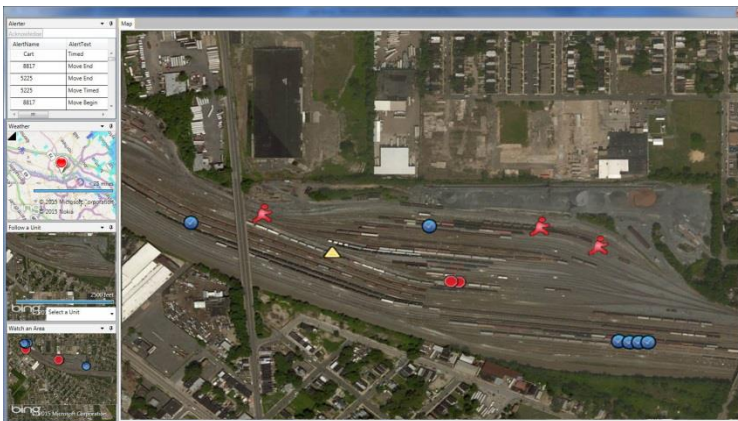
Real-Time Screen with/ Alerts, Weather, Focused Reports

office screen will reflect a switch in the normal, diverting position, or unknown status.

Four smaller reporting screens can be included on the satellite monitor. One report listing all moving asset alerts, another following weather updates, and additionally two zoom-in images featuring watch location, or follow an asset. As a new level of remote monitoring, the Connected Rail Yard by Lat-Lon enables yard managers to have a comprehensive view of the yard to enhance safety and increase productivity.

Access Point Unit and MeshRF Sensor

ACCESS POINT UNIT (AP)

PHYSICAL SPECIFICATIONS

Dimensions:	9.00" X 7.25" X 4.25"
Weight:	2.0 Lbs.
Material:	High Impact ABS
Installation:	Solar Panels Upward,

Ideally 6' high in unobstructed area, central to Mesh RF Units

POWER SPECIFICATIONS

Power Source:	Dual 0.9W Solar Panels
Power Storage:	Hybrid Battery
Battery Capacity:	3000 mAh
Run Time without Sun:	Approximately 5 Days

(Based On Average Transmission Frequency)

GPS SPECIFICATIONS

Receiver Sensitivity:	-158 dBm
Position Accuracy:	2.5m CEP
Fix Frequency:	1 Second

COMMUNICATIONS SPECIFICATIONS

Data Modem:	HSPA+ or CDMA 2000
Band Frequencies:	850/900/1700(AWS) /1900/2100 MHz
Coverage:	Global

OPERATIONAL SPECIFICATIONS

Message Queue:	1000 Messages
Message Frequency:	Based on Sensor Changes
Sensor Changes:	User Configurable (OTA)

MESH RF SENSORS

PHYSICAL SPECIFICATIONS

Size:	2.02" X 3.02" X 1.02"
Frequency:	2.4 GHz
Transmission Power:	1mw
Range:	200 Ft. Line of Site
Transmission:	Every 10sec (Default)
Battery Life:	Solar w/ Battery Back-Up

MESH SPECIFICATIONS

Max AP Range:	200 Ft.
Max Mesh Range:	100 Ft.
Internal Sensor Options:	Temperature, Tilt, Magnetic Switch

Lat-Lon Facility
2300 South Jason Street
Denver, CO 80223

Phone
Main: 1-877-300-6566
Local: 303-937-7406

Fax
303-531-5754

Email
Sales: sales@lat-lon.com
Support: support@lat-lon.com