Returnable Container Tracking: Challenges, Benefits and Financial Impact

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Executive Summary

To remain competitive in the marketplace, companies are continually evaluating technology systems, operational processes and supplier relationships to stay lean. One of the trends is the use of returnable containers in the supply chain. With the use of returnable containers comes the need for closer monitoring of the container fleets.

It's no surprise this approach continues to grow. Returnable packaging goes hand-in-hand with companies' needs to tighten their supply chains — because a well-managed supply chain will look for the lowest system cost. The consideration for returnable container tracking requires a systematic approach.

As the supply chain has become increasingly complex, with millions of containers being handled at a high speed, it's alarming that a number of companies across industries still employ manual, paper-based recordkeeping methods. This results in costly errors and mishandling. Not to mention, the use of returnable containers presents its own specific challenges — the risk that people within the supply chain's touch points won't handle the containers with care.

This whitepaper addresses the primary challenges that companies face when utilizing returnable containers in the supply chain, as well as how the proper container tracking systems can help companies realize substantial business benefits.
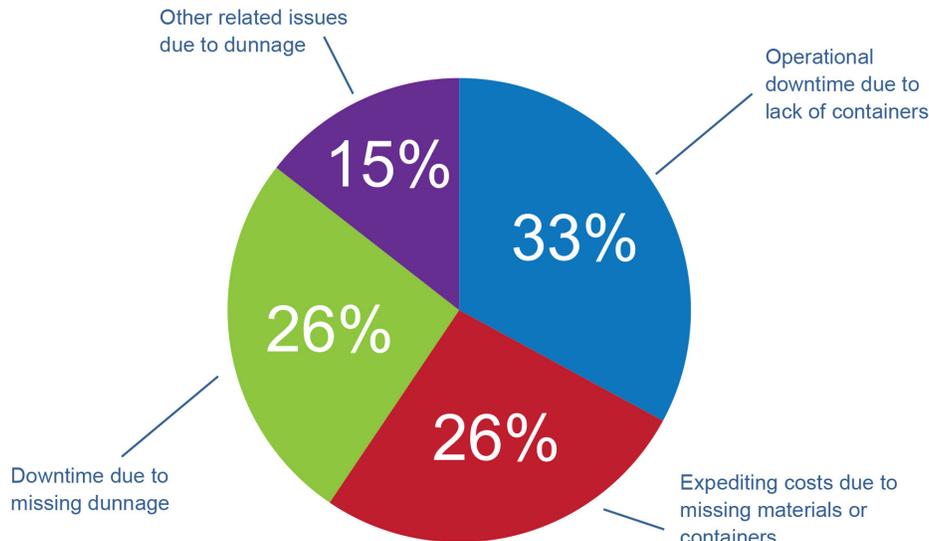
Facing the Challenges

Whether your company is using totes, pallets, bins or some other form of returnable container, the inability to track these returnable containers can wreak havoc on your supply chain. The Automotive Industry Action Group (AIAG) stated the following: "Lost returnable containers will continue to cause supply chain down-time and loss of productivity unless an adequate system can be introduced to gain visibility of and control their whereabouts better.1" And with a heavy, upfront investment required to purchase reusable containers, the inability to control the return cycle will not only strain your supply chain but also raise logistics costs that will affect the strength of your return on investment (ROI).

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– AIAG

According to the AIAG, 76% of companies comfirmed they encountered problems with returnable containers.

Other related issues
due to dunnage

Operational
downtime due to
lack of containers

15%

33%

26%

26%

Downtime due to
missing dunnage

Expediting costs due to
missing materials or
containers

Some of the common problems companies experience include the following:

- Loss, theft or damage to containers
- Inability to accurately track the shipment and return of reusable containers which can include:
  - Reuse of containers by the receiver
  - Stockholding by the receiver
  - Misdirection of containers to another supplier
- Increase in labor costs related to finding and allocating assets
- Delay in shipments due to container shortages

As a result, to keep the supply chain flowing, companies may be forced to temporarily resort back to previous packing methods or carry a safety stock of reusable containers. Both of which leave your business susceptible to obsolescence – plus additional inventory, packaging and storage costs.

Leveraging the Right Technology

Smart organizations realize that using the right technology will allow them to support and protect their investment in returnable containers by tracking each container from acquisition through usage, maintenance and eventual disposal.

What is a returnable container tracking system?

A returnable container tracking system that utilizes modern technology enables companies to reduce return cycle times, hold supply chain partners accountable for lost or damaged containers and improve accountability making tracking container movement, shipments and returns easier.

Which technology is best for container tracking?

