

**BLOCKSTORE**  
Group

Verkkokauppa, varastoautomaatio & automatisoitu lähikauppa  
Tampereen logistiikkamessut 15.9.2022

Automated grocery retailing  
As a service

Taivaltie 5

Vantaa, Finland

[www.blockstoregroup.com](http://www.blockstoregroup.com)

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# SOLUTION & SERVICES

**B2B**

SOLUTION AND SERVICE  
DELIVERY ACROSS EUROPE

**B2C**

OWN CONCEPT STORES  
FINLAND

**10**

team members

**+2,5**

years in business

**EU**

Based in Finland

**+100**

experts in the  
ecosystem



**6 SENSE**  
— innovations —







## 40 years of RFID & IOT expertise

Track record in business innovation & creative technologists.

Over 30 patents and patent families created and turned into viable new businesses

Latest Honors & Awards: **BEST USE OF RFID TO ENHANCE A PRODUCT OR SERVICE 2022**



## IPR

3 patents and other IPR to secure the freedom to operate:

Store process, character recognition, consumer sensors and payments

Itemization, automation and robotics



## Company

2020: Founded

2021: Seed B (by Nidoco, Sweden, 1MEUR)

2022: GTM + Seed C for early 2023



## Our Solution

Brings local brick-and-mortar stores back  
- Currently up to 2000 SKU and going towards 5000 SKU

# Grocery is changing but no winning model yet

01

## Small stores make bad profits

Smaller stores and supermarkets have difficulty to operate profitably

02

## Online and physical together is difficult

Online grocery with click and collect points do not currently work with small supermarkets

03

## Online with home delivery is inefficient

And generates unnecessary CO2

Direct home delivery is not efficient for grocery nor environmentally friendly



# Autonomous grocery stores

We believe in stores where people can collect the groceries they want and walk away without any assistance, or control, of store personnel. It's convenient, efficient to operate and unlocks new locations for grocery stores.

We offer grocery giants a turnkey solution to set-up a chain of autonomous grocery stores.



# Our Solution:

## Autonomous Grocery Store with Automated Operations



01

### Retailer profitability and scalability

2x better EBITDA levels for retailers (business model evaluated with customer)

Both new stores and retrofiting

02

### Efficient automated store and supply chain

Automated and autonomous supermarket with best before tracking and optimized delivery & replenishment

03

### Appealing consumer experience

Combining daily fresh food closer to consumer, with efficient online capabilities

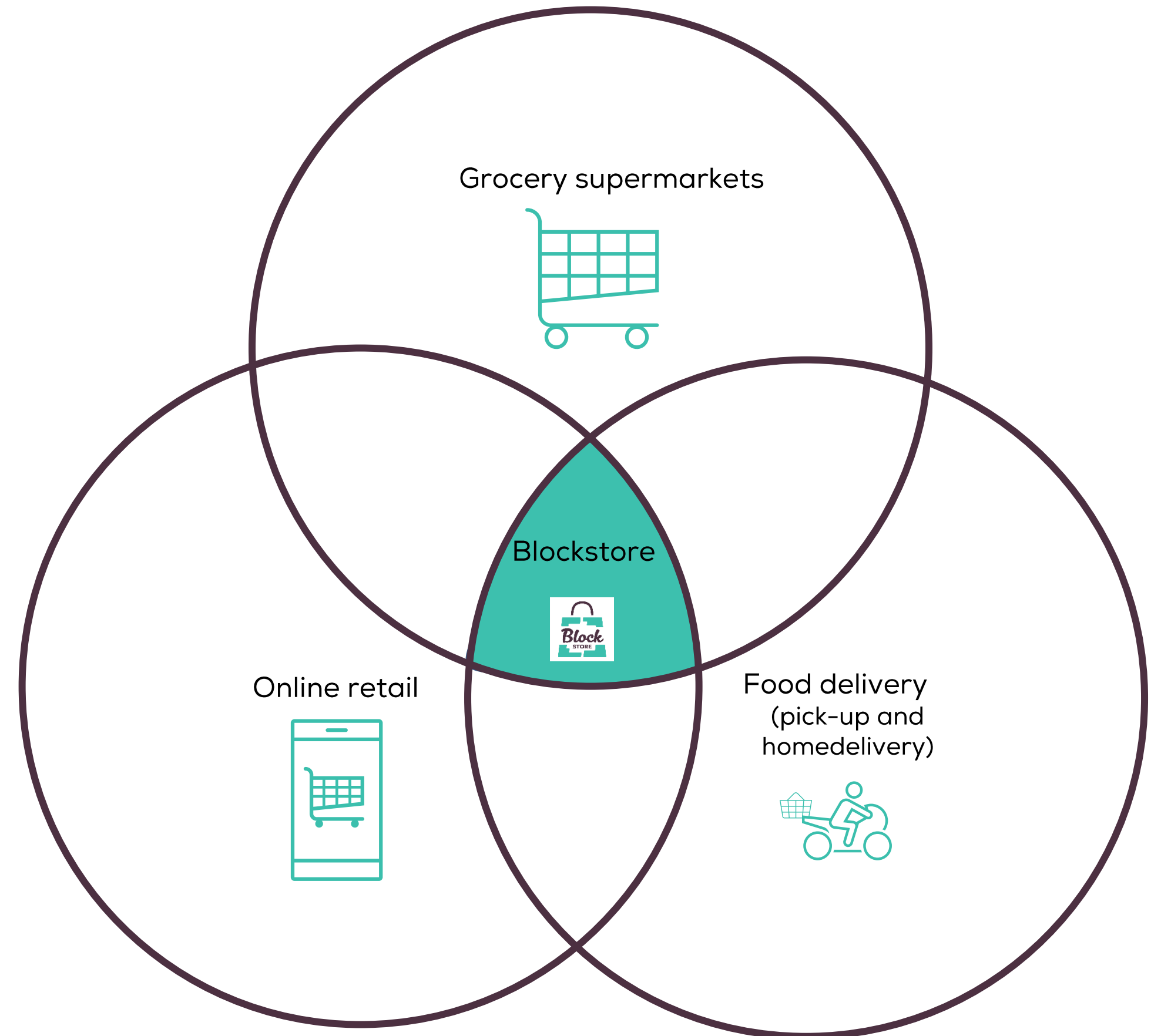
Logistical CO<sub>2</sub> reduction potential and waste management to boost reduction even further

