i-collector
The missing link

WORLDS FIRST AUTOMATED ITEM PICKING SYSTEM

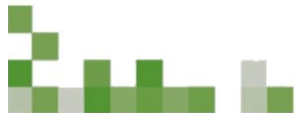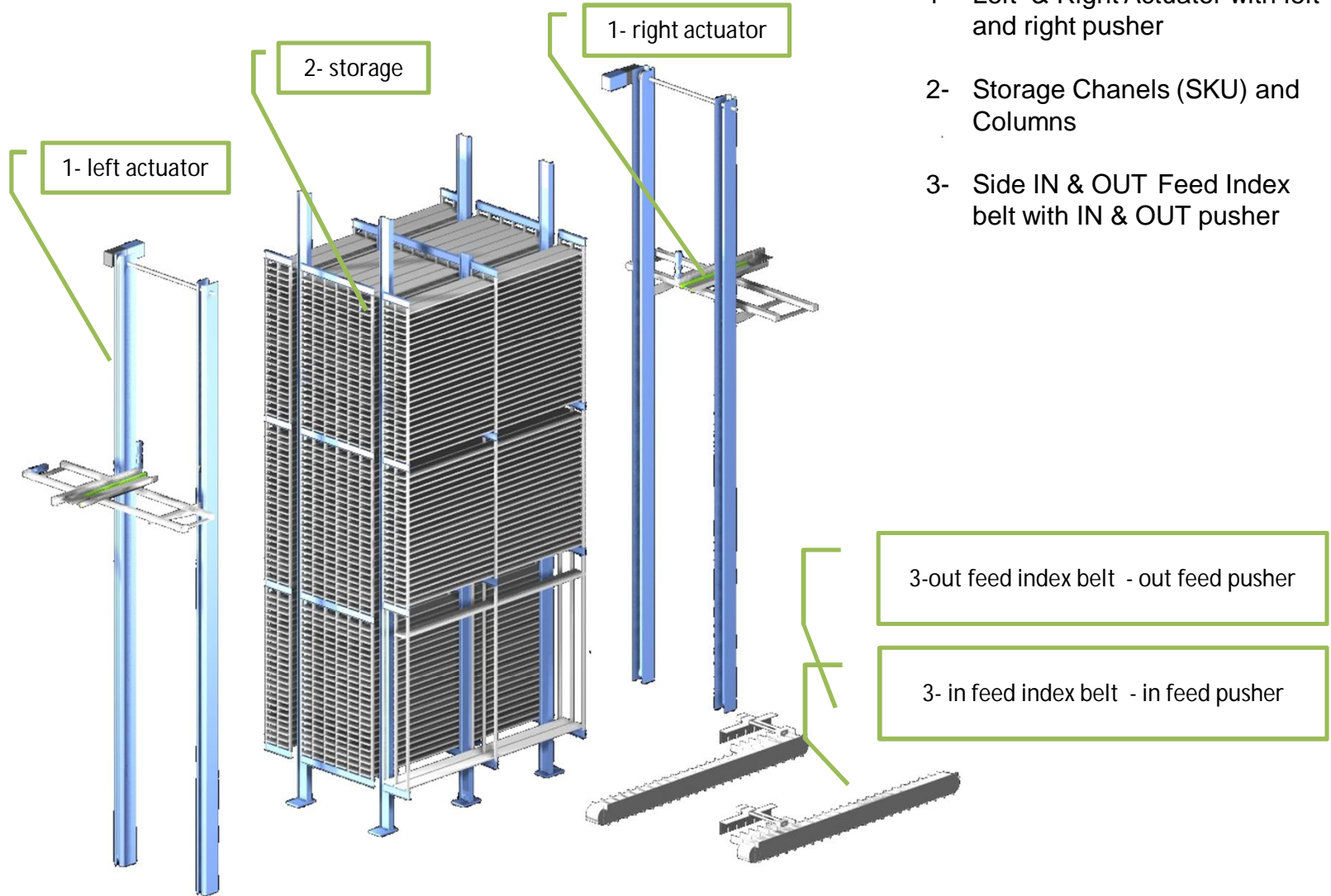# TECHNICAL PRINCIPLE

4 basic components (proven technology)

