

STORAGE & LOADING

PRODUCTION
AREA

PRODUCTION
STORAGE AREA

Collection
Truck

Collection
Truck

LOADING GATE 1

LOADING GATE 2

STORAGE GATE 1

Platform for
viewing loading

Storage Area
for Recalls

1

LOADING BAY

2

LOADING BAY

3

LOADING BAY

5

LOADING BAY

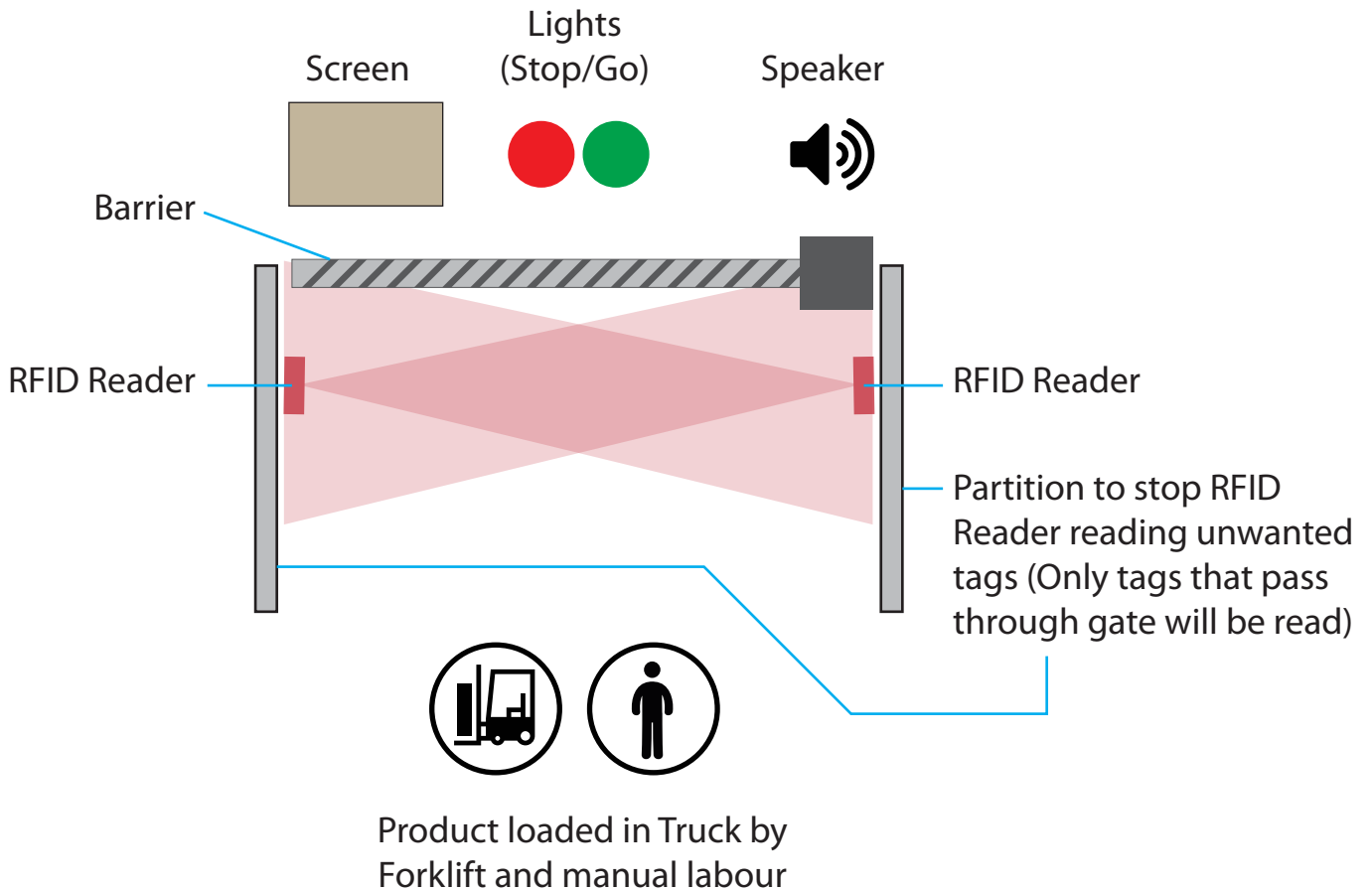
4

LOADING BAY

6

LOADING BAY

GATE WITH RFID READER



Loading Gate

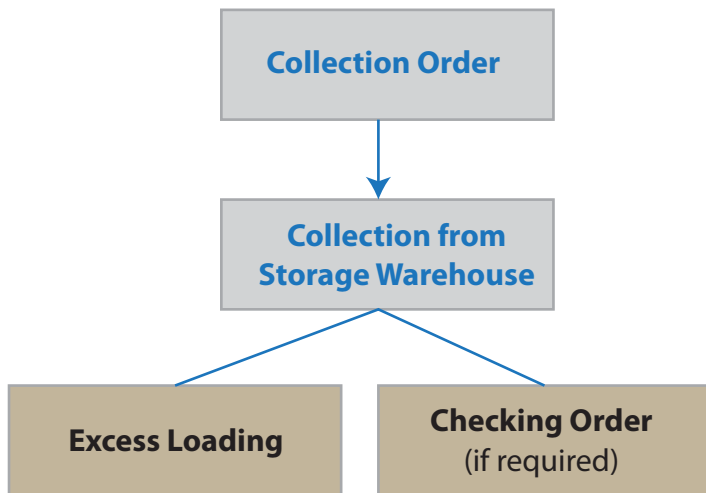
User will scan Collection Order - his will load order in system.

- Available Loading gates will be displayed for user to select. Selecting Loading gate will:
 - Show on [Gate Screen/monitor](#) - Order Number, Client Name, Order details (Type of product, Package size & Quantity). Show number of product quantity loaded (real time RFID counting) & Loading Bay (see [Loading Bay Tracking](#))
 - Show Green Light to show RFID Reader is active
 - Barrier gate will be raised

Gate: RFID Readers not active or Off

When RFID Reader is NOT active - show red light, Barrier gate will be closed

LOADING PROCESS



Collection Order

User makes Collection Order request using Online Form.

User provides:

- Order Number
- Date
- Client Name
- Collection by
 - Name
 - Identification
 - show text: Please attach copy of Identification
 - Vehicle Registration
- Checked by (name)
- Product name & quantity
 - User will select product name (see [Products to Track](#)) & provide Quantity. After completing online form, user will [print](#) Collection Order (this will print bar code & QR code on form). •Show/include the following text on printed form:
 - Checked by *Name* Signature & Stamp_____
 - Collected by *Name* Signature _____

Collection from Storage Warehouse

User will scan Collection Order - this will load order in system.

- Available [Loading gates](#) (Loading Gate 1, Loading Gate2, etc) will be displayed for user to select. Selecting Loading gate will:
 - Display on Gate [Screen](#) - [Order Number](#), [Client Name](#), [Product details](#) (Product description & Quantity for each product). Product quantity loaded will be shown in real time as counted by RFID reader)
 - Show [Loading Bay](#) (see [Loading Bay Tracking](#))
 - Show Green Light
 - Barrier will be raised

Excess Loading

When Order quantity for product is reached - if more product is counted then red light will show and alarm will sound. Show Product name, Package, Quantity in Red + Show Excess Quantity e.g +5

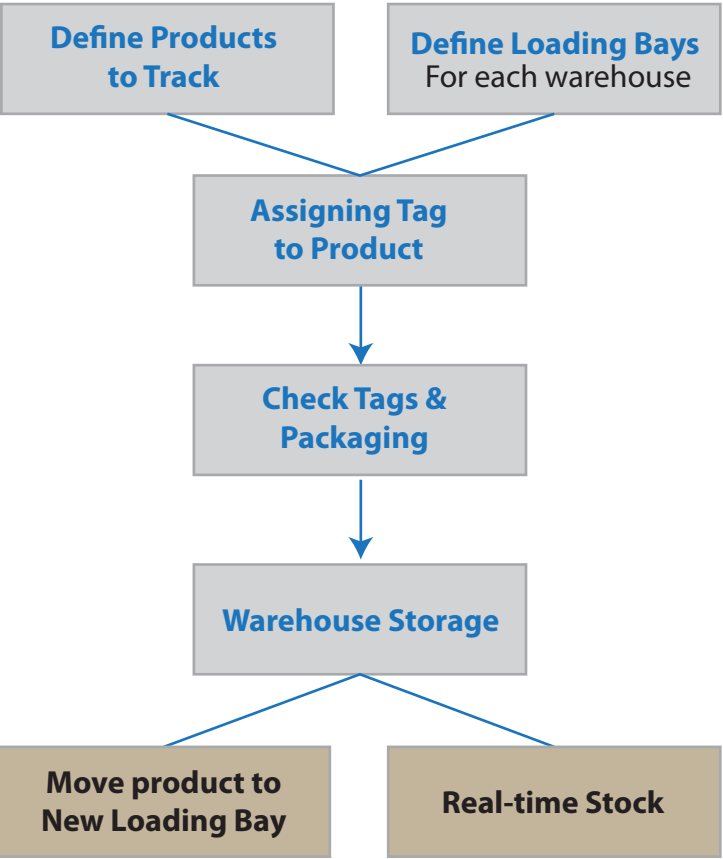
- Excess product quantity is called back into storage and using hand held RFID reader user will scan RFID tag to restock:
 - User selects [Excess Loading](#) from menu - this will list open/active orders. User selects [Order no. & client name](#), then scans tag. Total Tag count showing product & quantity is displayed with buttons Recall Stock, Rescan, Cancel
 - Recalled stock will adjust quantity recalled in Order

Check Order (Check order after Loading)

User can use Hand-held RFID Reader to confirm loading if required.

