Esi WMS

Your integrated warehouse logistics flow management suite

ESiWMS

Warehouse Management System

The ESI-WMS suite is a **modular** solution for managing internal warehouse logistics processes.

The operator interfaces are designed for the management of raw material, component and finished product warehouses, guaranteeing a high degree of customization to meet the needs of various sectors (Pharmaceutical, Fashion, Food, Chemical, Furniture, Manufacturing).

Our experience in the field has enabled us to develop a standard protocol for interfacing with the main field devices and handling systems, managed by the main brands (Siemens, Omron, Rockwell, Phoenix, Wago, ecc.).

PROCESSES MANAGED

RECEIVING GOODS

STORAGE

WCS

HANDLING

MISSIONS OPTIMIZATION (AI)

PF/SL DEPOSIT

LOCATION MAPPING

SHIPMENTS

Esi WMS

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OPERATIVE FLOW

01
Receiving goods
Suppliers/Customers, Inspection

02
Storage
Automated and/or manual

03
Handling
Picking, Kitting, Missions

04
PF/SML deposit
Inspection/ Release

05
Shipments
Picking, Packaging, Delivery plan

ACTIVITIES

| Receiving | INPUT/OUTPUT FORECASTS | MANAGEMENT OF RECEPTION SESSIONS | MATERIAL IDENTIFICATION AND LABELLING | QUALITY CONTROL | RETURNS FROM CUSTOMERS / RETURNS TO SUPPLIERS |

| Handling | TRANSFER ORDER MANAGEMENT | MISSION PROCESSING | PICKING (FIFO, FEFO) | KITTING |

| Deposit | INTEGRATION WITH MES SYSTEM | SAMPLING FOR QUALITY CONTROL | FINISHED PRODUCT RELEASE |

| Shipment | INTEGRATION WITH ERP SYSTEM | ORDER PREPARATION | BAYS MANAGEMENT | LOADING AND INVOICING |

ESI|WMS MODULS

MASTER DATA AND CONFIGURATION

MASTER DATA MANAGEMENT — (MDM) → REGISTRY

AUTH MANAGER — Setting Users, Roles, Permissions

WCS

AUTOMATION MANAGER — Management and integration with automated warehouses

RECEPTION AND STORAGE

RECEIVING MANAGER — Identification of articles, bill/order reconciliation, quality control, loading into stock, returns management

STOCK MANAGER — Definition of rules for storage, sub-stock, quarantine, samples and references

REPORT

REPORT — Management of reporting and statistical analysis

HANDLING

ORDER MANAGER — Transfer order management module

PICKING MANAGER — Manages picking missions and supports the operator in picking activities

TRACKABILITY

RFID MANAGER — Automatically track material movements with RFID technology

SHIPPING

SHIPPING MANAGER — Shipment management from order preparation with picking missions to the management of loading bays

INVENTORY

INVENTARIO — Mobile module for physical inventory management also in dynamic mode

MASTER DATA MANAGEMENT (MDM)

Module for WMS configuration and master data

Through the MDM it is possible to configure all the entities to be managed by the system.

- Establishment master data

- Department master file

- Line master data

- Quality status

- Locations

- Devices

- Printers

- Storage rules

- Underlay levels

- Label layout

- Cold chain parameters

- Alarms

- From ERP:
  - ➢ Supplier/customer master data
  - ➢ Articles
  - ➢ Product groups/subgroups
  - ➢ Rotation classes
  - ➢ BOM

RECEVING MANAGER

Incoming goods management module

When good enter in the warehouse, the WMS system allows to you:

- **Identify the items** by reading the barcode or RFID tag affixed to the pallet;
  - ➢ If goods don't have one, the WMS creates a new identification code and prints the label to be affixed to the goods.
- **Link the goods** with the relevant purchase order and delivery note;
- Make **quality and quantity checks**;
- **Load the warehouse** (physically and accounting);
- Manage any **returns** from customers/supplier.

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STOCK MANAGER

Storage rule management module

ESI-WMS supports the storage phase by managing appropriate storage rules.