1- right actuator

2- storage

1- left actuator

1- Left & Right Actuator with left and right pusher

2- Storage Chanels (SKU) and Columns

3- Side IN & OUT Feed Index belt with IN & OUT pusher

3-out feed index belt - out feed pusher

3- in feed index belt - in feed pusher

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tray & rack
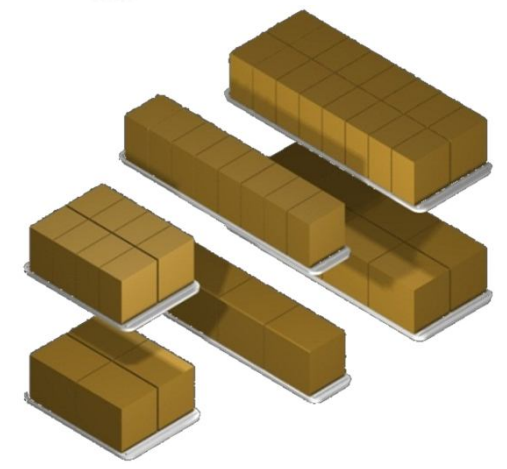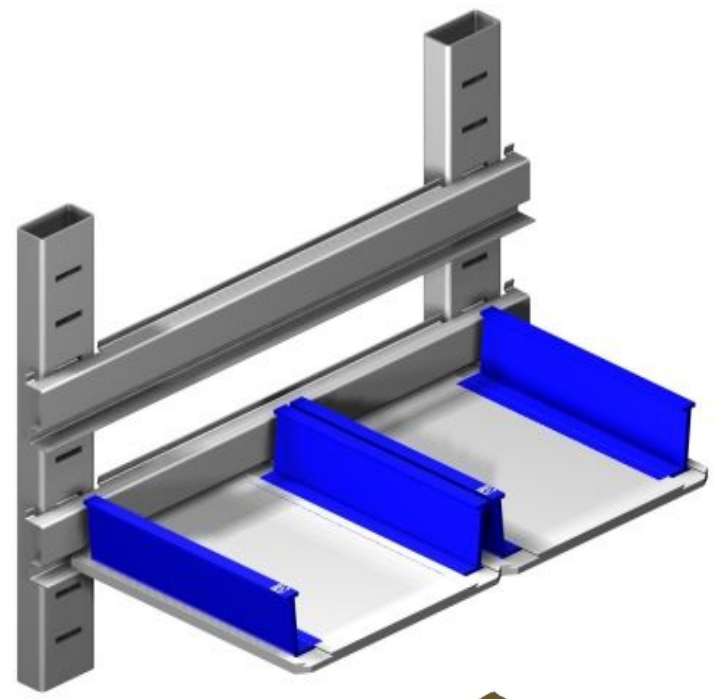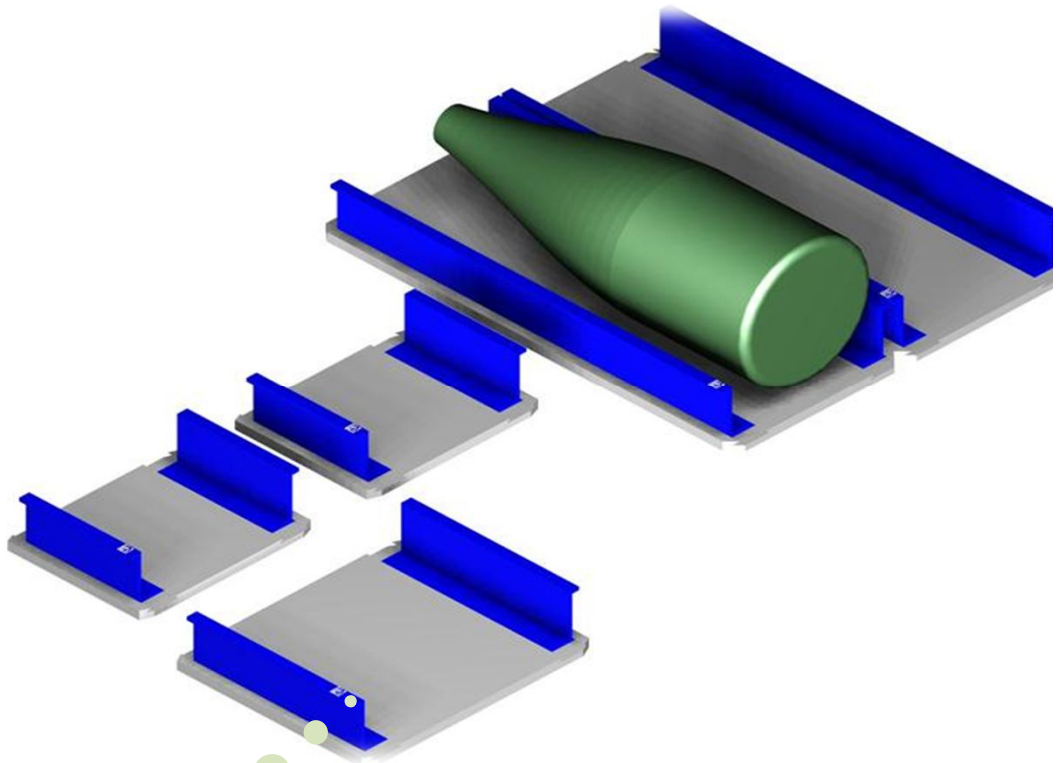
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batch In & mixed Out or the other way arround

batch in

mixed out

mixed in

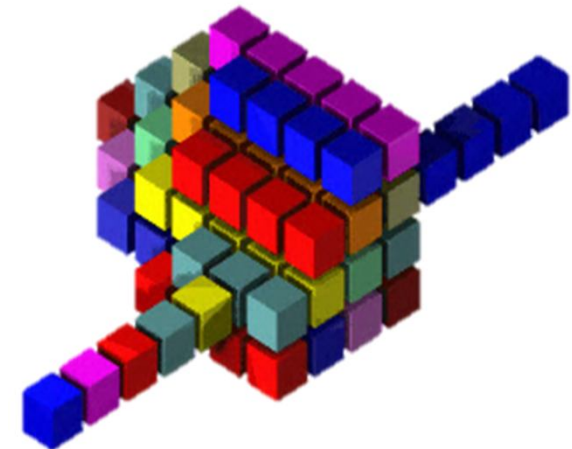batch out

mixed in

mixed out
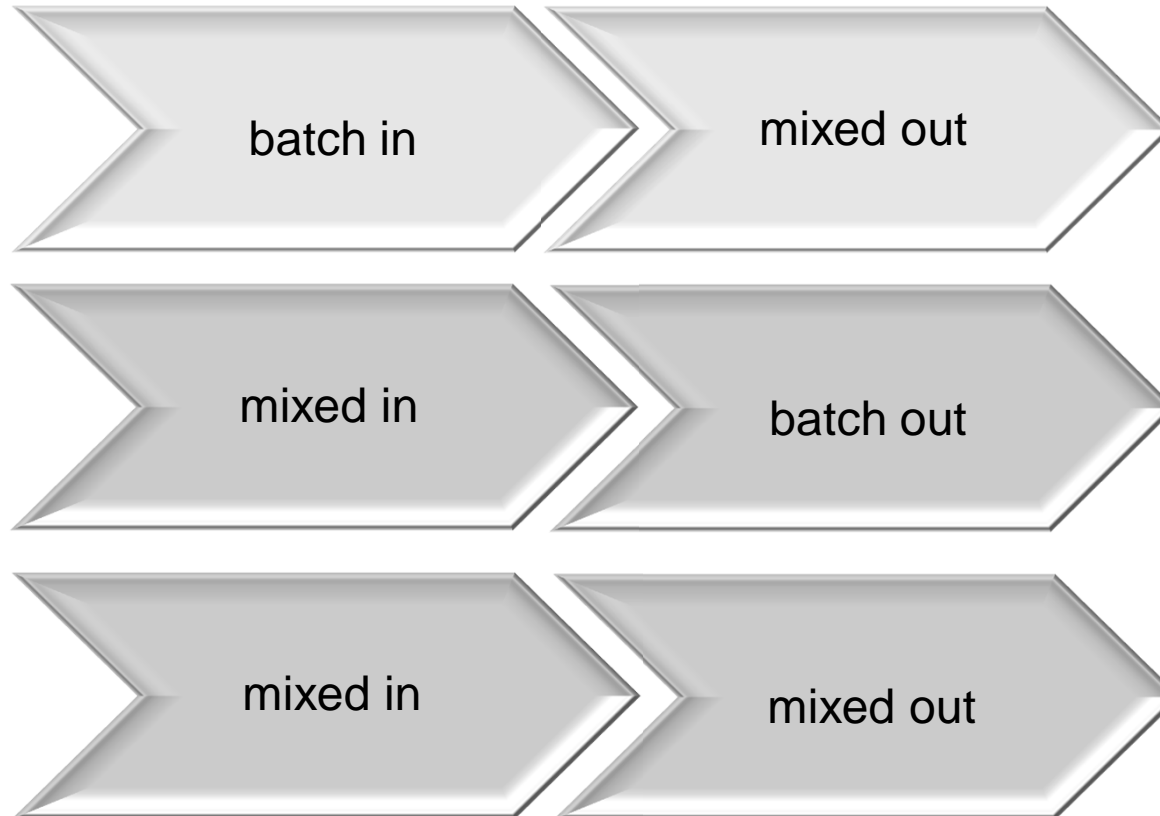
The i-Collector is a dynamic intelligent retriever buffer system

Products are in the buffer mostly for a short period

The i-Collector is the solution for High to Medium moving Items, to a wide Range of products

