

### **SNS COLLEGE OF ENGINEERING**



Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA - AICTE and Accredited by NAAC - UGC with 'A' Grade Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

### DEPARTMENT OF MANAGEMENT STUDIES

SUBJECT NAME & CODE: 23BAT347 - REVERSE AND OUTSOURCING LOGISTICS

YEAR/ SEMESTER: II MBA / IV SEMSTER

**UNIT 1: Introduction to Reverse Logistics** 

**Topic:** Role of Technology in Reverse Logistics



### **Role of Technology in Reverse Logistics**



#### **RFID in Tracking Returns**

- 1. RFID Tagging for Returns
- 2. Automated Tracking and Sorting
- 3. Real-time Location Tracking
- 4. Improved Inventory Management

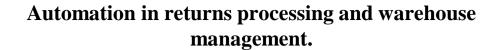
#### **Blockchain for Transparency and Security**

- . Decentralized Data Storage
- 2. Enhanced Transparency in Return Process
- 3. Secure Transaction Tracking
- 4. Prevention of Fraudulent Returns

#### AI in Returns Management

- 1. Predictive Analytics for Return Forecasting
- 2. Automated Quality Inspection
- 3. Intelligent Routing of Returned Products
- 4. Customer Behavior Analysis and Insights







#### 1.Automated Returns Processing

Barcode/RFID Scanning: Track returned items with scanners (e.g., barcode readers).

Automated Sorting Systems: Sort products based on condition (e.g., conveyor belt systems).

#### 2. Returns Authorization Systems

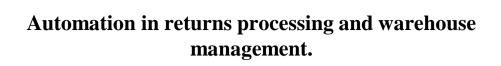
Online Return Portals: Customers initiate returns through web platforms (e.g., Amazon return process).

Automated Approval Workflows: Automatic verification of return eligibility (e.g., return policies integrated with CRM systems).

#### 3. Integration with Inventory Management Systems

Real-time Stock Updates: Automatically update stock levels after returns (e.g., SAP integration).

Automated Re-stocking: Restock items directly into inventory if resellable (e.g., using barcode scanners for immediate updates).





#### **4.A**utomated Inspection and Quality Control

Visual Inspection with AI: Use AI to identify defects in returned items (e.g., AI-powered cameras for damage detection).

Automated Testing Stations: Automatically test electronics and appliances (e.g., automated diagnostic stations for returned laptops).

#### 5. Robotic Process Automation (RPA) for Returns Data

Automated Data Entry: RPA tools for entering return details (e.g., data entry automation for return forms).

Return Reason Analysis: Automate categorization and analysis of return reasons (e.g., using AI to categorize defects).



# Automation in returns processing and warehouse management.



#### **6.**Automated Return Label Generation

Prepaid Return Labels: Automatically generate return shipping labels for customers (e.g., Shopify return management).

Return Shipping Notifications: Notify customers about return status (e.g., automated email notifications with tracking links).

#### 7. Warehouse Automation for Returned Goods

Automated Guided Vehicles (AGVs): Use robots to transport returned items within the warehouse (e.g., Kiva Systems for Amazon).

Robotic Pick and Pack: Robots pick returned items for restocking or repair (e.g., autonomous picking systems in warehouses).



# Automation in returns processing and warehouse management.



#### **8.**Automated Refurbishment and Repair Processes

Automated Testing Lines: Automated systems to test and repair returned products (e.g., automated repair lines for smartphones).

Robotic Assembly for Refurbishment: Use robots for disassembly and reassembly of returned goods (e.g., automated smartphone refurbishment).

#### 9. Machine Learning for Predictive Analytics

Return Trend Forecasting: Use machine learning to predict return volumes and trends (e.g., AI predicting seasonal return spikes).

Demand-based Restocking: Automate inventory adjustments based on predicted returns (e.g., Albased stock management systems).



## Automation in returns processing and warehouse management.



#### **10.** Automated Reporting and Analytics

Real-time Reporting Dashboards: Use automated systems to generate real-time return performance reports (e.g., Tableau dashboards for returns analysis).

KPI Monitoring: Automatically track KPIs such as return rates and processing times (e.g., using BI tools like Power BI for returns analysis).



## **RECAP**

**QUESTIONS???** 

**THANK YOU** 

