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RFID-based Tracking of Reusable Logistics Containers has a Generally Compelling ROI

Improving Asset Utilization 100%; Lower Labor and Transport Costs Too

SCDigest Editorial Staff

Somewhat quietly, tracking of reusable logistics containers and platforms is emerging as one of the most active areas of the RFID market.

Recently, we reported on findings from the Reusable Packaging Association and Michigan State University that found RFID tags in general were well able to withstand the physical rigors of repeated use and handling on such carriers as plastic totes, reusable pallets, and other logistics containers. (See **Research Finds RFID Tags Can Take a Beating and Keep on Reading in Reusable Container Applications**.)

That study is timely, because companies are finding real value from logistics asset tracking generally, and Green supply chain initiatives are causing more companies to now consider the adoption of reusable containers.

Dean Frew, CEO of Xterprise, a provider of RFID-based solutions, prefers to use the term "Reusable Transport Items" or RTIs, to summarize the application category.

"RTIs are used in almost every supply chain in the world today, when you consider pallets, totes, bulk containers, bins, and other containers," Frew says, noting these "pools" of assets must be managed by someone, whether it is an internal pool or a pool managed by a third party.

From an information perspective, these pools are largely managed today with manual methods relying heavily on spread sheets, Frew told SCDigest. That leads to some inherent challenges in accuracy and effectiveness. What's more, Green supply chain changes are upping the ante in terms of asset values and thus the cost of inefficiency.

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"Many of these pools are now migrating to "sustainable" materials, such as to plastic from wood or corrugate," Frew says. "Sustainable materials are more expensive and thus value proposition is even higher for effective tracking and management."

In fact, both initially and over time, companies often invest far more in these logistics assets than they need to because so many are temporarily or permanently "lost," or simply not utilized as effectively as they could be, requiring a larger asset pool.

Tom Kozenski, VP of Product Strategy at RedPrairie, agrees.

"The value proposition and ROI can be very high

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Full Lifecycle, Real-Time, RFID-based Tracking of Logistics Containers

Source: Xterprise

for better tracking of logistics containers and related assets if there are issues regarding lost assets in your network, such as totes going back and forth from a DC to retail stores," Kozenski observes. "Bar coding in general hasn't been able to do the job RFID can do in tracking these assets because of the manual nature of the data collection necessary with bar codes."

Frew, in fact, says that in some cases companies are able to double their level of asset utilization, meaning investment in those logistics assets can in effect be cut in half. This generates strong savings that usually provide a solid and sometimes dramatic return on the investment in tags, readers and supporting software needed to get the job done.

Frew, in fact, offers the following example:

Take a company with a pool of 200,000 pallets (based on manual processes) at a cost of $50 each, or $10 million in total asset value. Frew says such a company is likely spending more than $3 million on those assets above the level really required to support their operation at the expected level of service.

What's more, beyond the cost of the assets, such a company is also going to be spending more in labor, transportation and storage costs to manage this excessively large pool, and often also in back-up inventory of disposable containers in case the reusable platforms are not positioned where they are needed.

"With a real-time tracking system, you can have a high level of certainty you will have the RTIs where and when you need them," Frew says.

What Does a Tracking System Look Like?

A logistics container tracking system will consist of a number of components:

- Durable RFID tags for each container. Xterprise used UHF tags, but other RFID technologies also could be used.
- A network of readers, generally including both fixed and mobile readers (handheld and fork truck mount), deployed at each relevant node in the container network and often transportation assets/operators.
- Generally, a local computer to process real-time transactions and managed other processes and communication tasks
- The main asset tracking software, which generally runs on central "network" computer which communicates with the local servers
- Integration, as appropriate, to other logistics applications, such as Warehouse Management Systems (WMS),

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Transportation Management Systems (TMS), or financial systems.

While more limited tracking systems can be deployed, most logistics container tracking systems will then track each asset from the moment of its "birth" through every stage of storage and movement, providing detailed, real-time visibility at an individual as well as aggregate level, as shown in the graphic on page 2.

One key to success in such a system, says RedPrairie's Kozenski, is to well define the actual flows of those assets across your network as an early step in the project – noting that companies often find from this effort that the assets at times take movement paths that were not well understood.

"It's no wonder some of the containers get lost," Kozenski says.

If the containers will at times travel outside a company's own network, "It is important to develop a collaborative plan with your partners that defines how you plan to manage these assets going forward, and how the technology will be extended there," Kozenski adds.

Frew adds another upfront consideration: "If a company is thinking about managing a pool of RTIs, they should seriously consider how they will manage this high value asset pool ***before*** they purchase the pool," he says.