It lend itself to robotic automation on the Input and the Output side

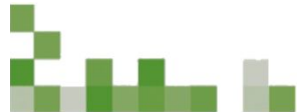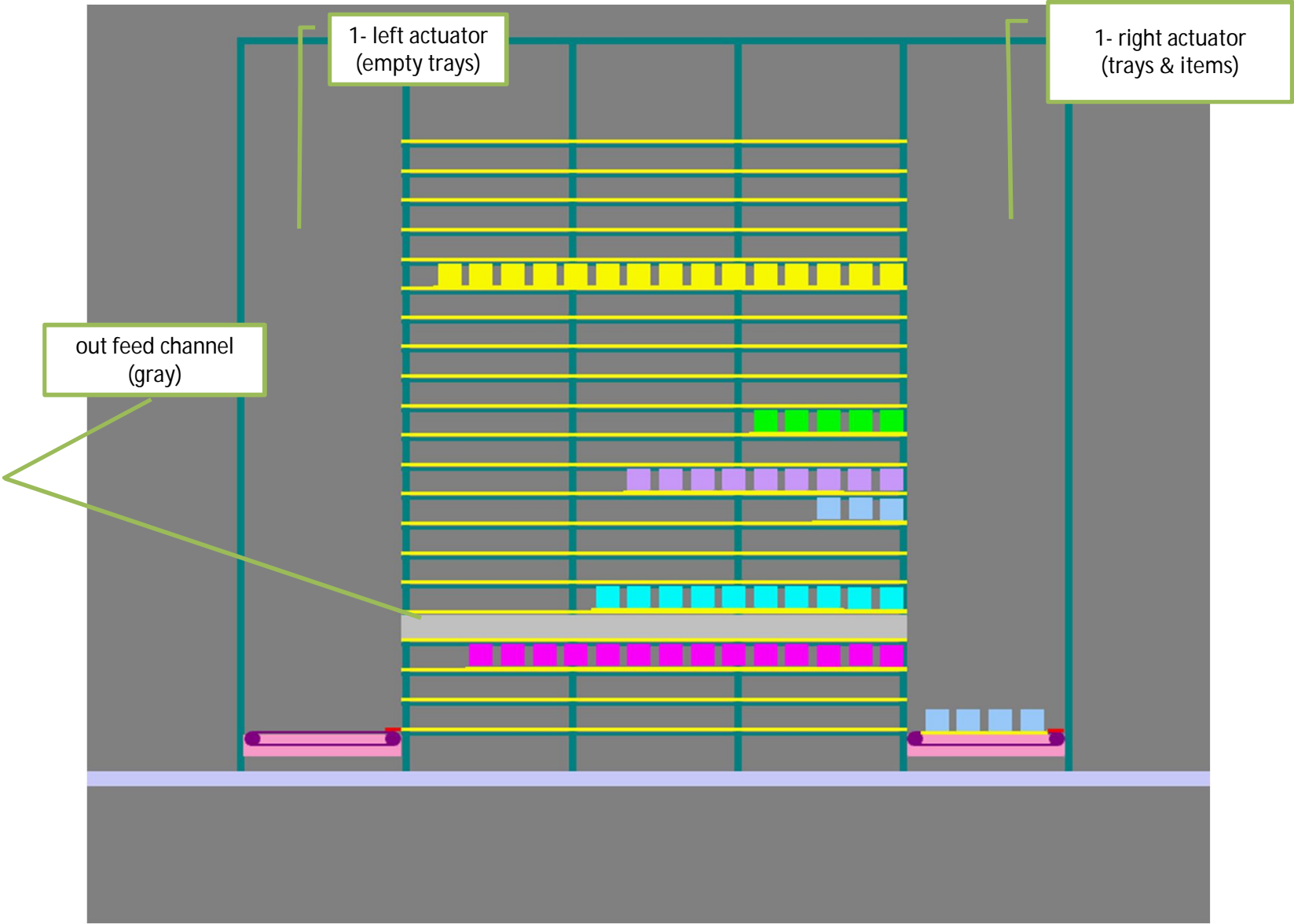Remarkable is that it would still be Very productive with manual labour Input !

i-collector-
The missing link

1- left actuator
(empty trays)

1- right actuator
(trays & items)

out feed channel
(gray)

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GROCERIES

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i-Collector broken case picking

reserve storage & pallet picking → **replenishment** → case picking → **replenishment** → **broken case picking**

case picking → accumulation, sortation packing

broken case picking → accumulation, sortation packing

accumulation, sortation packing → shipping

receiving → **cross-docking** → shipping

receiving → **direct put away to reserve** → reserve storage & pallet picking
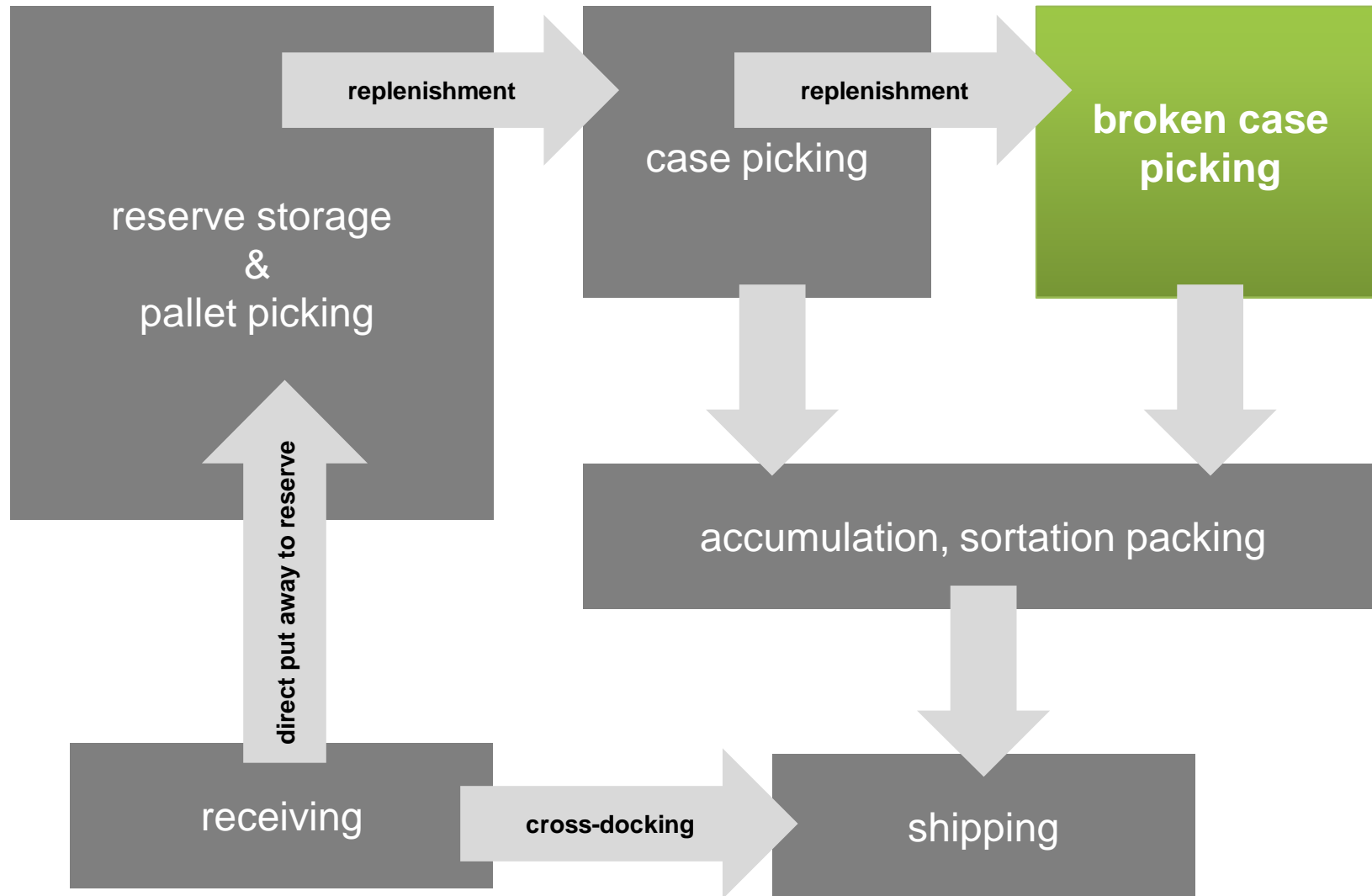
from pick to light to automated item picking