First solution able to combine current dominating trends of grocery retail

How to make brick-and-mortar stores more cost efficient and to solve labor shortage

Seamless online and in-store customer experience

Efficient quick delivery





# Timing



## Start of Autonomous Era

First comprehensive and cost-efficient solution for autonomous stores

Grocery retailer proceeding with the best technology will dominate the autonomous era in grocery \*

## Sustainability

Increasing energy costs  
Higher raw material costs  
Need for CO<sub>2</sub> reduction  
Waste management  
Less travel needed

\* <https://retailtechinnovationhub.com/home/2022/8/22/amazon-halts-just-walk-out-tech-powered-checkout-free-stores-push>





# Transformation in Store





## Step 1 / Walk-In

All consumers can enter the store, the door is open 24/7. To start shopping the person with registered smartphone App just walks in OR shows credit/debit card to the payment terminal at the entrance of the store.

## Step 2 / Engage & select products

Once payment method has been selected, we will use character recognition technology & sensor system to understand which cabinets need to be opened, when and to whom. Once consumer places their hand to the cabinet handle it almost instantaneously unlocks itself.

## Step 3 / Walk-Out

When the person is ready with the shopping, they simply Walk-Out. Payment is charged automatically. The receipt of the shopping is in the APP or alternatively can be printed out in the payment terminal at the entrance of the store.



