

Search information & articles on this site:

 

Michelle Meng-Hsiung Kiang is vice president of marketing at PINC Solutions. 510-845-4900.

IT matters

September 2008 | [List all IT Matters articles](#)

Real-Time Location Systems Cover Your Assets

By **Michelle Meng-Hsiung Kiang**

The ability to track assets in a broad geographic area, typically outdoors, is key to transportation management.

Satellite and cellular network-based technologies are often used for real-time asset tracking outdoors. But to track assets indoors -- in factories, warehouses, or other controlled environments -- Global Positioning Systems (GPS) and cellular-based systems lack sufficient signal strength. Alternative techniques employing low-cost location labels such as bar-code and RFID tags are often used for indoor asset tracking.

There is a supply chain visibility gap in the yards, however, where over-the-road tracking ends but the assets have yet to enter the confines of the warehouse.

Until recently, manual, resource-intensive processes were typically used to track trailer and tractor location and status in the yard. These methods leave data integrity vulnerable to human error and a lack of real-time updates. Yard process inefficiency may negate visibility gains from investments in asset tracking during transportation or in warehouses.

Real-time location systems (RTLS) technology determines an object's current position based on real-time information gathered through a wireless system.

Increasing demand for real-time visibility in today's globalized supply chains renders RTLS an indispensable part of logistics technology investments. By combining elements of GPS and passive RFID technologies, RTLS solutions take advantage of both technologies' strengths.

Track Star

Mobile asset tracking in the yards illustrates the unique use of RTLS, in that the environment is outdoors, yet within a contained physical space.

In the yard's outdoor environment, using proven technologies such as GPS to monitor tractors' speed and position eliminates the need to establish location-detecting infrastructure.

On the other hand, you can draw an analogy between trailers in the yard and pallets in the warehouse: They remain immobile until hooked up to the equipment used to move them to the next destination.

Passive RFID tags have longer read ranges than bar codes but don't require direct line-of-sight to acquire data, making them one of the most economical ways to obtain real-time trailer position in the yard.

Combining GPS and RFID leverages existing yard processes. While yard tractors carry out their regular duties, attached GPS-enabled RFID readers recognize trailers by the tags, and report the location data in real time.

RTLS also enables management to monitor yard operations' key performance indicators (KPIs) based on quantifiable productivity metrics measured by the actions of the yard trucks. Managers cannot reliably and accurately collect information such as average time per move and percentage of idle time by manual tracking or other means.

The benefit of having real-time electronic data for asset-location yard activities extends beyond improving supply chain visibility at a particular locale.

Not only do corporations gain actionable data to facilitate process redesign and increase operational efficiency, they now also have information to drive best practices across all organizations and sites.

Finally, being able to share real-time visibility data within the enterprise as well as with supply chain partners is crucial for enabling collaboration and transforming to a more responsive and agile global supply chain.

By minimizing the dependency on infrastructure investment, the new breed of RTLS-enabled yard management solutions combines the cost and availability advantages of passive RFID and GPS technologies.

Like what you've read? Why not [subscribe](#)? It's FREE!

© 2009 Thomas Publishing Company