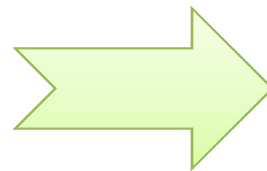This case showing Batch In & Mixed Out

Groceries (Food) Item Picking
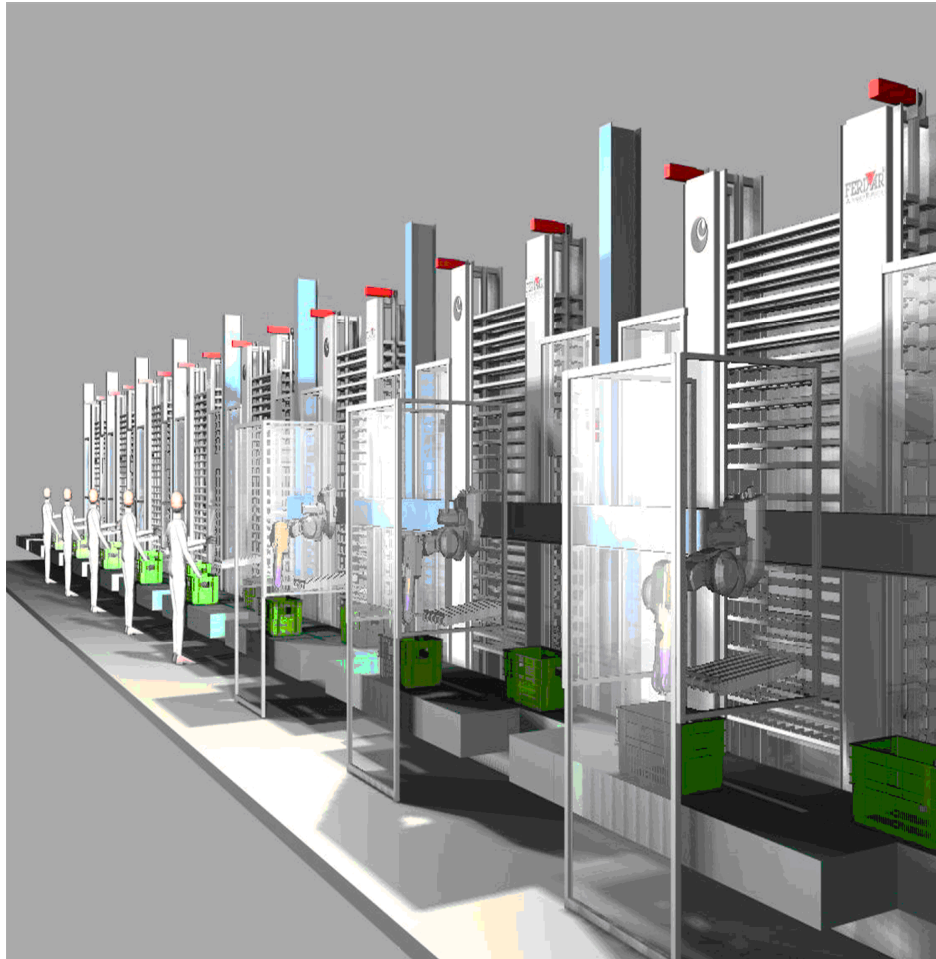
We did this study to replace an existing Pick To Light system

Actualy this case brought us the Idea by thinking out of the box of a complete new age of Item picking we show you in the next slides
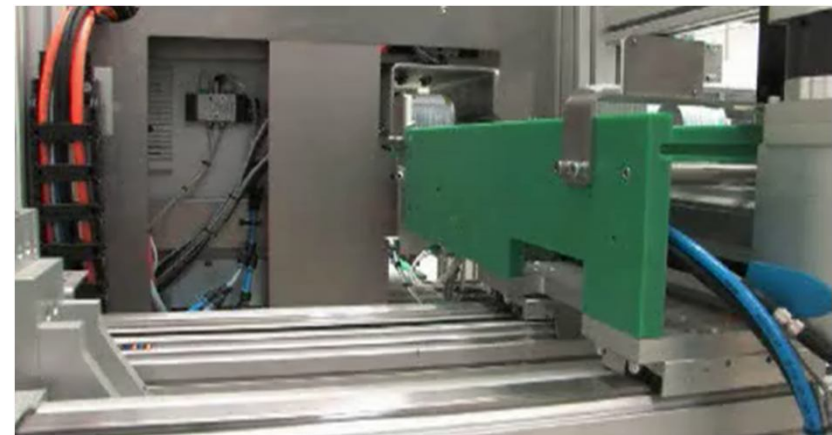
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impression & movie

click here for movie

click here for movie

i-collector
The missing link

automated item picking

Dimensions (mtr) (total floorspace)