- User selects [Check Order](#) from menu - this will list closed orders. User selects [Order no. & client name](#), then scans products. This will list order details (Type of product, Package size & Quantity) and Scanned quantity next to order quantity. Quantity over/under will be displayed in red. Matching Quantity will be displayed in green.

STORAGE PROCESS



Define Products to Track

This Page will list all products that require Tracking. Show text: Define Products that need to be tracked with RFID tags

- show [search field](#) and + (add) button
- list products in alphabetic order
 - Next to each button show edit button- clicking edit button will show dropown menu: [Remove](#), [Edit](#). Remove will delete product (show alert popup window: [Remove this item](#) - show buttons: [Remove](#) and [Cancel](#)). Edit button - user can edit name of product
- [Add](#) button - show field in popup window:
 - [Enter product name and description](#) (Example: Tom’s Animal Feed 5Kg)
 - [Expiry](#): [input field] [Months](#)

Define Loading Bays

Loading Bays will be marked and assigned a number (Loading Bay 1, Loading Bay 2, etc.)
User can assign loading bay in system as follows:

- [Warehouse/Store name](#): [input field - by default show as Warehouse 1],
- Show + ([add](#)) button - clicking will add another warehouse with default name as Warehouse 2, 3 etc.
- Selecting Warehouse name will show loading bays:
 - [Loading Bay](#): [input field - by default show 1]. Show + ([add](#)) button - clicking will add another Loading bay - by default show Loading bay as 2, 3, 4 etc
 - Assign Product to this loading Bay: [[Select...](#)] - clicking will list All products in alphabetic order. Show first option as [Add Product...](#) (see [Products to Track](#))

Assigning Tag to Product

User will use Hand-held RFID Reader to assign Tag to product.

- User selects [Assign Tag to Product](#) from menu - this show:
- [Select Product](#): [menu] list product name with description (see [Define Products to Track](#)) in Alpha-betic Order. Show search field to dislay matched products as user types product name. Selecting product will show:
 - [Production Date](#): [menu: [Daily](#), [Monthly](#)]
Monthly - records date on monthly basis (month, year). Daily records date on Daily basis (Day, Month, Year). By default show [current](#) Day or Month as selected. Show [Edit](#) button to set custom Date/Month
 - [Number of Products per Tag](#): [number input] number of products in bag or box. By default show [1](#). Show [Edit](#) button to set custom value.
- Show text: [Scan Tags to want to assign to this product](#) + [Scan](#) button. Tags scanned will be assigned to this product as follows:
 - RFID tags for Theft prevention/Security (without storage chip): Scan TID values and assign to product name in software.
 - RFID tags (with chip): Scan and set EPC values and assign to product name in software
- Tags can be marked with different coloured label sticker to recognise which Tag will used for each product.

Check Tags & Packaging

User will use Hand-held RFID Reader to check Tag for each package or bag. Show Settings - clicking will show:

- [Set Number of Tags per package](#): [number in put field]

- Scanning product bag will show:

- [Product description](#)
- [Expiry date](#)
- [Tags/product per package](#): x- if this number is [more](#) or [less](#) than that specified in settings than show [alert](#) with sound

Warehouse Storage

User will use [Storage Gate](#) (similar to [Loading Gate](#))

- When Reader is active, show green light and gates barrier will open.
- Reader will read Tag and record info (product quan- tity, Type & package, Production date, Loading Bay number). Screen will display [Loading Bay number](#) to store product.