Feature:

- Goods storage rules

- Sub-stock management

- Quarantine management

- Samples and references management

ORDER MANAGER

Module to manage transfer orders

Features:

- Manual order creation

- Automatic, scheduled, manual activation

- User assignment

- Priority management and grouping rules

- Order management (*FIFO, LIFO, FEFO logics*)

- Integration with vertical warehouses

PICKING MANAGER

Module to manage picking activities

Features:

- Suggest pick-up location, item and quantity to be picked up

- Withdrawal item/material/LU

- Supporting the kitting phase (based on BOM)

- List of LU ready for delivery

- LU recall by production (Kanban)

- Errors management

MIX UP MANAGER

Module for production framing control

Features:

- Material compatibility check with the current order BOM

- Batch block

- Alarms management

- Dashboard

Technologies used:

- Scanner barcode

- RFID

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SHIPPING MANAGER

Module for the management of shipping orders to end customers

Features:

- Creation of shipping list
- Packing list generation
- Reading parcels set up in the bay
- Unexpected material checks
- Automatic order closure

Technologies used:

- Barcode reader
- RFID gates on loading bays
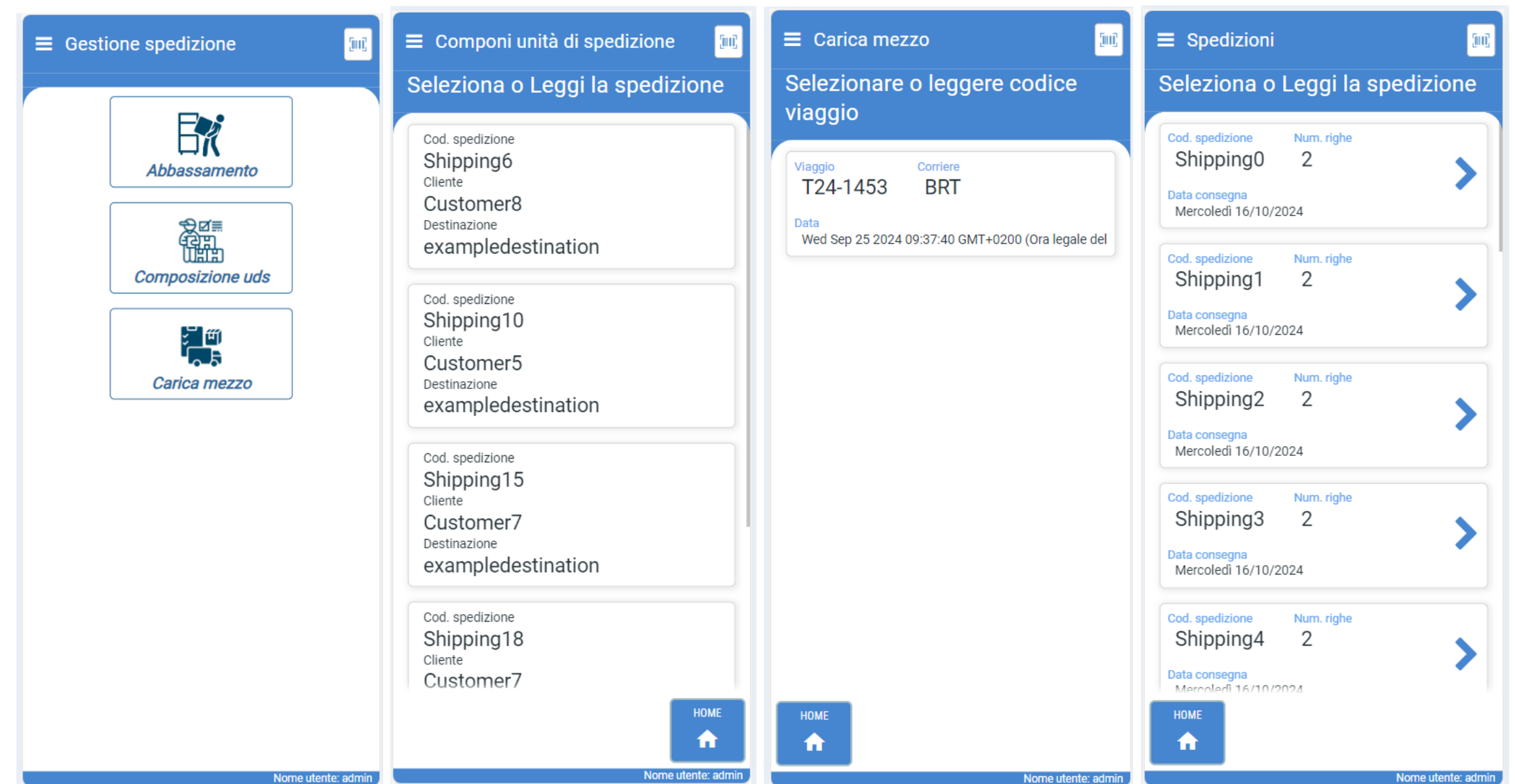
SHIPPING MANAGER