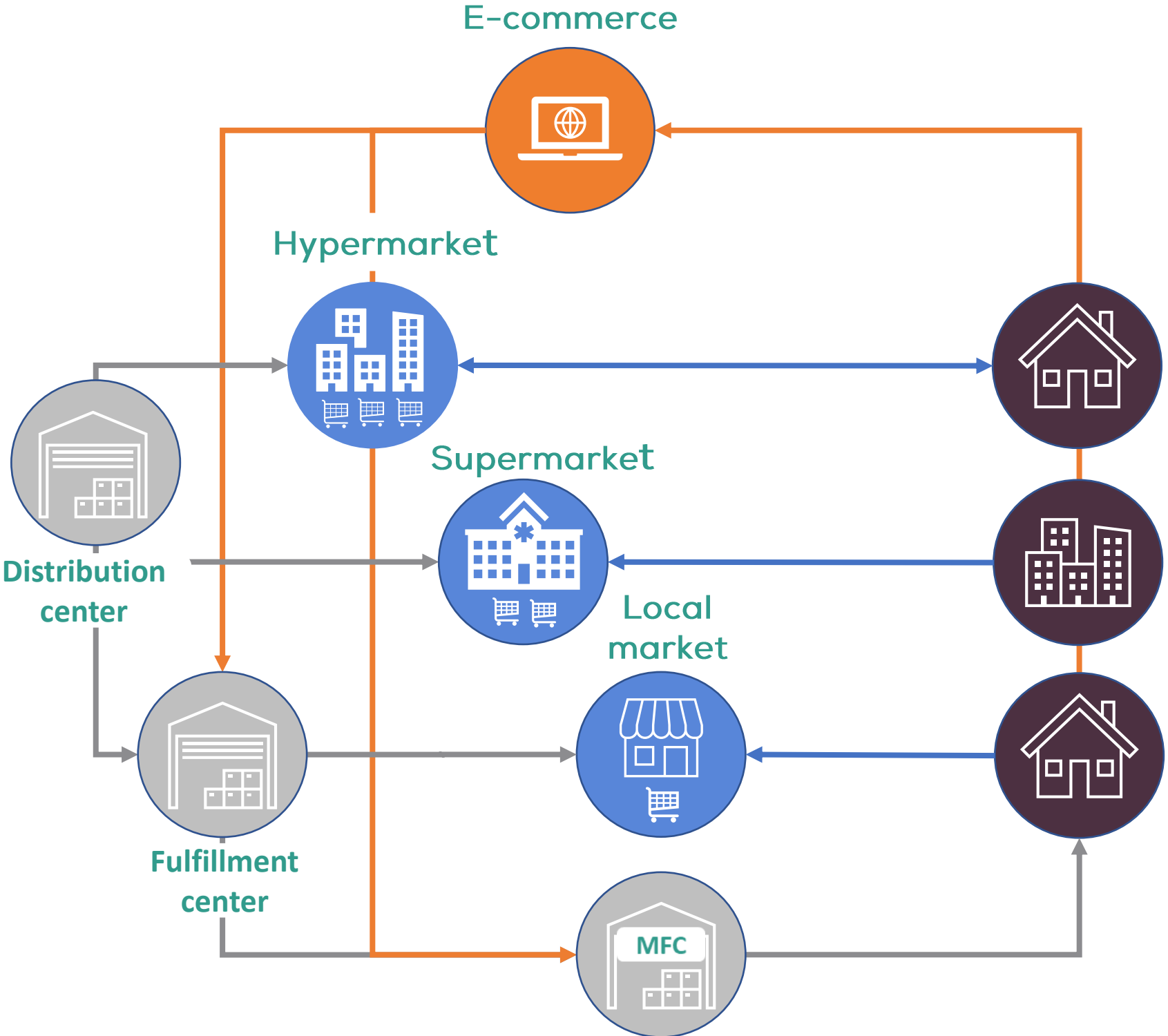


Think  
Beyond  
The  
Store



# How to combine online retail, last mile delivery and local stores efficiently?

Current model, without item level connectivity

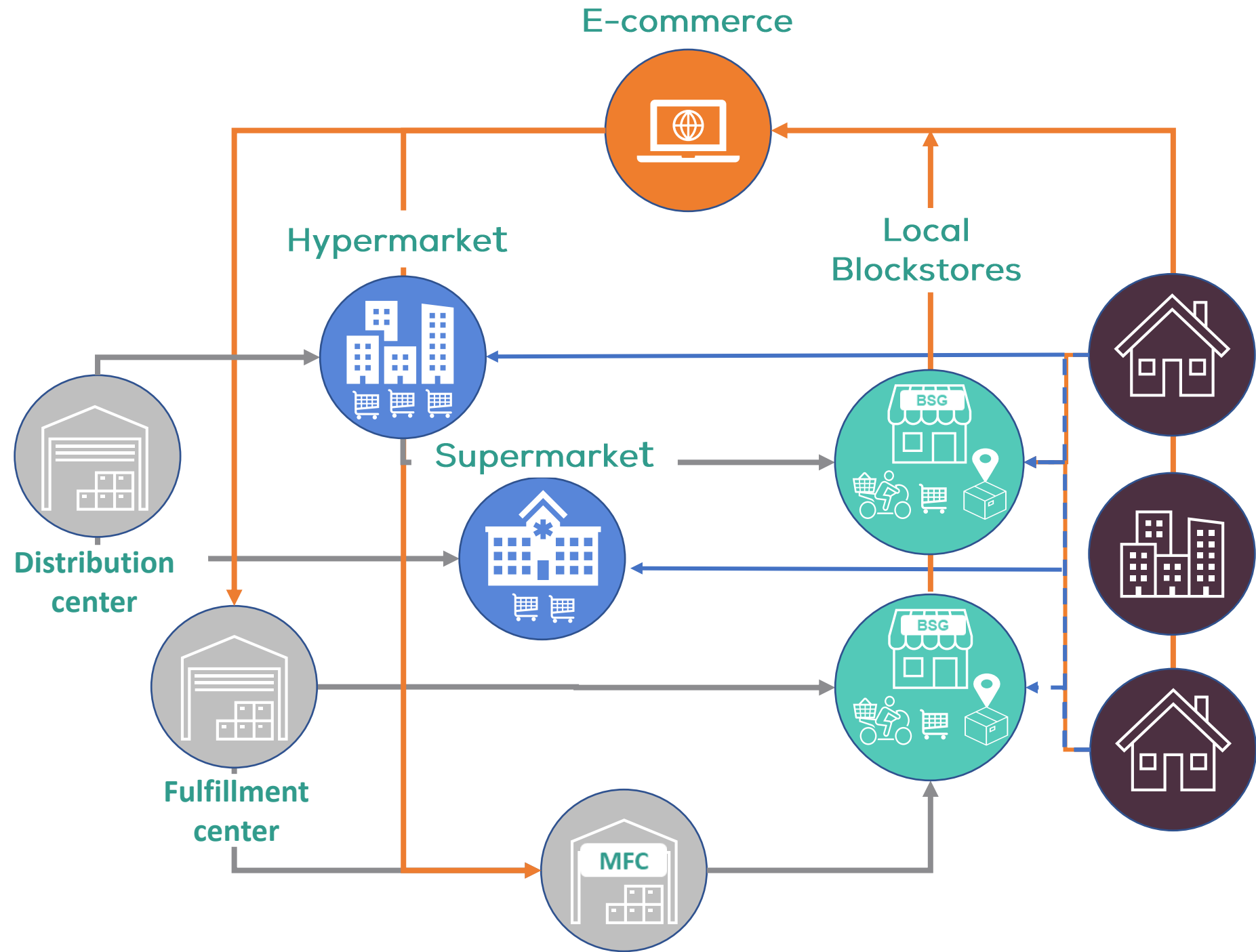


Profitability of local store is difficult

Last mile delivery truly an issue

# Combining online retail and last mile delivery to local stores – efficiently and transparently

## Blockstore model with item level connectivity



Up to 50% lower store operating costs

Offline & online based offering

Supporting last mile delivery models

Closer to consumer

Integration directly to vendor's ordering system

Tagging operations & Blockstore warehouse module for inventory management

Walk In Walk Out, automatic inventory & offer management, automatic ordering etc.