width   : 20
length   : 62
height   : 9

Item Dimensions (mm)
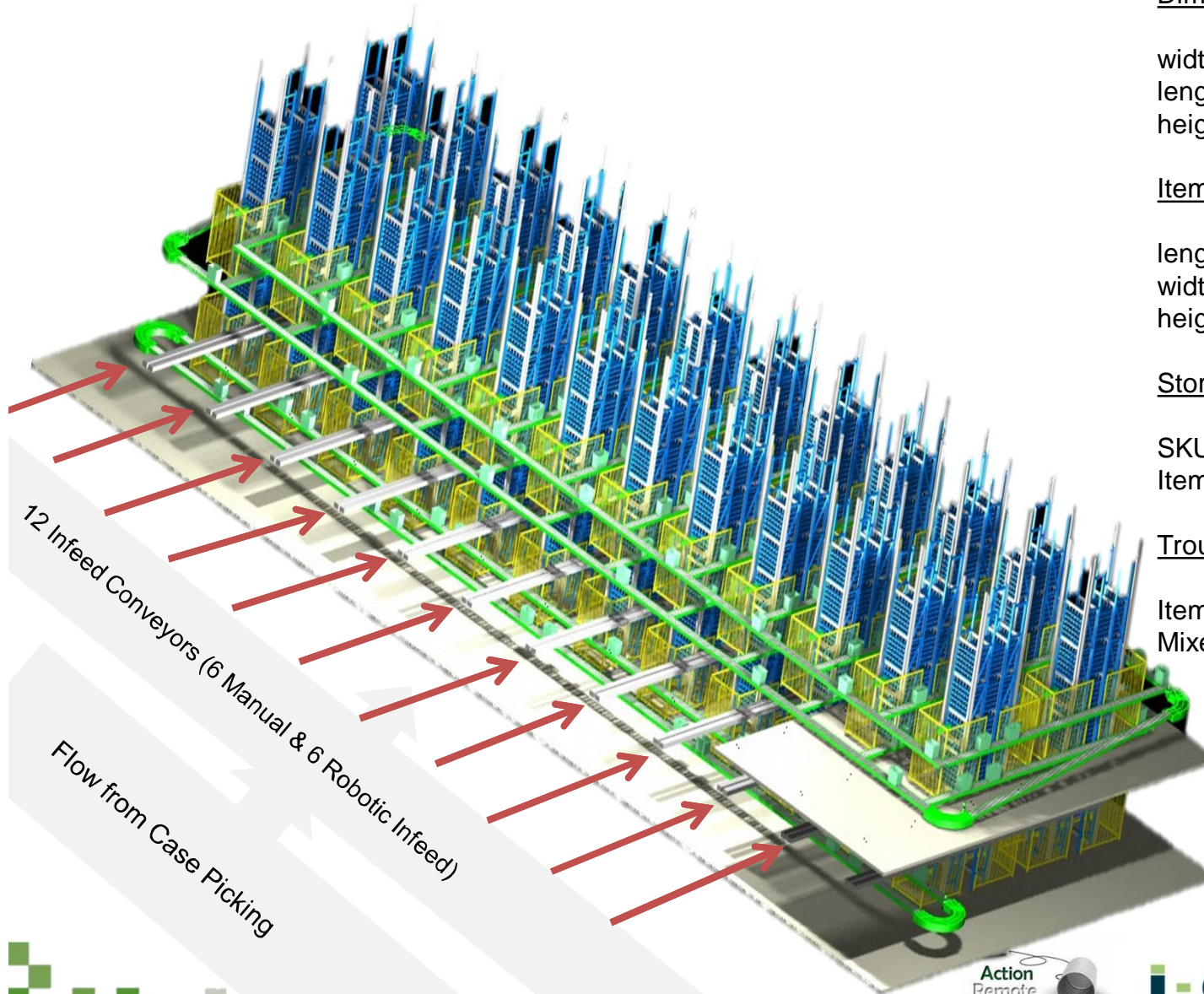
length   : 150 ~ 350
width   : 130 ~ 230
height   : 80 ~ 120

Storage Capacity

SKU's   : 5000
Items   : ~ 100000

Troughput Capacity

Items batch in /
Mixed out per hour : 18000 *

12 Infeed Conveyors (6 Manual & 6 Robotic Infeed)

Flow from Case Picking

Action Remote Service

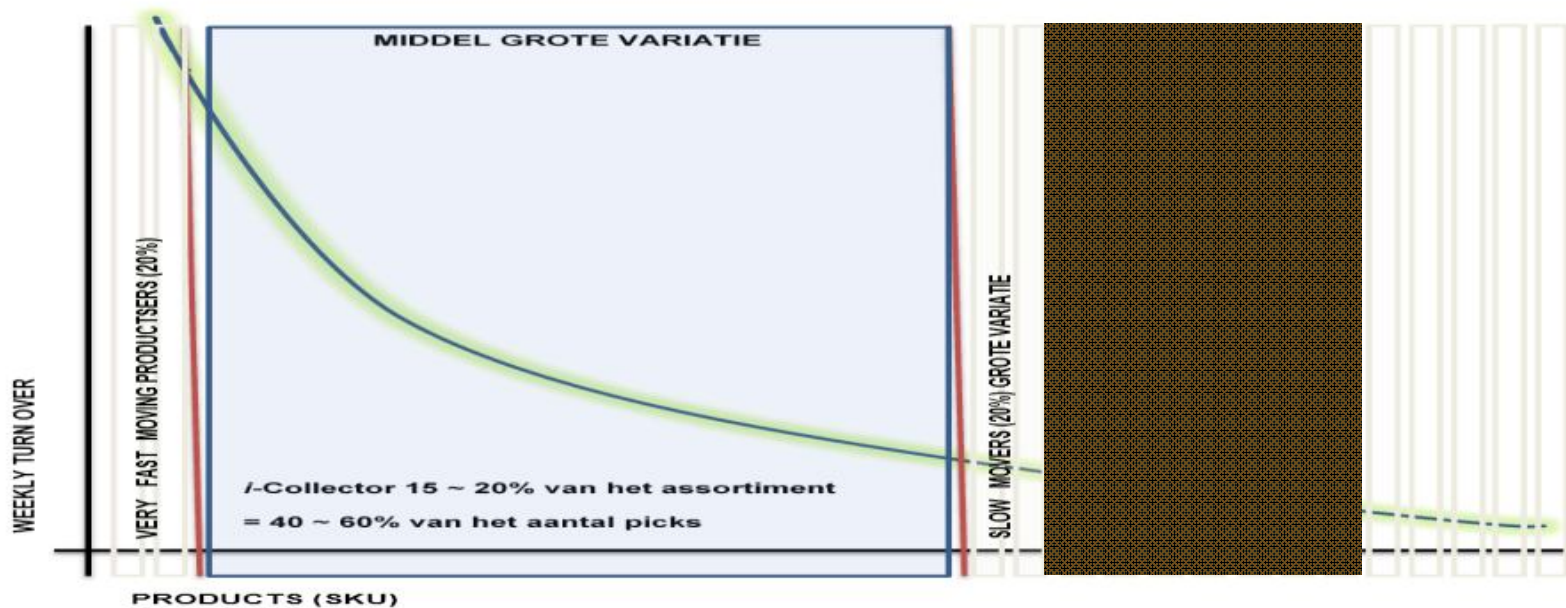i-collector
The missing link

Compared to other Goods-to-Man, Dispensing or Sequencing solutions the i-Collector provides very good fundamental ratios such as:

✓ Transactions per hour per drive unit

✓ Energy use per transaction

✓ Investment per transaction capacity

✓ Usable product from factors and weight ranges

✓ Effectively be used for 40 ~ 60% of the pick

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i-Collector case & broken case picking

reserve storage
&
pallet picking

replenishment → case picking

replenishment → **broken case picking**

direct put away to reserve

accumulation, sortation packing

receiving

cross-docking →

shipping
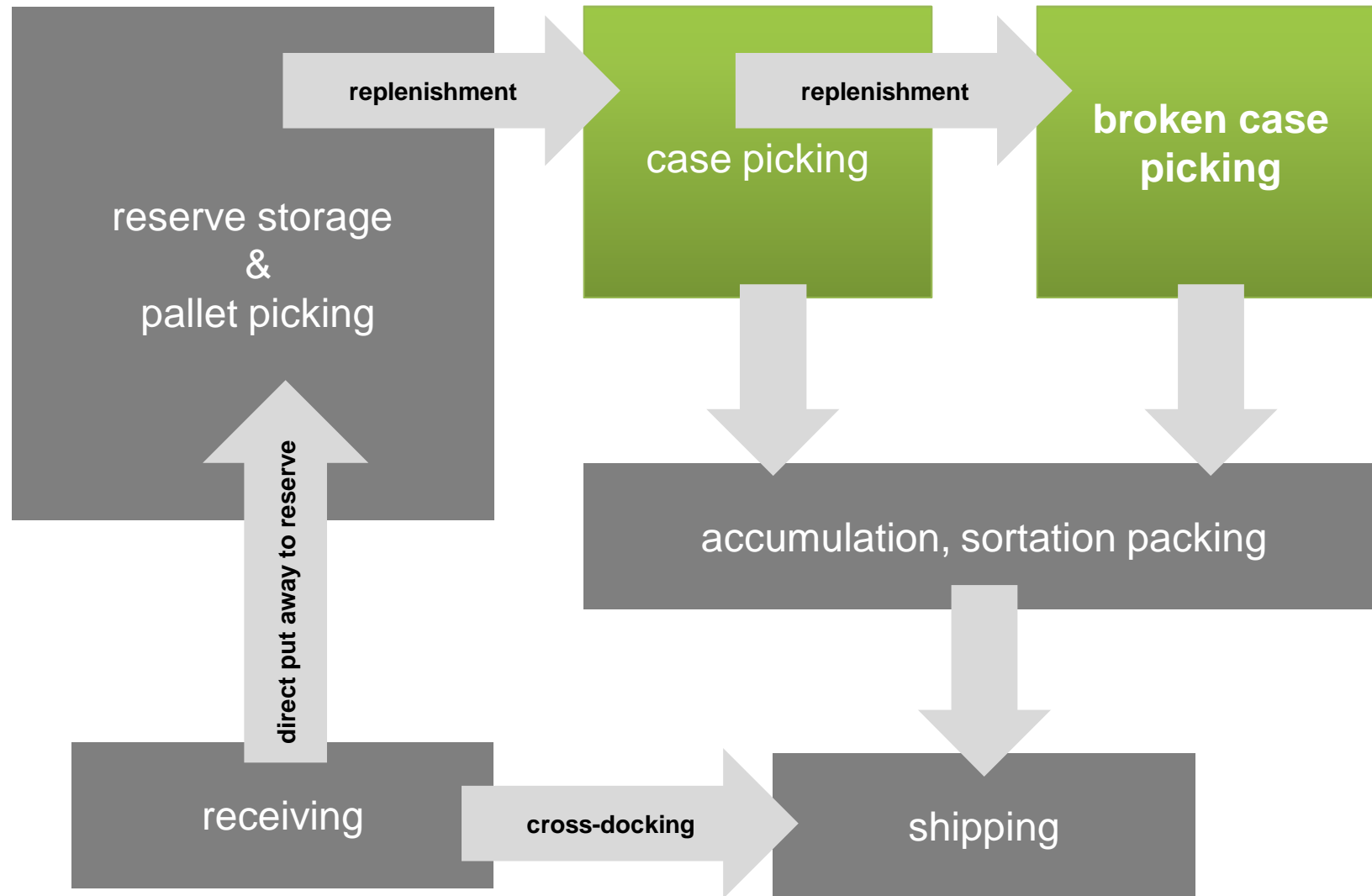
i-collector
The missing link

from pallet storage to delayer to case tray (random access) to automated item picking

(Layer) Depalletizer

Tray loader

Tray loop 2400 trays/hr   Tray size 300x400

8 Case tray Collectors
Total 2069 storage channels
49656 trays

Case Opener   Waste removal

Tray loop 2400 trays/hr

Tote conveyor

30 x Item i-Collectors
total 8700 storage channels163360 trays
total output 24000 items/hour
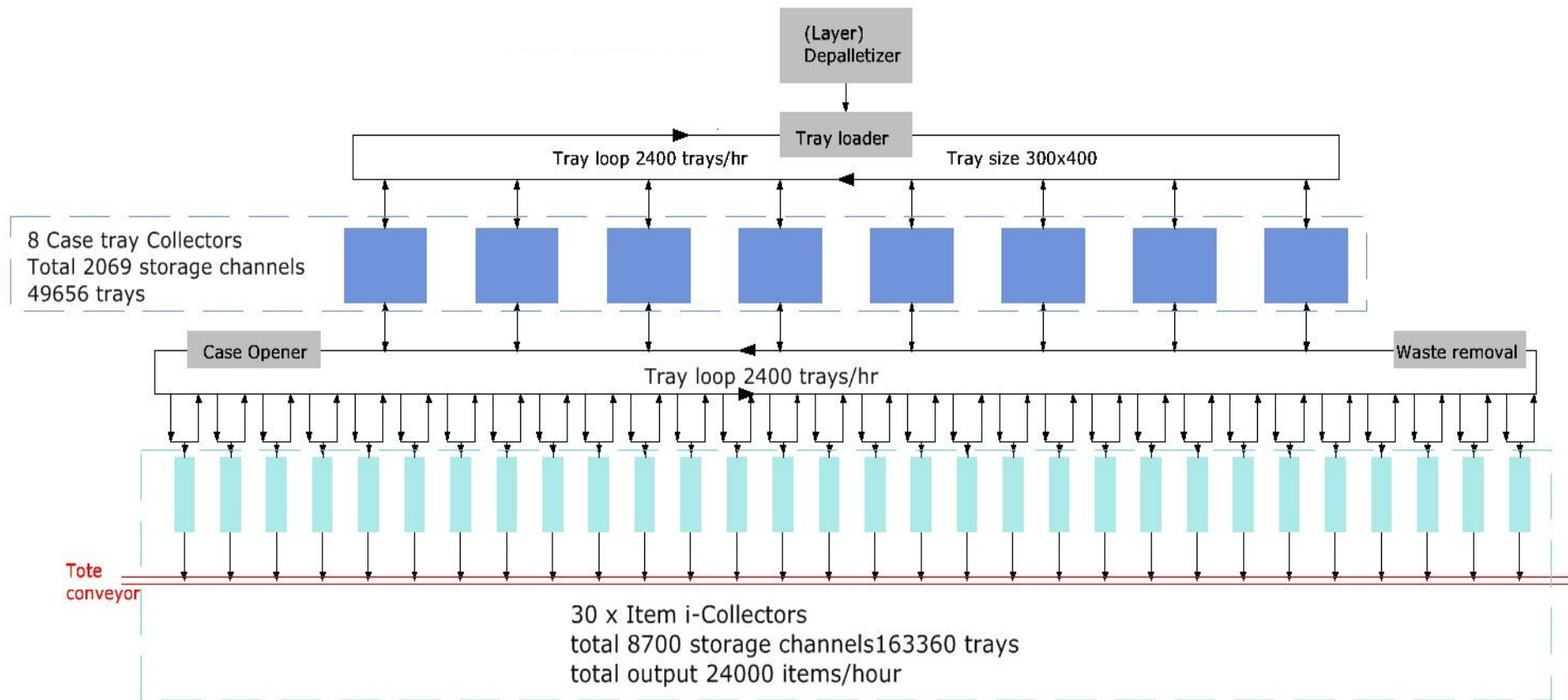
i-collector
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i-Collector control system - ICS -