Shipment management funnel

- Creating/receiving dispatch missions

- Releasing shipments

- Preparation (grounding)

- LU prepared
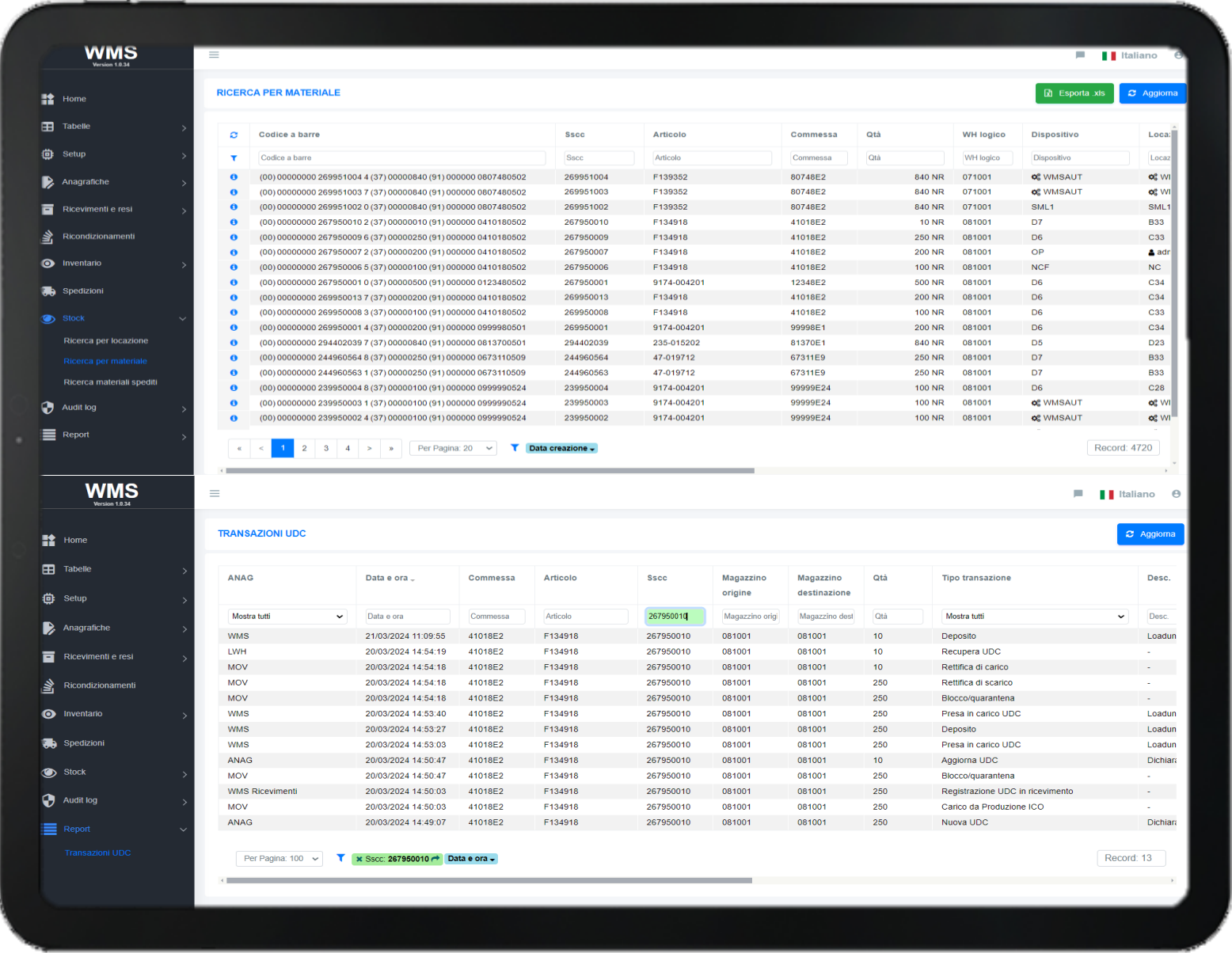
- LU loading in progress

- LU loaded

SHIPPING MANAGER

Mobile

Features:

- Lowering LU

- Composition

- Vehicle load
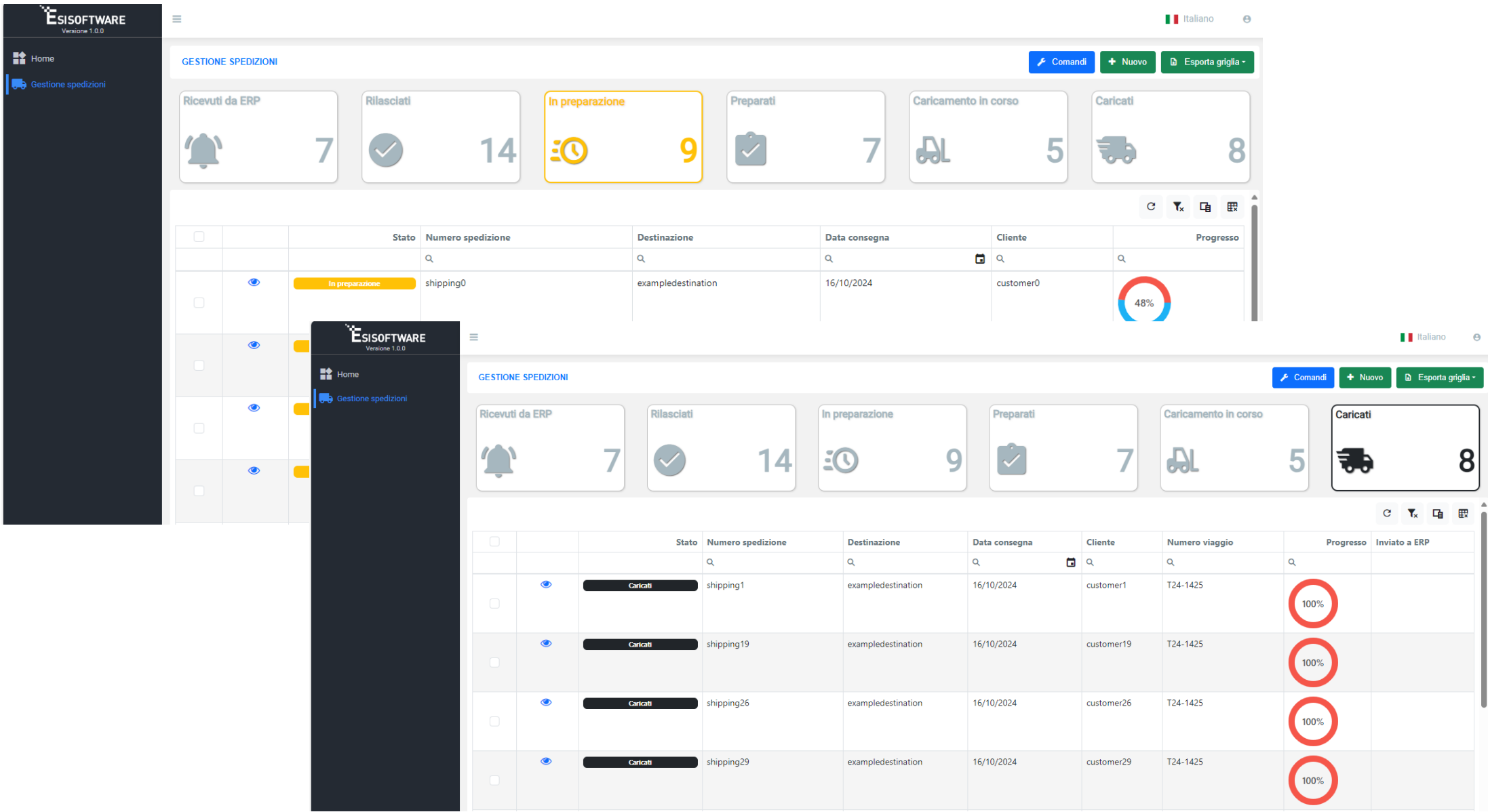
REPORT

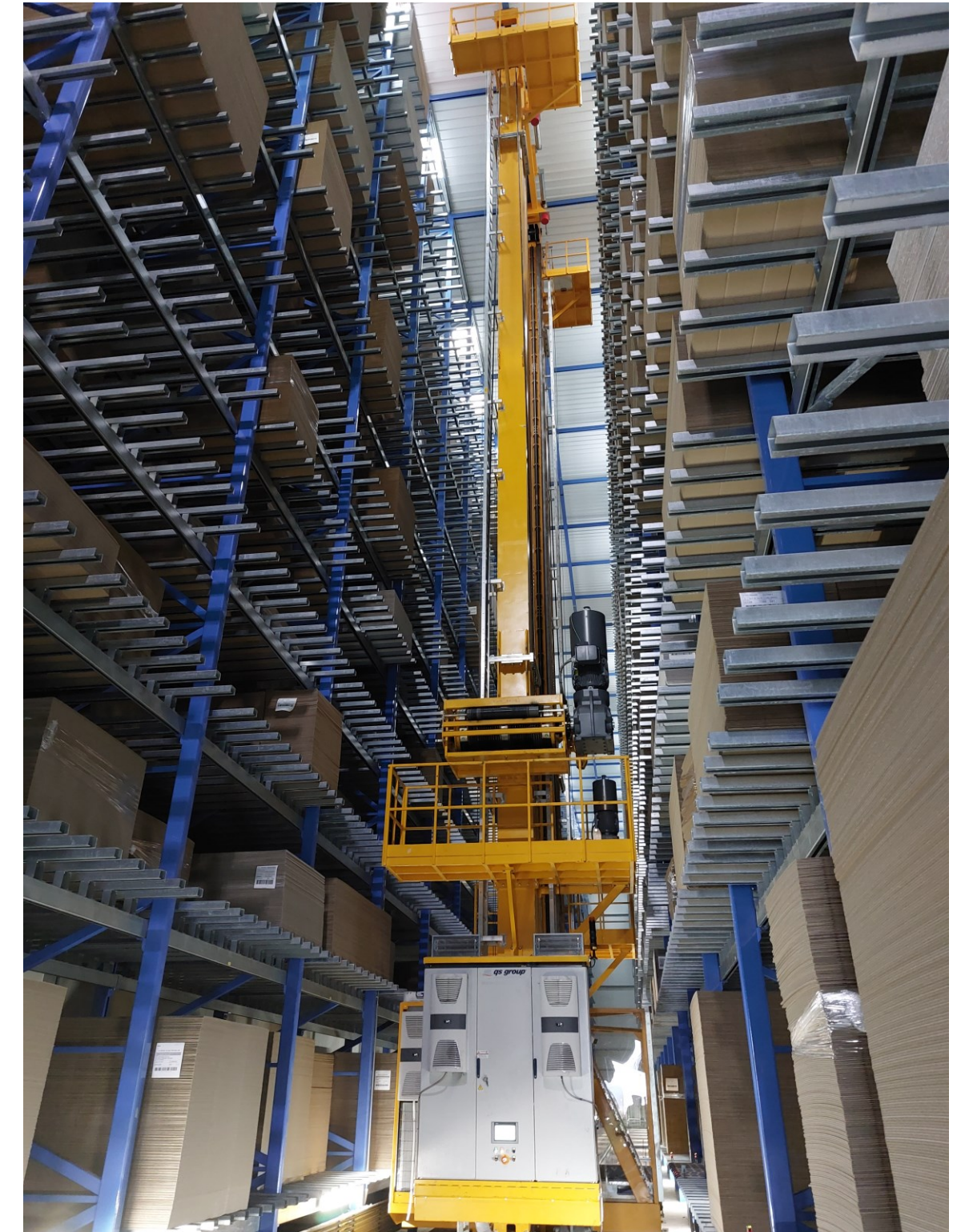## Advanced reporting module

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AUTOMATION MANAGER

Module for integration with field devices

Features:

- Check conditions for received **unloading** requests

- Check conditions for received **load** requests

- Exchange messages with **PLC**
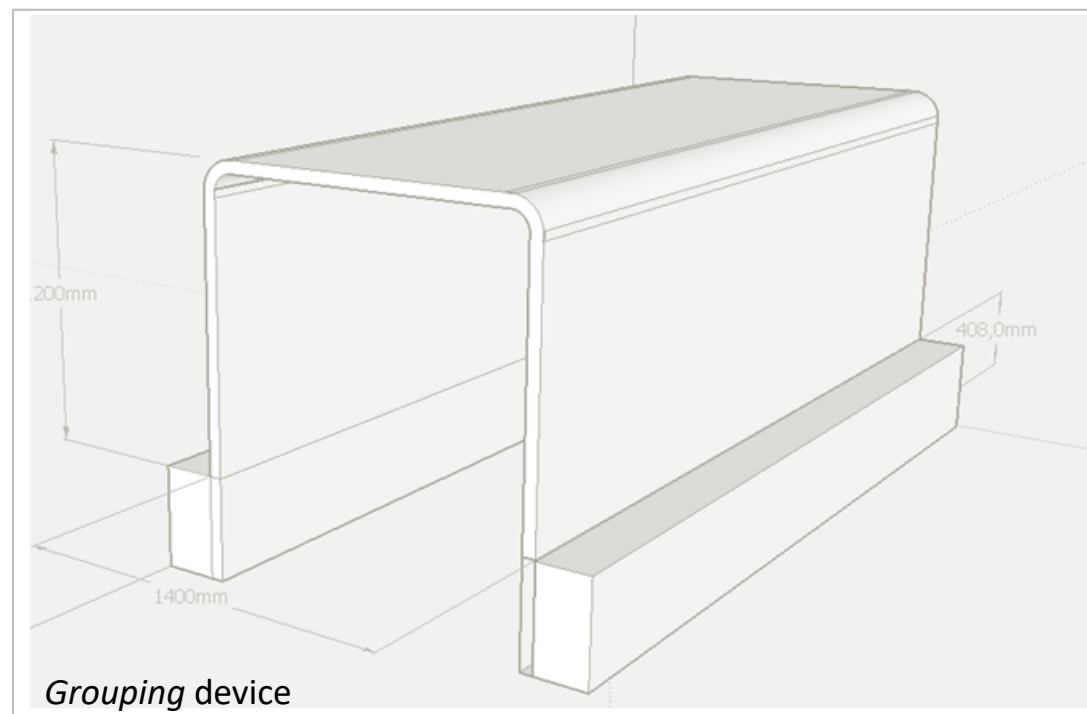
- Integration with **AGV**, LGV, AMR

RFID MANAGER

Module enabling automatic tracking of material movements in the warehouse

Features:

- RFID label and printer management
- RFID Data collector
- RFID Supervisor

Tipologia di impianti:

- RFID gates
- RFID tunnel
- Grouping device
- Hoods

Grouping device

Varco

Antenna a soffitto

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RFID MANAGER

Real Time tracking

```
POC EXECUTION

DEFINITION OF ENVIRONMENTAL
PARAMETERS
```
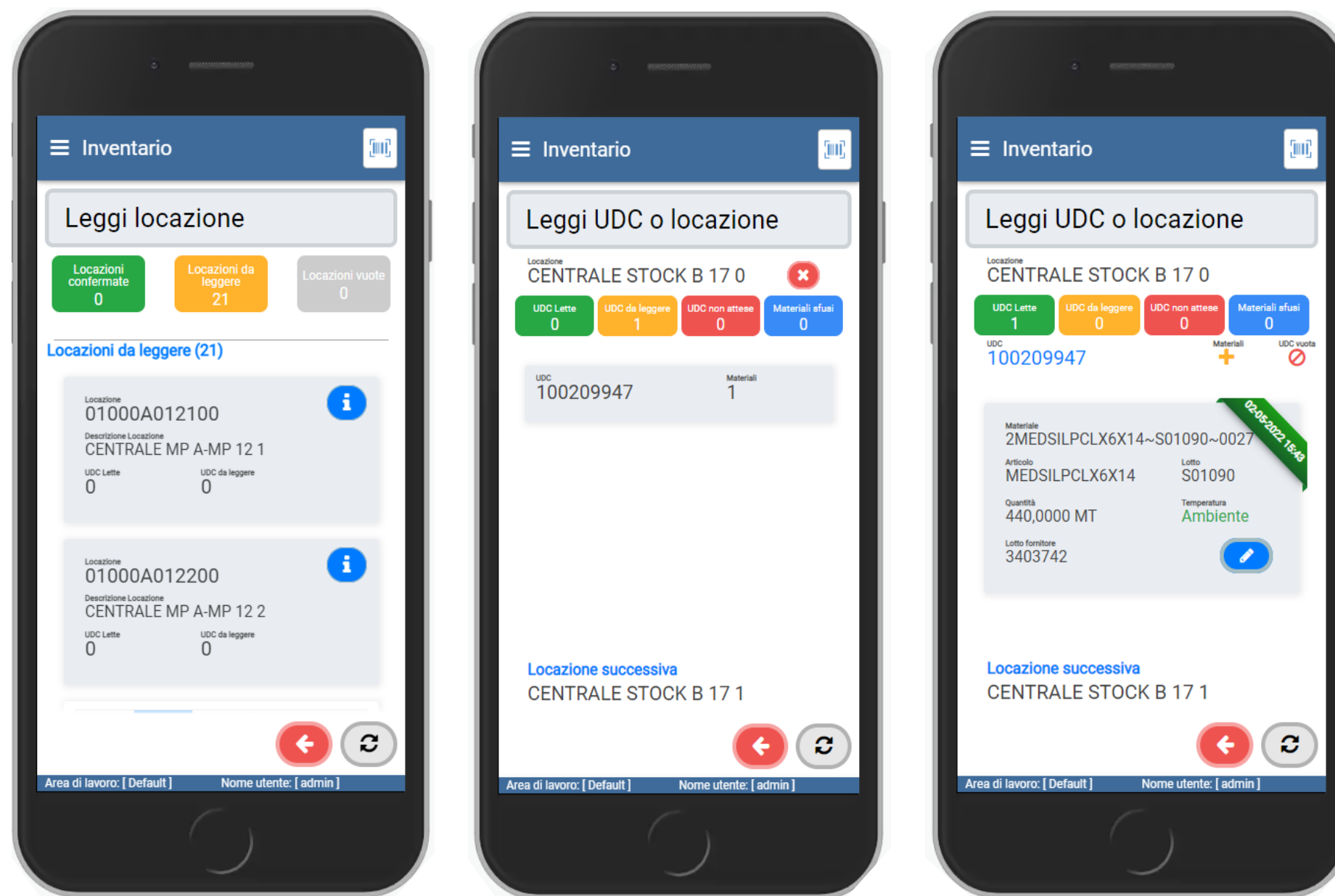→
```
TAG TYPE SELECTION
```
→
```
ANTENNA AND READER TYPE
SELECTION
```
↓
```
ON-SITE INSTALLATION AND
INTEGRATION WITH LEGACY
SYSTEMS
```
←
```
ELECTRICAL AND MECHANICAL
DESIGN

RFID GATE
```