Mobile APP / Credit & Debit card payment system





Automated real-time  
supply chain



Manage food waste  
with Best Before Dates  
& Dynamic Pricing



Anti-theft protection  
and security during  
operation



High service accuracy  
& easy infrastructure  
set-up

# Why RFID & Cabinets with AI

# What makes us unique?

| FEATURES   | Blockstore  | Check-out-free  |   |   | Scan-and-GO   |   |   |
|--|---|---|---|---|---|---|---|
|  |    | Large retailer  | US start-up   | Israel start-up   | Austria start-up  | Germany start-up  | Self-checkouts Barcode  |
| Frictionless shopping                                      |    |    |    |    |    |    |    |
| No registration, usable with credit/debit cards (and Apps) |    |    |    |    |    |    |    |
| Real time, automatic inventory and automatic orders        |    |    |    |    |    |    |    |
| Best before date tracking and digital waste management     |   |   |   |   |   |   |   |
| Supply chain for autonomous stores                         |  |  |  |  |  |  |  |
| Automated dynamic pricing on product level                 |  |  |  |  |  |  |  |
| Flexibility and true digital planogram                     |  |  |  |  |  |  |  |
| Product image 2D/3D rendering                              |  |  |  |  |  |  |  |
| Digital combination of Physical & Online                   |  |  |  |  |  |  |  |
| <u>2x RETAILER EBITDA INCREASE</u>                         |  |  |  |  |  |  |  |



# Touch point examples in Blockster platform: Vendors, Warehouse & Stores

**BLOCKSTER** Dmitrii Ivanov

BRAND OWNERS SHOPS SHOP ORDER BATCH ORDER

The screenshot shows the 'BRAND OWNERS' section of the Blockster platform. It features five vendor logos arranged in two rows. The top row includes Fazer Candy (white background), Saarioinen (red background), and Seulo Palvelut Oy (green background). The bottom row includes Sinebrychoff (white background) and Valio (white background).

**BLOCKSTER** Dmitrii Ivanov

BRAND OWNERS SHOPS SHOP ORDER BATCH ORDER

The screenshot shows the 'SHOPS' section of the Blockster platform. It displays eight store photos arranged in three rows. The top row includes Collico, Kalliolahde, and Katajanokka. The middle row includes Keimolanmaki, Kuninkaantammi, and Olari. The bottom row includes Painiitty and Talinranta.

**BLOCKSTER** / Saarioinen Dmitrii Ivanov

BRAND OWNERS SHOPS SHOP ORDER BATCH ORDER

Manual [push]

EDIT ITEM 06412000030583 Saarioinen Kasvislasagne 300g

Status: Active

RFID tag type: Orange

RFID tagging instructions: Takasivulla ylhäällä.

Expiry date tracking (PRINTER): Enabled

Reorder point pcs: 2

Reorder pcs: 2

GTIN to order: 06412001030582 (4)

Start date: dd.mm.yyyy

Finishing date: dd.mm.yyyy

Order multipack in Collico:

Sales price (incl. VAT): 3,95

VAT category: Food

Minimum shop lifetime: 4

Expiry date tracking: Yes

Save

| PRICE (VAT 0) | REORDER POINT | REORDER PCS | GTIN TO ORDER           |
|---------------|---------------|-------------|-------------------------|
| €2.31         | 2             | 2           | 06412001030582 (4) Edit |
| €2.33         | 2             | 4           | 06412001038243 (3) Edit |
| €2.21         | 2             | 3           | 06412001031848 (4) Edit |
| €3.51         | 2             | 2           | 06412001032340 (2) Edit |
| €2.83         | 6             | 5           | 06412001032401 (2) Edit |
| €2.83         | 5             | 5           | 06412001032425 (2) Edit |
| €1.33         | 3             | 1           | 06412001033019 (4) Edit |
| €1.35         | 2             | 2           | 06412001033613 (3) Edit |
| €2.08         | 10            | 4           | 06412001034771 (5) Edit |
| €2.83         | 2             | 4           | 06412001037505 (2) Edit |
| €2.05         | 3             | 2           | 06412004044159 (3) Edit |

