

Mastering Returnable Transport Items (RTIs) in Peak Seasons

How Smart Tracking Boosts Efficiency in Modern Supply Chains

A Joint Perspective from Lyngsoe Systems & Beontag

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Peak seasons push global supply chains to their limits. As order volumes spike and labor availability tightens, Returnable Transport Items (RTIs)—pallets, roll cages, totes, crates, and reusable containers—become the silent constraint that dictates throughput, service performance, and cost-to-serve.

Yet most organizations still manage RTIs with far less discipline than finished goods or inventory. The result is consistent across regions and industries:

10–15% asset loss annually, equating to **billions in global replacement costs**, operational slowdowns, and growing sustainability pressures.

In this whitepaper, you will learn how to:

Identify where RTI losses, imbalances, and dwell time undermine peak-season throughput

Quantify the operational and financial impact of 10–15% annual RTI loss

Decide when RFID or Bluetooth Low Energy (BLE) delivers the highest value

Use real-time RTI visibility to improve asset availability, cycle time stability, and planning accuracy

Scale RTI tracking across sites, partners, and regions without adding manual workload.

The RTI Challenge: Hidden Assets, Visible Operational Risk

RTIs are essential to high-velocity logistics operations, but a lack of traceability turns them into a blind spot. Millions of reusable assets circulate daily with limited documentation, inconsistent accountability, and no global source of truth.

Key Operational Pain Points

Loss and theft

drive avoidable capital expenditure and emergency procurement.

Idle assets and imbalances

create shortages at high-throughput sites while excess accumulates elsewhere.

Manual tracking processes

slow operations, introduce error, and limit real-time responsiveness.

Partner disputes

over ownership and responsibility consume time and damage relationships.

Fragmented data

prevents network-wide optimization of RTI flows.

Peak Season Amplifies the Impact

During peak seasons, small inefficiencies scale into systemwide challenges:

RTIs are essential to daily operations, but during peak periods their absence can cripple throughput.

Key challenges include:

- **Loss and shrinkage:** 10–15% of RTIs disappear annually, representing millions in replacement cost.
- **Imbalance across the network:** some sites experience surpluses while others run empty.
- **Manual processes:** barcode scans, spreadsheets, and paper-based reconciliation cannot handle peak volumes.

- **Increased dwell time:** RTIs pile up at customer locations or transport hubs.
- **Operational downtime:** a shortage of RTIs leads to slower fulfillment and increased labor strain.

During events such as Black Friday, holiday periods, or major promotions, a lack of available RTIs can halt loading lines, delay shipments, and reduce fulfillment performance.

The message for supply chain executives is clear: **RTIs are strategic assets, and their mismanagement imposes operational, financial, and sustainability risk that can no longer be ignored.**

Smart RTI Management: The Technology Edge

Digitally enabled RTI visibility reframes reusable assets as an intelligent, trackable infrastructure powering the modern supply chain.

RFID + BLE: The Backbone of Real-Time RTI Visibility

Digital tracking requires two foundational capabilities:



Identification

Every asset needs a unique, durable identifier—RFID, BLE, or barcode—that links it to ownership, utilization history, and condition.

Localization

Infrastructure such as RFID gateways, BLE beacons, mobile scanners, and readers capture movement throughout the network.

When to Use RFID vs BLE

Feature	RFID (Passive UHF)	BLE
Read range	Up to ~20 m	200 m
Reading interval	Event / checkpoint-based	Continuous
Battery	No	Yes
Unit cost	Low	High
Infrastructure cost	High	Low
Ideal environments	Warehouses, dock doors, conveyors	Yards, customer sites, mobile flow

Tagging best practices for peak-performance

Tag placement and durability are crucial during peak volumes when RTIs move faster and with less manual oversight. High performance tagging ensures reliable reads even at high speeds and under heavy handling.

Recommendations:

- Use on-metal tags for metal RTIs such as roll cages or containers.
- Ensure tags are positioned in locations that minimize the exposure to mechanical impacts
- Ensure tags are visible to portals and not obstructed by loads.
- For large RTIs, apply dual tagging for redundancy.
- Follow GS1 encoding standards for universal compatibility.
- Validate tags against wash cycles, freezing, exposure, or abrasion.



Data-Driven Operations

Higher asset turns

Balanced inventories
across regions

Lower dwell time
and shrink

Predictive loss
prevention

Improved cycle-time
stability

AI-driven planning and
exception management

Seamless Enterprise Integration

Lyngsoe LIVE Logistics™ connects directly to ERP, WMS, and TMS environments, enabling RTI intelligence to drive **planning, billing, inventory accuracy, and compliance.**

Success Stories and ROI

Leading supply chain networks across food logistics, manufacturing, and horticulture have executed digital RTI programs with measurable results. For global operations, these gains translate into millions in annual savings, greater resilience, and a substantially smaller environmental footprint.



Bringing Real-Time Control to One of the Nordics' Largest RTI Fleets

About Posti

Posti is Finland's national postal and logistics provider, employing more than 15,000 people and operating seven major logistics centers and over 30 transportation terminals across the country. Every day, Posti depends on a circulation of more than 100,000 reusable roll cages and parcel containers to keep e-commerce and mail distribution running at scale.

The Challenge

Despite its high level of automation, Posti had no real-time visibility of its RTI fleet. Roll cages frequently accumulated in low-throughput locations while high-volume hubs faced shortages, forcing unnecessary transport, manual searching, and emergency procurement.

Manual barcode scanning and spreadsheets could not keep pace with daily movements across dozens of terminals, making it difficult to understand asset rotation, prevent loss, or resolve disputes with partners. During peak periods, these issues intensified—slowing outbound flows, delaying loading operations, and increasing labor strain.

The Results

After deploying a BLE+RFID-based RTI tracking solution across terminals and distribution centers, Posti gained a shared, accurate view of its entire RTI pool.

Key outcomes included:



Reduced RTI shrinkage, supported by real-time accountability



Lower manual workload, as automated reads replaced routine scanning



More balanced RTI distribution, improving availability during peak demand

In addition, the consistent digital audit trail strengthened collaboration with partners, reduced operational friction, and improved planning accuracy across Posti's nationwide network. The case highlights how a large logistics operator can unlock measurable value by transforming RTIs from a blind spot into a controlled, data-driven asset base.

From Insight to Action

Three Strategic Priorities for Supply Chain Leaders:

1 - Elevate RTIs to Core Operational Assets

Treat them as capital infrastructure critical to throughput, customer service, and financial performance.

2 - Digitize the RTI Lifecycle

Tag → Track → Analyze → Optimize

Make RTI visibility a scalable digital process integrated across systems and partners

3 - Collaborate across the value chain

Align between suppliers, carriers, and retailers blind spots and strengthens accountability.

The Beontag × Lyngsoe Systems Advantage

Global supply chains require solutions that scale across regions, partners, and operational models. Together, Beontag and Lyngsoe Systems deliver:

1

Worldwide RFID/BLE expertise and manufacturing capacity

2

Proven high-volume tracking platforms (Lyngsoe LIVE Logistics™)

3

Modular solutions tailored to rental, pooling, deposit, and buy-back models

4

Strong sustainability impact through circular logistics enablement

5

End-to-end visibility across the full RTI lifecycle

This joint value proposition ensures enterprises can control, optimize, and future-proof their RTI operations—at scale.

Beontag and Lyngsoe Systems combine global technology leadership with advanced logistics visibility platforms, delivering end-to-end transparency from production to point of use. Together, we help supply chain organizations “make every RTI count” during peak demand—and every day in between.

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Master RTI visibility ahead of your next peak season.

Explore implementation strategies with industry experts.