While most companies are familiar with barcode labels and readers as a means to track inventory and product movement, this technology can be limiting for certain applications. It requires that items must be within the line of sight of the barcode reader, requiring continued manual interaction.

In comparison, radio frequency identification (RFID) technology does not require a direct line of sight and can read information for multiple items simultaneously. Through the use of fixed or stationary readers and portals, scans of containers can happen automatically with much less human interaction, making the technology ideal for reusable container tracking applications.

With broader adoption of and recent advancements in RFID technology, the cost to test, implement and maintain an RFID-based container tracking system has come down, making this technology the leading choice for container tracking systems.

Realizing the Business Benefits

For many companies, the decision to use a returnable container tracking system is often motivated by financial reasons. In fact, the AIAG estimates that the automotive industry shells out well over $750 million annually to cover the issues related to the use of reusable racks and totes – and that's in North America alone.

An RFID-based returnable container tracking system can help significantly control those costs. But is it worth the initial investment? Initially, it's important to compare costs associated with the current tracking methods to the expense of implementing and managing an RFID system. Most will find that the bottom-line benefits will, in time, offset the system's upfront cost.

A successful container tracking system will result in:

Improved asset management and control: Unique IDs associated with each container provide real-time visibility of movements, shipments and returns including date shipped, date received and truck shipped on.

Increased visibility of inventory information: Location, quantity and status of RFID-tagged reusable packaging is updated automatically. Containers are read at time of outbound shipment and again upon return receipt.

Reduction in replacement container costs: Container loss, theft, and shrinkage are greatly reduced, therefore less replacement containers are required and a smaller container fleet can be maintained.

Increased productivity: With accurate inventory information, lengthy manual audits, physical counts, and search time for available containers are eliminated. RFID-tagged assets require no change to operation flow to record container IDs, decreasing time required to load shipments and unload returns.

Improved accountability of supply chain partners: Data-based reporting allows system users to leverage accurate liability determination to recover costs for lost, damaged or un-returned containers.

Reduction in expedite costs: When a manufacturer or supplier runs out of containers, production and shipment is delayed, requiring costly air freight expedites of additional containers. Container shortages are minimized when managed efficiently, therefore reducing the associated costs of emergency shipments.

Enhanced monitoring: Makes it easy to track container life cycle and schedule maintenance, repair and operations (MRO) activities.

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Determining Your ROI

In today's competitive economy, gaining budget approval for IT capital expenditures often requires a comprehensive ROI analysis. For most technology projects, including returnable container tracking systems, this is typically done by calculating the time it takes to pay back or break even on the initial investment. Simply put, companies can compare costs related to the purchase and disposal of packaging materials to costs for implementing and maintaining a returnable container system to determine what the break-even point is for their technology investment.

While this approach is the most popular method of justifying IT expenses, it often overlooks the long-term value of implementing a new system. In addition, this method does not account for the value of additional "soft" cost savings or expenses that can affect long-term project savings. As time goes on, the costs for your business will most likely change in an upward direction.

An accurate and prudent approach to use when presenting ROI is to show the overall value of the returnable container tracking system, rather than setting a fixed "break-even period." After all, savings are savings, regardless of the timeframe. The more project savings you can forecast for your organization, the better your project will look to other project stakeholders and management.

Despite the challenges of using returnable containers, the implementation of an RFID system can make a substantial difference in the way returnable containers are used and tracked and potentially cut costs significantly in the long-run. As you learn and improve on your processes over time, you will continue to find opportunities to gain new efficiencies and a stronger competitive advantage.

Additional Resources

1. www.AIAG.org

AIAG (Automotive Industry Action Group) has returnable container working groups as well as written resources on returnable container management:

- Returnable Containers Management Guidelines
- AIAG Pallet and Lid Whitepaper

2. www.GS1us.org

GS1 has a Returnable Transport Item (RTI) Interest Group which has developed an RTI Pallet Tagging Guideline.

3. Lowry's RFID R.E.A.D.S. Checklist

An informative guide on how to select the right RFID tag for your environment and application.

About Lowry Solutions

Since 1974, Lowry Solutions has been implementing technology innovations nationwide, and with over 10,000 customers, it has established itself as a premier Enterprise Mobility and Auto-ID system integrator focused on barcode, RFID, biometrics, enterprise mobility, and asset management solutions.

Lowry understands that each enterprise has its own specific issues and requirements, and that in order to provide best-in-class solutions to address these issues, a deep understanding of our clients' unique business processes is a necessity. To us, success is rooted in our ability to enhance and grow our customer's business.

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