Rows per page: All 1-11 of 11

**BLOCKSTER** Dmitrii Ivanov

CALENDAR ORDERS BRAND OWNERS SHOPS SHOP ORDER BATCH ORDER

EDIT TIMETABLE Talinranta TUE 23:00:00

Order type: Shop order

Order shop: Talinranta

Order generation: Day: tue, Time: 22.30.00

Order send: Day: tue, Time: 23.00.00

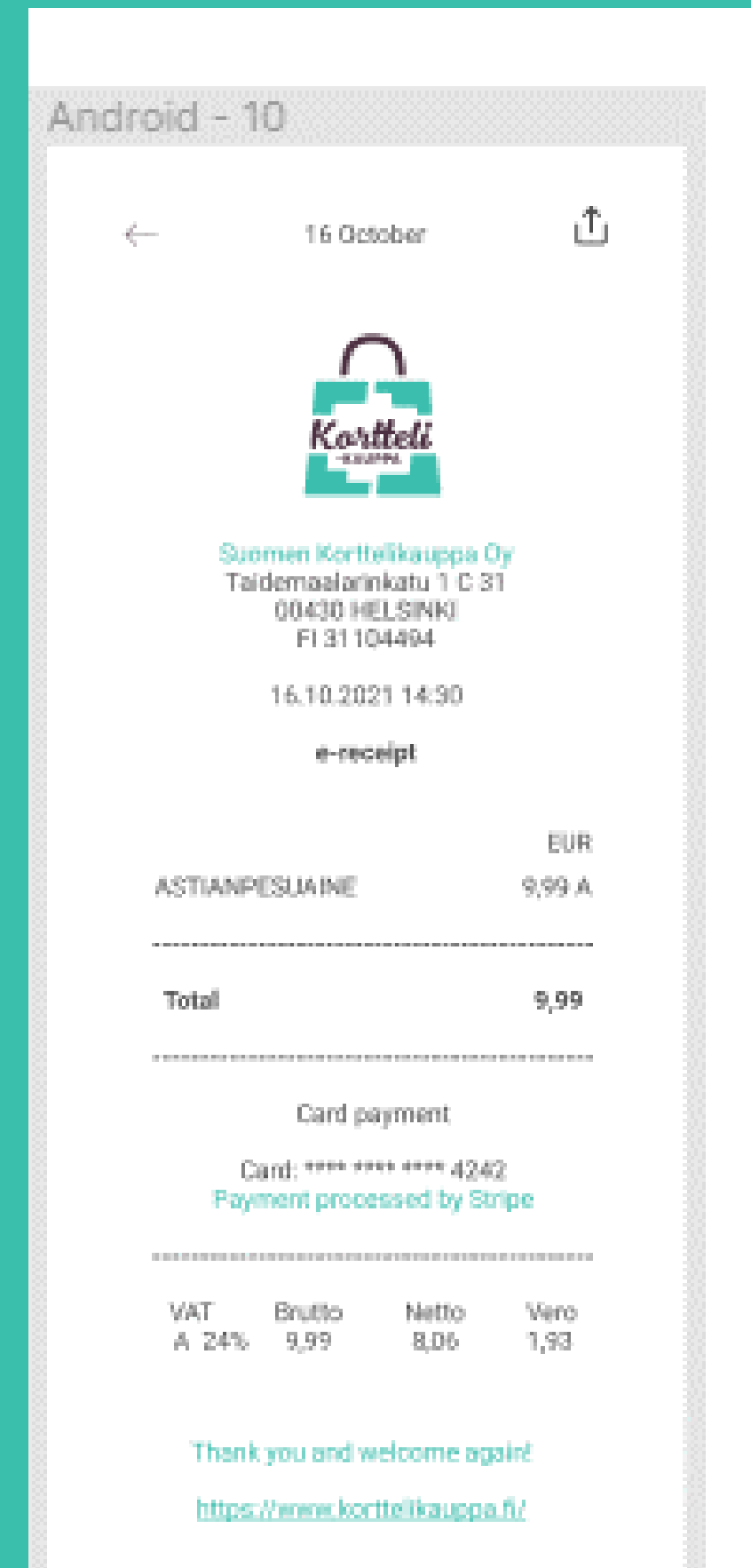
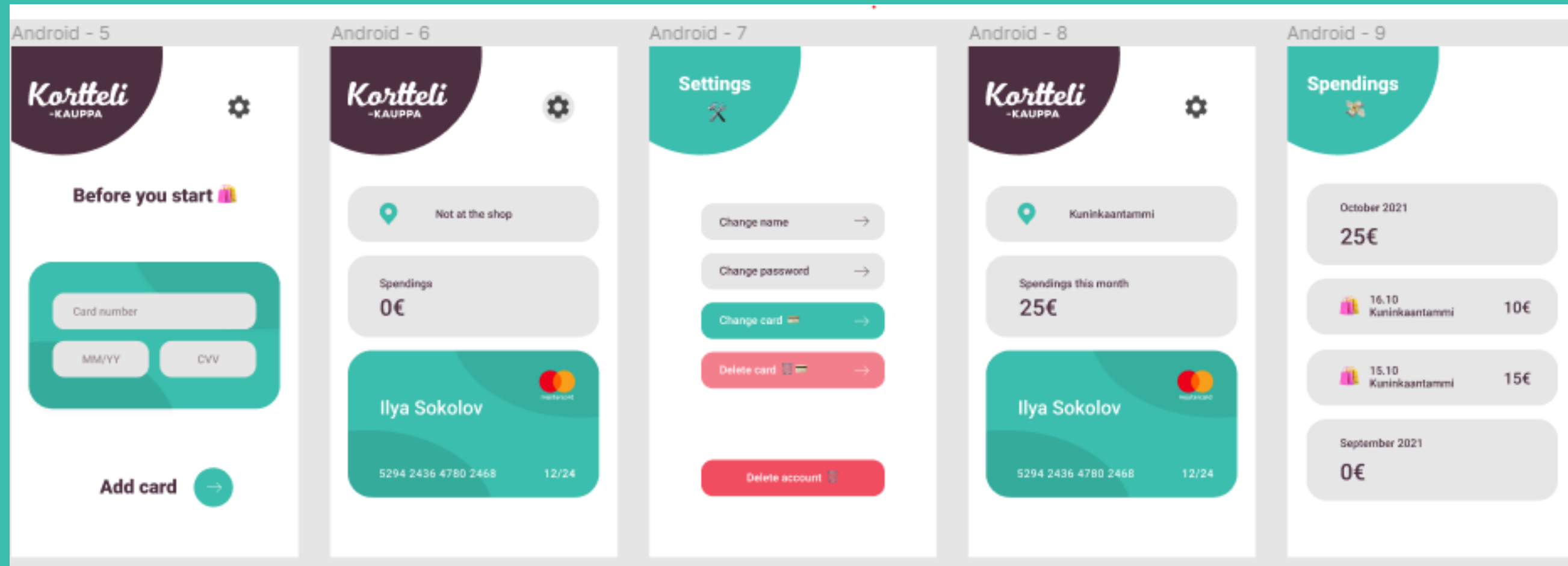
Delivery: Day: wed, Start time: 10.00.00, End time: 11.00.00