i-collector
The missing link
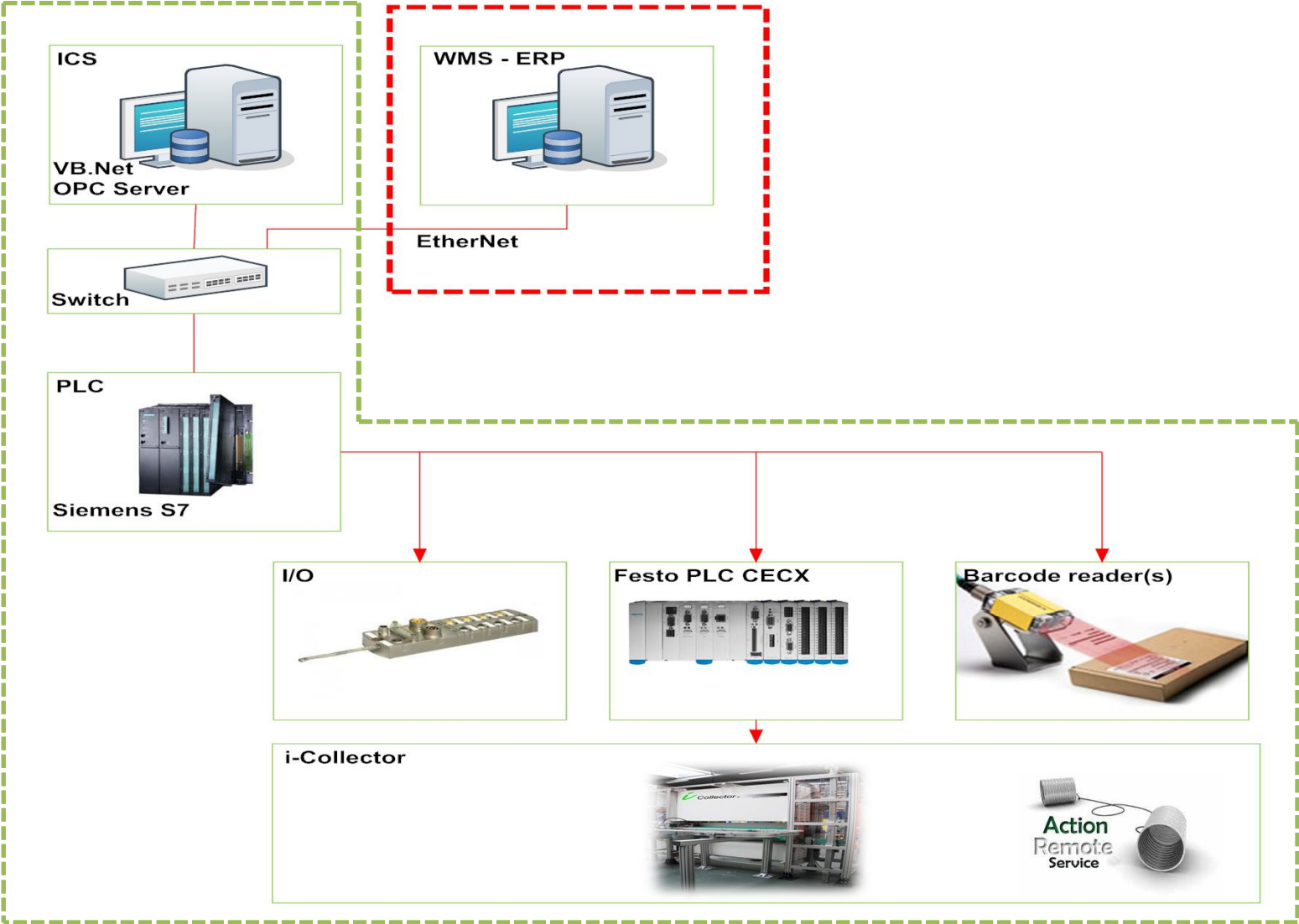
CLICK & COLLECT (dynamic depot)

