CHIPLOGIC

RFID Inventory Management Process

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A CYBERLAB SERVICE

Smarter Tracking.
Faster Processing.
Clearer Insight.

ChipLogic provides a seamless, automated approach to inventory movement and lifecycle tracking using RFID technology. Here's how our system works:

Step 1: Assign RFID Tags

Every item entering the system is assigned a unique RFID tag encoded with identifying data. With ChipLogic, tags can be assigned not only to individual items, but also directly to specific customers, locations, personnel, or wearers—enabling flexible, real-world tracking based on how your assets are used. This smart tag assignment links each tag to key metadata such as item type, assignment details, and usage context, forming the foundation for full lifecycle visibility.

What Happens During Tag Assignment:

- Items are tagged using handheld or fixed RFID encoders
- Asset profiles are created and stored in the system
- Metadata such as product type, assignment date, and responsible person or location is recorded

This digital tagging step ensures real-time visibility, accurate tracking, and accountability from the moment an item enters your inventory.

Step 2: Pack Out to Customer, Location, or Person

Once tagged, items are packed and dispatched to their intended recipient—this could be a customer, a specific location, or assigned personnel within the organization. ChipLogic's RFID system captures this outbound movement in real time, logging critical information such as destination, carrier, route, and dispatch time. All shipment data is automatically synced with your inventory management system to ensure records remain accurate and auditable.

We Support a variety of pack-out processes:

- Standard Pack-Out: Items are packed and sent to Customers, Designated locations, and Specific personnel or departments.
- Bundle Checker: Ensures that all items within a bundled shipment are present and correctly tagged before dispatch, preventing incomplete orders.
- Route-Based Sorting: Items are organized based on delivery route and stop sequence to optimize shipping logistics.

These methods can be used independently or combined for maximum efficiency, depending on the operational need. Every item is scanned during dispatch, destination data is logged, and all shipment activity is tracked for full traceability and accountability.

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Step 3: Receive Tags Back from Customer or Location

As items return from the field, ChipLogic RFID readers automatically detect and log each tag to streamline the check-in process. The system instantly reconciles returned items against outbound records to verify quantities and ensure accurate tracking. This eliminates the need for manual check-ins, reduces handling time, and maintains real-time inventory accuracy.

Returned items can be scanned through several methods:

- Customer drop boxes equipped with RFID scanning
- Receiving facilities using RFID tunnels, conveyors, or dock-mounted readers
- Depot locations for distributed return points and remote visibility

What Happens:

- Automatic tag detection upon return
- Real-time reconciliation with dispatch records
- Immediate system update with return time and location

ChipLogic enables comprehensive tracking across all return points, ensuring a fully visible and efficient return cycle, no matter where the items are processed.

Step 4: Internal Processing – Wash, Sort, Recondition

Once received, items move through internal workflows such as washing, inspection, sorting, and reconditioning. ChipLogic's RFID system enables fast, accurate sorting by category, priority, or next destination—without the need for manual checks. If any tags are damaged or unreadable, they are seamlessly replaced and reassigned within the system, ensuring continuous traceability.

What Happens During Processing:

- Washed and sanitized (if applicable)
- Sorted by category or prepared for next dispatch
- Tags reused or replaced and updated in the system

This step boosts efficiency, reduces manual handling, and prepares items quickly for redeployment.

Step 5: Pack Out Again to Customer

After internal processing is complete, items are repacked and sent back out for reuse, resale, or redeployment. Each item is re-verified using RFID to confirm accuracy and readiness before shipment. ChipLogic tracks every movement, ensuring full lifecycle visibility from initial tagging to every return and redeployment.

This stage effectively repeats the outbound process from Step 2, continuing the closed-loop RFID workflow. The ability to reuse items and tags—while maintaining complete traceability—helps optimize inventory cycles and significantly reduce loss and inefficiency.

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Reporting & Data Insights

ChipLogic's reporting suite transforms raw RFID data into actionable insights that empower smarter decisions across your entire operation. From daily activity to long-term asset performance, our platform provides complete visibility into your inventory lifecycle.

Core Features:

- Real-Time Dashboards – Track item usage, return rates, processing times, and tag activity at a glance
- Cycle Count Reports – Identify items due for maintenance, replacement, or decommissioning based on usage frequency
- Variance Reports – Compare packing lists to invoice and route/accounting systems to reconcile shipments and billing

Operational Focus Reports:

- Tardy at Laundry Report – Highlights items that have been sitting at internal processing or laundry facilities longer than expected, enabling follow-up and throughput optimization
- Tardy at Customer Report – Identifies items that have not been returned from customer locations, helping to flag potential loss, trigger replacement, or initiate billing for non-returned items

Inventory Reports:

- Inventory by Quantity, Location, Usage, and Age – Offers a detailed view of current stock levels, item distribution, lifecycle age, and usage history
- Cost Insight – Understand inventory value and depreciation over time, helping manage budget and optimize asset allocation

ChipLogic's transparent reporting helps identify bottlenecks, minimize loss, and uncover opportunities for operational improvement. With these insights, your team can improve forecasting, streamline inventory levels, and ensure every asset is accounted for and performing at its best.