SAVE

| ORDER TYPE | SUPPLIER / SHOP | GENERATION DAY | ORDER DAY | DELIVERY DAY | DELIVERY TIME | EDIT                         |
|------------|-----------------|----------------|-----------|--------------|---------------|------------------------------|
| Shop order | Talinranta      | fri            | 22:30:00  | fri          | 23:00:00      | Sat 10:00:00 - 11:00:00 Edit |
| Shop order | Talinranta      | tue            | 22:30:00  | tue          | 23:00:00      | Wed 10:00:00 - 11:00:00 Edit |
| Shop order | Painiitty       | fri            | 22:30:00  | fri          | 23:00:00      | Sat 10:00:00 - 11:00:00 Edit |
| Shop order | Painiitty       | tue            | 22:30:00  | tue          | 23:00:00      | Wed 10:00:00 - 11:00:00 Edit |
| Shop order | Kuninkaantammi  | fri            | 22:30:00  | fri          | 23:00:00      | Sat 10:00:00 - 11:00:00 Edit |
| Shop order | Kuninkaantammi  | tue            | 22:30:00  | tue          | 23:00:00      | Wed 10:00:00 - 11:00:00 Edit |
| Shop order | Keimolanmaki    | fri            | 22:30:00  | fri          | 23:00:00      | Sat 10:00:00 - 11:00:00 Edit |
| Shop order | Keimolanmaki    | tue            | 22:30:00  | tue          | 23:00:00      | Wed 10:00:00 - 11:00:00 Edit |

Rows per page: All 1-31 of 31

# Mobile App (can be embedded into Retailer's own App):





# Waste management opportunities

Automatic data delivery via APIs from our platform

No manual inspection needed



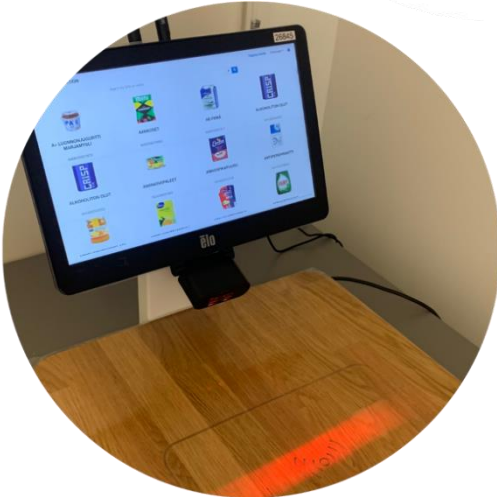
# Efficient tagging operations

The most optimal point for the tagging operations is at the warehouse / DC.  
When volumes increase Robotics will be used.