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click & collect

**CLICK&
COLLECT**

| BROWSE ONLINE | → | CHECK AVAILABILITY IN YOUR STORE | → | ORDER & PAY | → | COLLECT (RETURN) NEAR HOME |
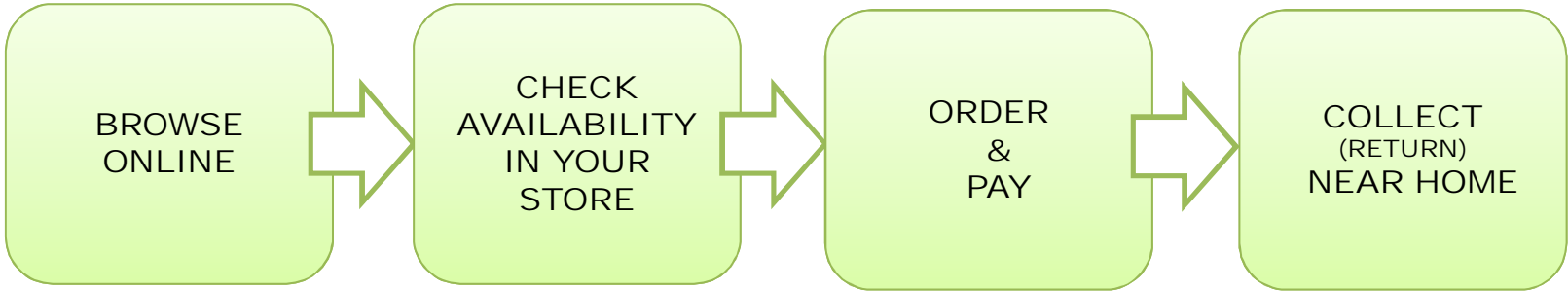
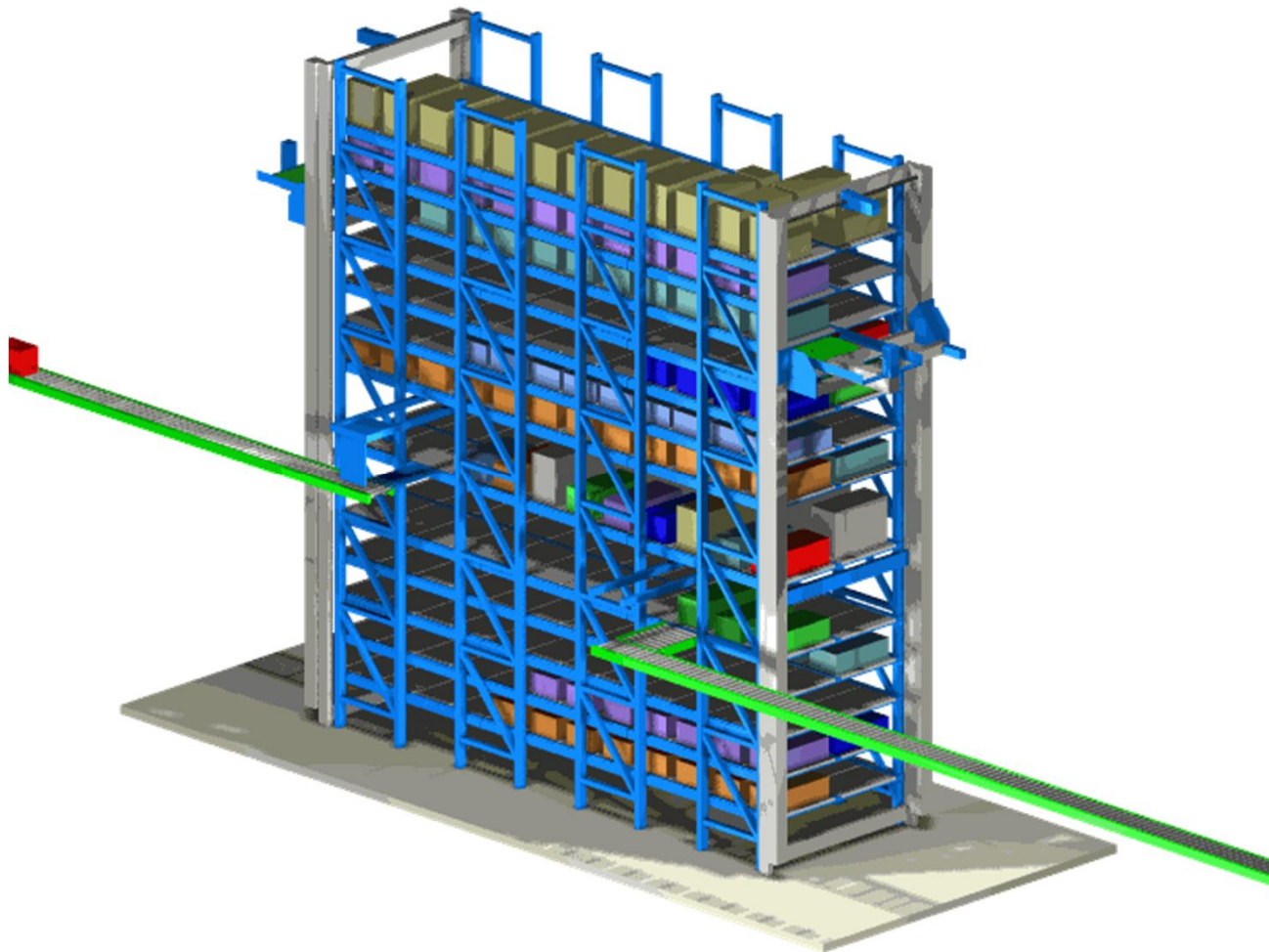**i-collector**
The missing link

mixed In & batch Out buffer from packaging lines to palletizing

In this case imaging Multiple Packaging Lines feeding the i-Collector with Carton boxes

The Carton boxes coming from the Lines randomly in groups of three

Each group is a brand

The boxes are collected in the i-Collector until there is a complete pallet load

The i-Collector is receiving and bringing out complete pallet load of the same brand

In this case the i-Collector is an Intermediate Bufffer

(Heavy Type)

Action Remote Service

i-collector
The missing link

✓ No Counting Errors

✓ No Picking Errors

✓ No Back-Orders

✓ High ROI & Quick Recovery

✓ Green Line automation & Low cost of ownership

✓ Ready to Ship

✓ Optimal Order Fulfilment

✓ Higher Margin & Increase overall Customer Satisfaction

✓ Reduce operational cost with 80% in the picking area

✓ Floor space reduction with 40 ~ 60%

✓ The i-Collector brings out the complete order in one operation

✓ It lends itself to robotic automation on both the input and the output side

Still very productive with manual labour replenishment

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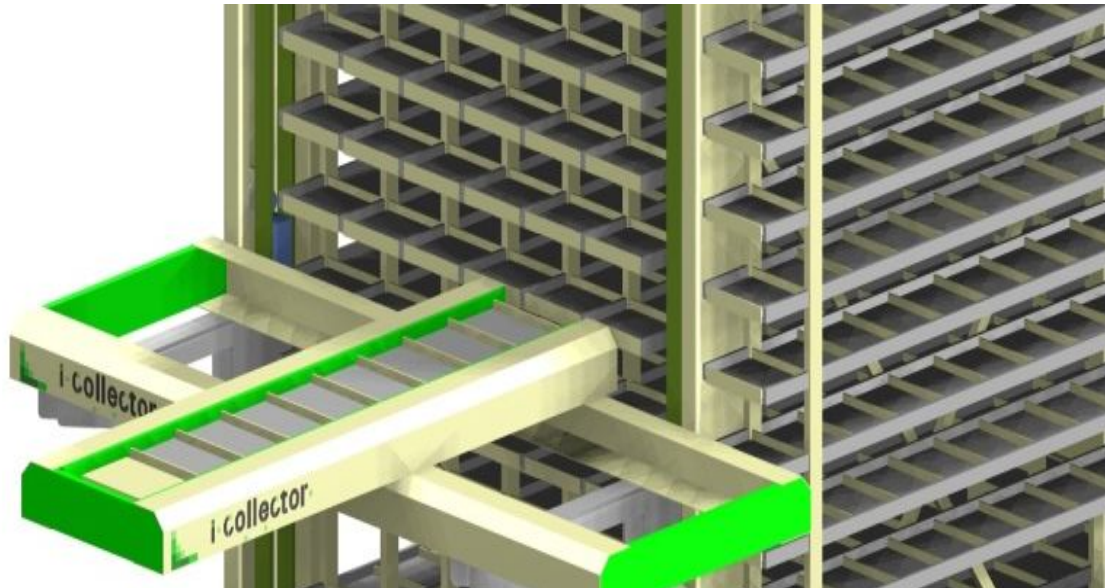
i-COLLECTOR EUROPE b.v.

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