INVENTORY

Module to perform stock inventory

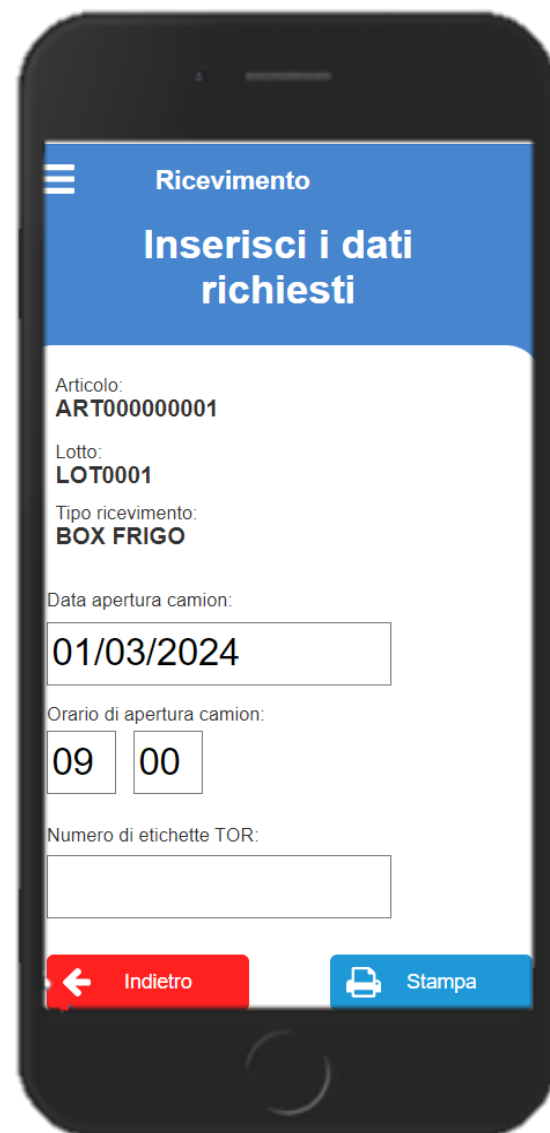**WORKING MODALITY:**

- **Autoconfirm**

Reading the LU code automatically confirms the contents of the pallet.

- **Manual**

The system requires both the reading of the barcode and the manual confirmation of the materials present (*barcode reading of materials optional or required*).

TOR (*Time Out of Refrigeration*)

Module for product control in refrigerated areas
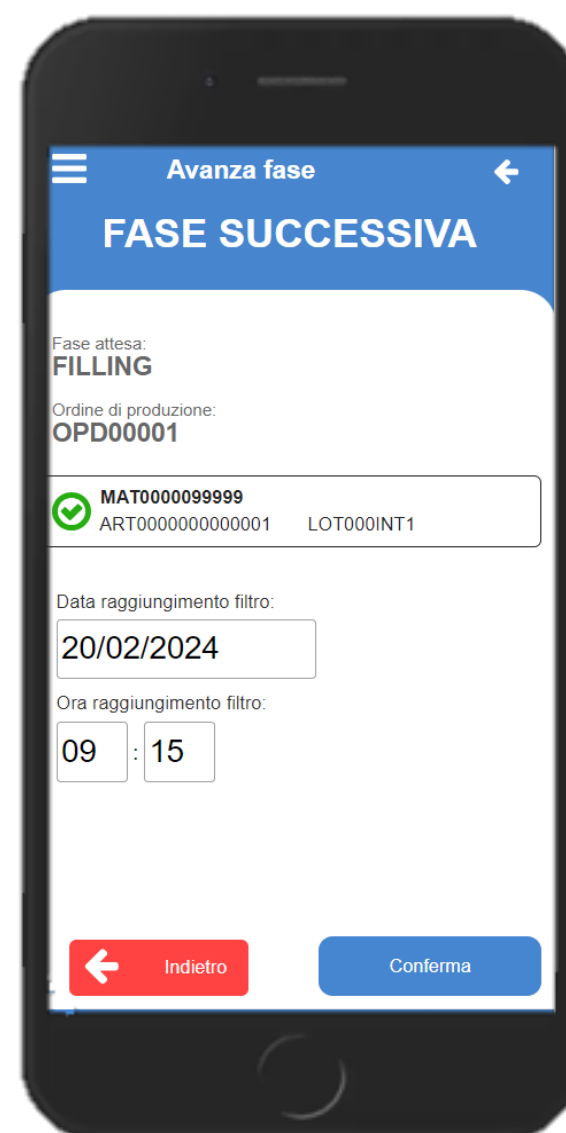
Features:

- Tracking entry-exit refrigerated area

- Counting TOR (*Time Out of Refrigeration*)

- Counting TIR (*Time In Refrigeration*)

- Counting TOF (*Time Out of Freezer*)

- Allarms management

- Reporting

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