## Tagger 1.0.

Tagging cost per item: 0,028€

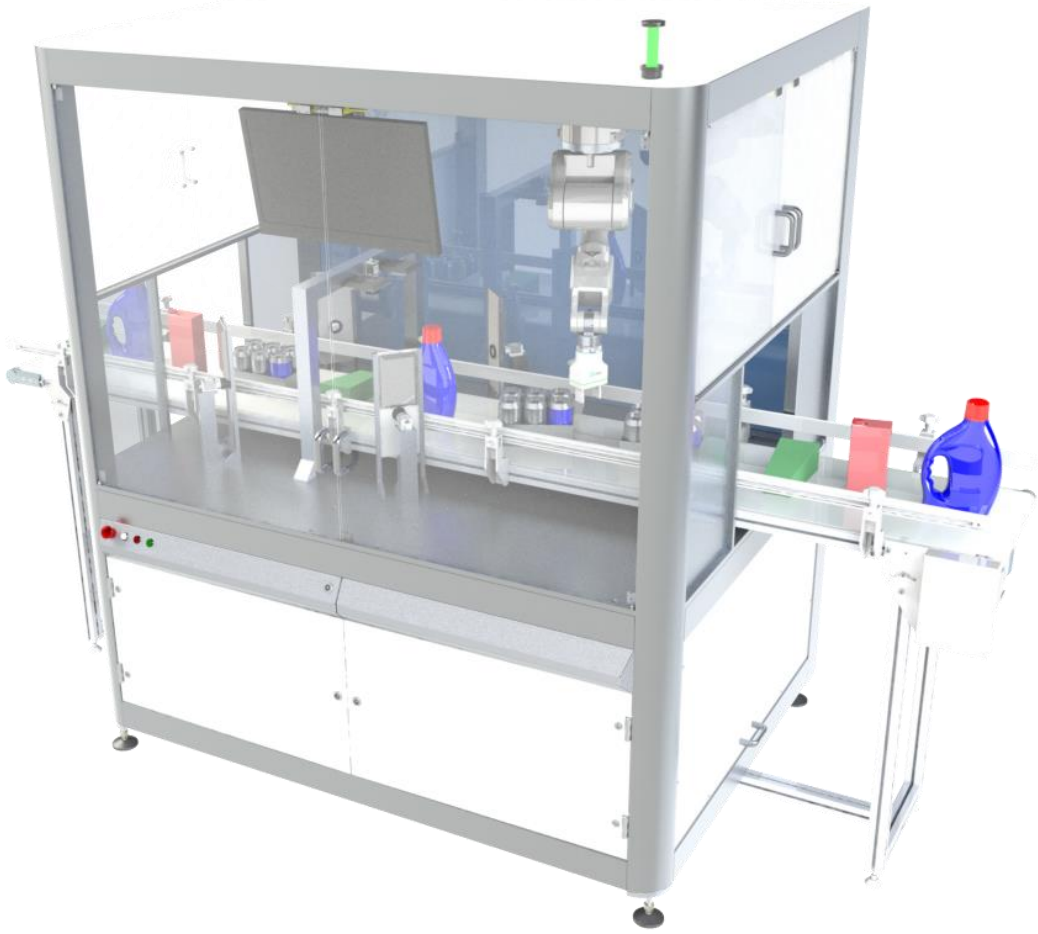
Tagging time per item: 5sec



## Itemizer 1.0.

Tagging cost per item: 0,004€

Tagging time per item: 1sec



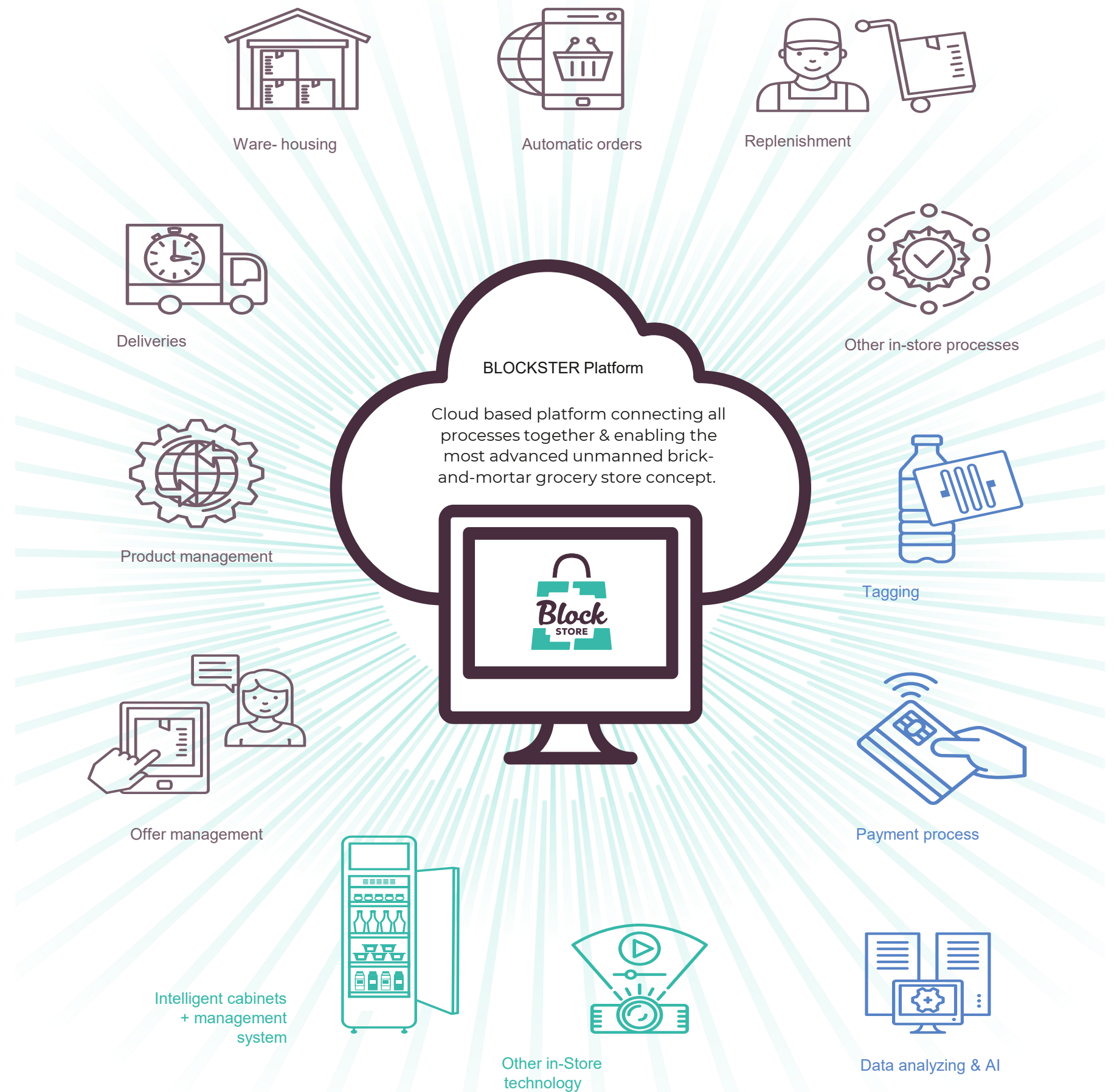
\*Assumptions: 1M items, cost per hour 20€. Tag cost 0,04-0,07€ (case & volume dependent)



# Blockstore Concept – Everything but ordinary

State of the art  
technology combined with  
optimized and proven  
end-to-end processes.