Move product to New Loading Bay

Product will be stored in specified Loading bay shown by system (see [Wahrehouse Storage](#)). If loading bay is full then user will select from menu: [Move product to New Loading Bay](#) - this will list loading bays for required product and highlite next loading bay - user selects loading bay (user can selected another loading bay if equired). Show text: [Scan Product to move to new Loading bay](#). User scans required product and product is placed in New loading bay (system records scanned products to new Loading bay)

Real-time Stock

Fixed RFID readers for measuring product stock in Loading Bays in real time. User will select Real-time Stock in menu - this will display:

- Real-time stock for each product.
- Use collections + Recalls (see [Excess Loading](#)) and see if remaining stock is tallying with Real-Time Stock. If Less show alert

REPORTS

Product Reports

Staff Reports

Product Reports

System will show the following reports for each product Type:

- **Number of Product Packages prepared Today**
 - Show monthly graph (product per day)
 - Show yearly graph (product per month)
- **Number of Product Packaging with error Today**
 - Show monthly graph (product per day)
- **Product expiring in next 3 months**
 - Show monthly graph (product per day)
 - Show yearly graph (product per month)
- **Collections Today** (for each product type)
 - Show monthly graph (collections per day)
 - Show yearly graph (collections per month)
 - Average collection per Day, Week & Month
- **Excess loading Today** (for each product type)
 - Show monthly graph (collections per day)
 - Show yearly graph (collections per month)
- **Warehouse Storage** (for each product type)
 - Show monthly graph (Storage per day)
 - Show yearly graph (Storage per month)
 - Average storage per day, Week, Month (per warehouse)- for each product type
 - Average Total storage per day, Week, Month (for each product type)
 - Total current Storage (for each product type)
 - Total Storage per warehouse (for each product type)
 - Average storage per Loading Bay (per warehouse)

Staff Reports

System will show the following reports:

- **Number of Product loaded by each Staff** (morning and afternoon session) (see [Loading & Storage labour](#))
 - Show Weekly graph (per staff)
- **Number of Product Storage by each Staff** (morning and afternoon session) (see [Loading & Storage labour](#))
 - Show Weekly graph (per staff)
- Time when staff reported to work (via RFID Access Cards) and leaving time of staff

STAFF & LABOUR

User can set RFID tag for each loading/storage staff (name & ID number) and set or assign number of bags for each staff (Manual loading Staff can be assigned 1 bag, forklift operator can be assigned 15 bags)

- As staff passes loading gate - using Staff Tag + Product tag you can calculate and show number of product loaded by each loading staff

Registering Staff

- Permanent Staff can be provided with RFID cards.
- Manual Labour Staff will be provided with RFID Cards. Staff will leave National ID card at reception - Reception will enter National ID number and Name using online form to register user.
- User can set Access/Expiry times for card and access gates via online form
- RFID cards will allow staff to access required gates/doors and track parking entry & exit times

ALERT NOTIFICATION

User can email alert notifications to required staff. user can enter name and email of staff members that will receive alert notifications.

EQUIPMENT

- Hand Held RFID long range Reader for measuring product in truck (see [Checking Order](#))
- Hand Held RFID Short range Reader for measuring packaging (see [Check Tags & Packaging](#))
- Fixed RFID Reader for Loading/Storage Gate
- Fixed RFID Reader for Loading Bay for measuring Stock in real-time.
- Parking Gate with RFID Reader
- Door Locks with RFID Reader
- Mini Barrier Gate or Access Gate for staff entry

SOFTWARE

Show Menu for required user to access via RFID Reader or Online for the services shown below:
(User may need to login to access some menus/services)

LOADING

- **Collection order** - see [Collection Order](#)
- User can **Scan Collection Order** - this will show order on gate screen, loading bay & manage gate - See [Collection from Storage Warehouse](#)
- **Excess Loading** - see [Excess Loading](#)
- **Check Order** - see [Check Order](#)

STORAGE

- **Define Products to Track** - see [Define Products to Track](#)
 - **Assigning Tag to Product** - Specify Date Type and Scan TID value of Tags. Tags scanned will be linked to Product & production date in software - see [Assigning Tag to Product](#)
 - **Check Tags & Packaging** - When packaging user scans Tag to see if Tag TID matches assigned product and checks to ensure that a bag does NOT contain 2 Tags - see [Check Tags & Packaging](#)
- **Warehouse Storage** - Scanning bags will count product type & size and display on screen the Loading bay that product will be stored - see [Warehouse Storage](#)
 - **Define Loading Bays** - mark loading bays and define loading bays for holding different product or size. System will track number of bags per loading bay - see [Define Loading Bays](#)
 - **Move product to New Loading Bay** - when loading bay is full then user will scan remaining bags and move to next loading bay - see [Move product to New Loading Bay](#)
 - **Real-time Stock** - measures stock for each loading by using Fixed RFID readers - see [Real-time Stock](#)

STAFF

- **Staff & Labour** - User can register staff via online form and set Access gates and Access/Expiry times via online form. This can be use to track Entry/Exit Times and product bags loaded by staff - see [Staff & Labour](#)

ALERTS

User can set alerts to be sent to required staff via email, SMS alert (SMS API will be provided) - see [Alert notification](#)

REPORTS

user can view & print Staff and Product reports online as described in Reports - see [Reports](#)