Provided as a Service.



Business model – our  
differentiator

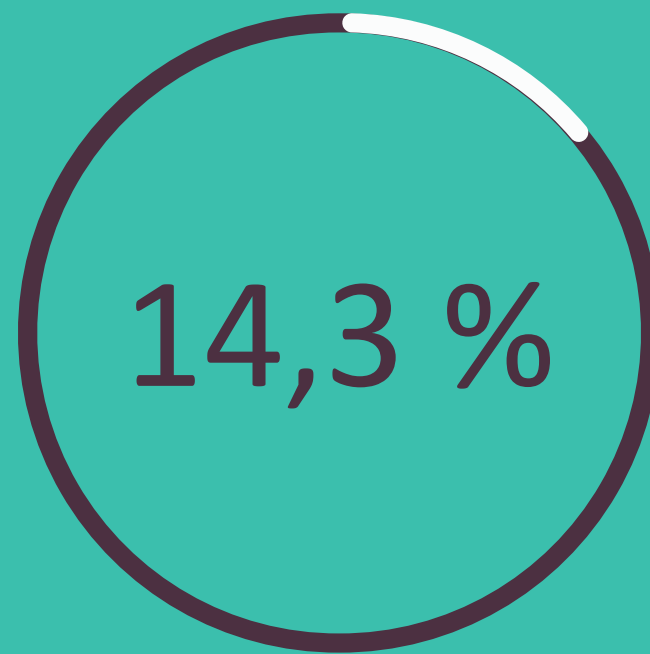
Financial comparison between  
traditional and Blockstore  
enabled store



## Store Operating Profit



Traditional



Blockstore

With Blockstore up to 50% lower store operation costs!

- + waste management
- +robotis at the warehouse
- +future overall scalability in the system

|                               | Traditional Market |                | Blockstore Market |                |
|-------------------------------|--------------------|----------------|-------------------|----------------|
|                               | Annual P&L         | %-sales        | Annual P&L        | %-sales        |
| Sales                         | 2 800 000 €        |                | 2 800 000 €       |                |
| Product Purchases             | 1 848 000 €        | 66,00 %        | 1 848 000 €       | 66,00 %        |
| <b>Product Margin 1</b>       | <b>952 000 €</b>   | <b>34,00 %</b> | <b>952 000 €</b>  | <b>34,00 %</b> |
| Product waste                 | 81 200 €           | 2,90 %         | 81 200 €          | 2,90 %         |
| Tag cost 0,045€ /tag          | 0 €                |                | 50 400 €          | 1,80 %         |
| Tagging cost 0,028€/product   | 0 €                |                | 31 360 €          | 1,12 %         |
| <b>Product Margin 2</b>       | <b>870 800 €</b>   | <b>31,10 %</b> | <b>789 040 €</b>  | <b>28,18 %</b> |
| Freight + packing material    | 19 000 €           | 0,68 %         | 19 000 €          | 0,68 %         |
| <b>Gross Profit</b>           | <b>851 800 €</b>   | <b>30,42 %</b> | <b>770 040 €</b>  | <b>27,50 %</b> |
| Salaries                      | 225 000 €          | 8,04 %         | 17 499 €          | 0,62 %         |
| Salaries                      | 0 €                |                | 45 990 €          | 1,64 %         |
| Holiday salaries              | 29 500 €           | 1,05 %         | 0 €               | 0,00 %         |
| Social security costs         | 58 000 €           | 2,07 %         | 0 €               | 0,00 %         |
| Health care                   | 2 500 €            | 0,09 %         | 833 €             | 0,03 %         |
| Staff recreation activities   | 1 500 €            | 0,05 %         | 1 500 €           | 0,05 %         |
| Other staff costs             | 3 500 €            | 0,13 %         | 1 167 €           | 0,04 %         |
| <b>Personnel Costs Total</b>  | <b>320 000 €</b>   | <b>11,43 %</b> | <b>66 989 €</b>   | <b>2,39 %</b>  |
| Rents                         | 250 000 €          | 8,93 %         | 26 703 €          | 0,95 %         |
| Other real-estate costs       | 33 000 €           | 1,18 %         | 5 453 €           | 0,19 %         |
| Equipment rents (leasing)     | 50 000 €           | 1,79 %         | 234 000 €         | 8,36 %         |
| IT-costs                      | 21 000 €           | 0,75 %         | 2 100 €           | 0,08 %         |
| Other fixed costs             | 32 000 €           | 1,14 %         | 3 000 €           | 0,11 %         |
| Sales volume fee              | 0                  | 0,00 %         | 22 400 €          | 0,80 %         |
| Store set-up investment       |                    |                | 8 414 €           | 0,30 %         |
| <b>Store operating profit</b> | <b>145 800 €</b>   | <b>5,21 %</b>  | <b>400 981 €</b>  | <b>14,32 %</b> |

Thank you!





# Supporting material – links open introduction videos in Youtube

## Blockstore Concept Explained:

<https://youtu.be/aUFbvcLq98A>

<https://www.youtube.com/watch?v=5LHf9g7RrsM>

## Walk In – Walk Out Shopping experience

<https://youtu.be/XocKY2kuNUA>

[https://youtu.be/JJzLi\\_00ku4](https://youtu.be/JJzLi_00ku4)

## Warehouse operations (Finland)

<https://youtu.be/EQaykTdrRol>