

Reuven
Della Torre
CTO



CAJA
ROBOTICS

A warehouse environment featuring several automated mobile robots (AMRs) and high-density shelving units. The robots, branded 'caja', are black and white, with one carrying a grey plastic crate. The shelving units are blue metal frames with orange shelves, filled with cardboard boxes and grey plastic crates. The floor is light-colored and polished. The text 'Robotize your manual warehouse' is overlaid in white, bold font across the center of the image.

Robotize your manual warehouse





WHAT WE DO

Robotic fulfilment (G2P)

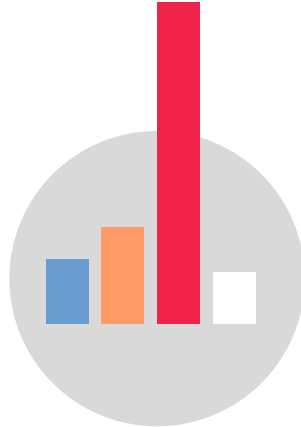
We robotize your warehouse without changing your infrastructure.



WHY AUTOMATE MANUAL PICKING?



Warehouses running from one to several shifts



Increasing demand and activity spikes



Finding warehouse workers is a main risk factor for order fulfillment operations

CHAIN OF ORDER FULFILLMENT WITH CAJA

Pallets arriving at the warehouse

Depalletizing without switching boxes

Placing original boxes on replenishment station

Robots take boxes from replenishment station to inventory.
Continuous inventory placement optimization for higher throughput

Robots take boxes from inventory to picking station and back.
Continuous inventory placement optimization for higher throughput

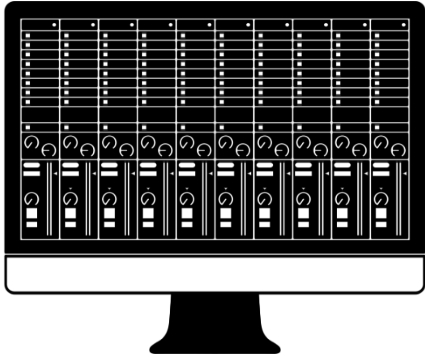
Order ready for packing
Continuous orders reshuffling for presentation optimization

Packing process

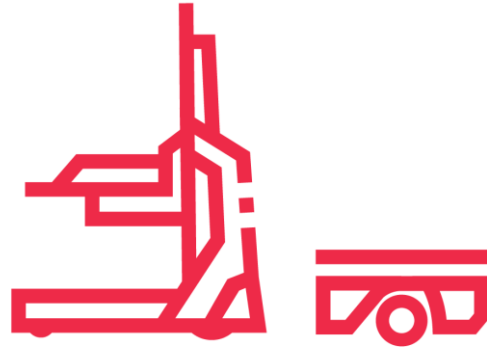
Parcel placed on the truck for delivery



CAJA COMPONENTS – HIGH LEVEL



Powerful algorithms for fleet management, simulation and different levels of optimization



**Open architecture to manage all kinds of robots.
Currently: Lift & Cart robots working together**



A patented adapter to be 100% compatible to existing infrastructure

FLEET OF HIGH-PERFORMANCE ROBOTS

Reaches 3.5m high
Drives 1.5m/s

- Inventory placement and optimization
- Placing high runners and other requested goods on first shelf for cart robot
- Managing inbound
- Can be used to bring boxes to picking station

Lift robot



Boxes of up to 30kg

Drives 2m/s

Cart robot



- Picks from first shelf
- Drives very fast (under the shelves without boxes)
- Generates throughput at picking station

HIGH ADAPTABILITY

We are adapting the robot to the warehouse
and not the warehouse to the robot



Even runs on
uneven floors



Utilizes standard
shelves



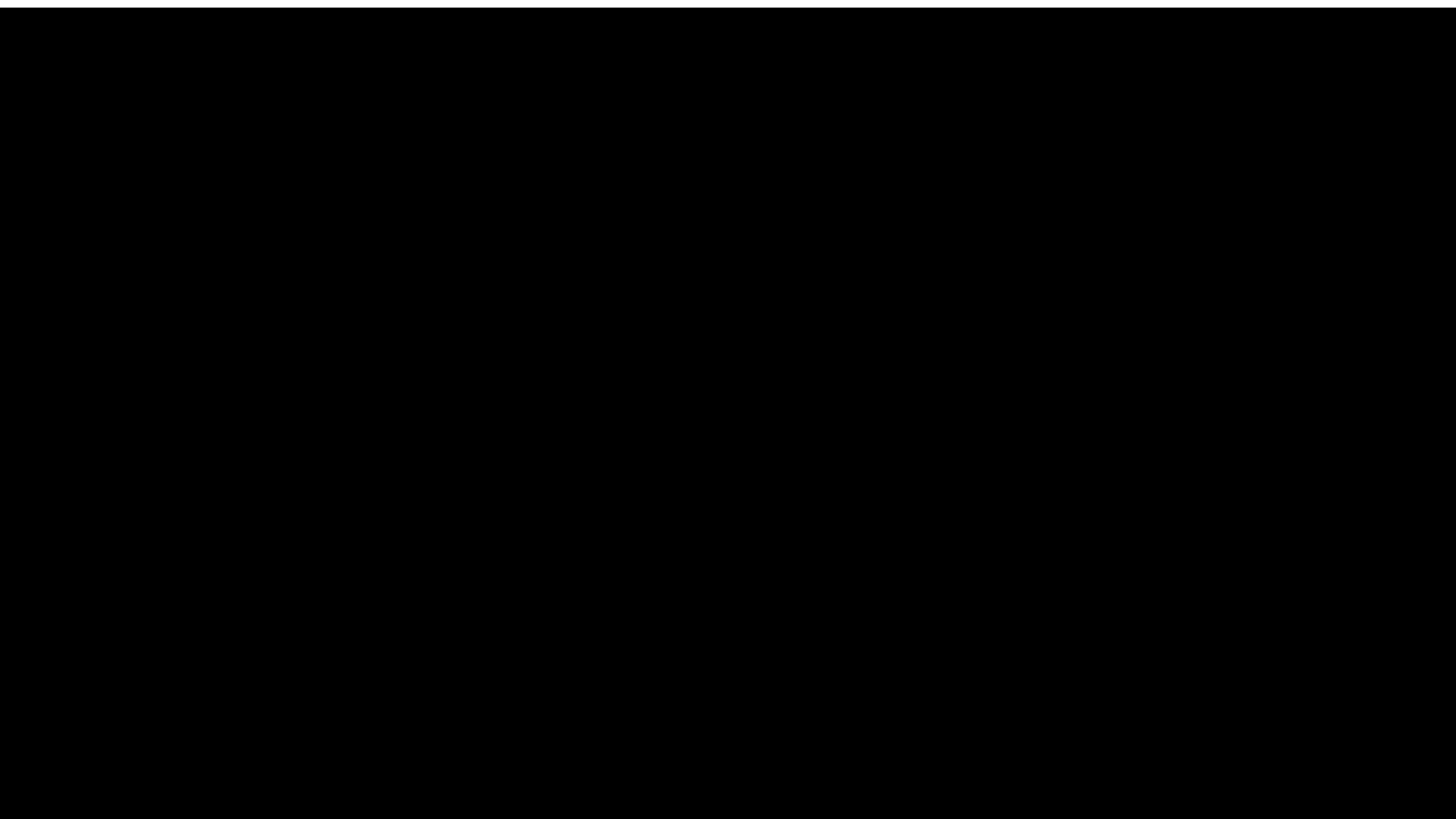
Any kind and size
of box or tote



Variable ceiling
heights

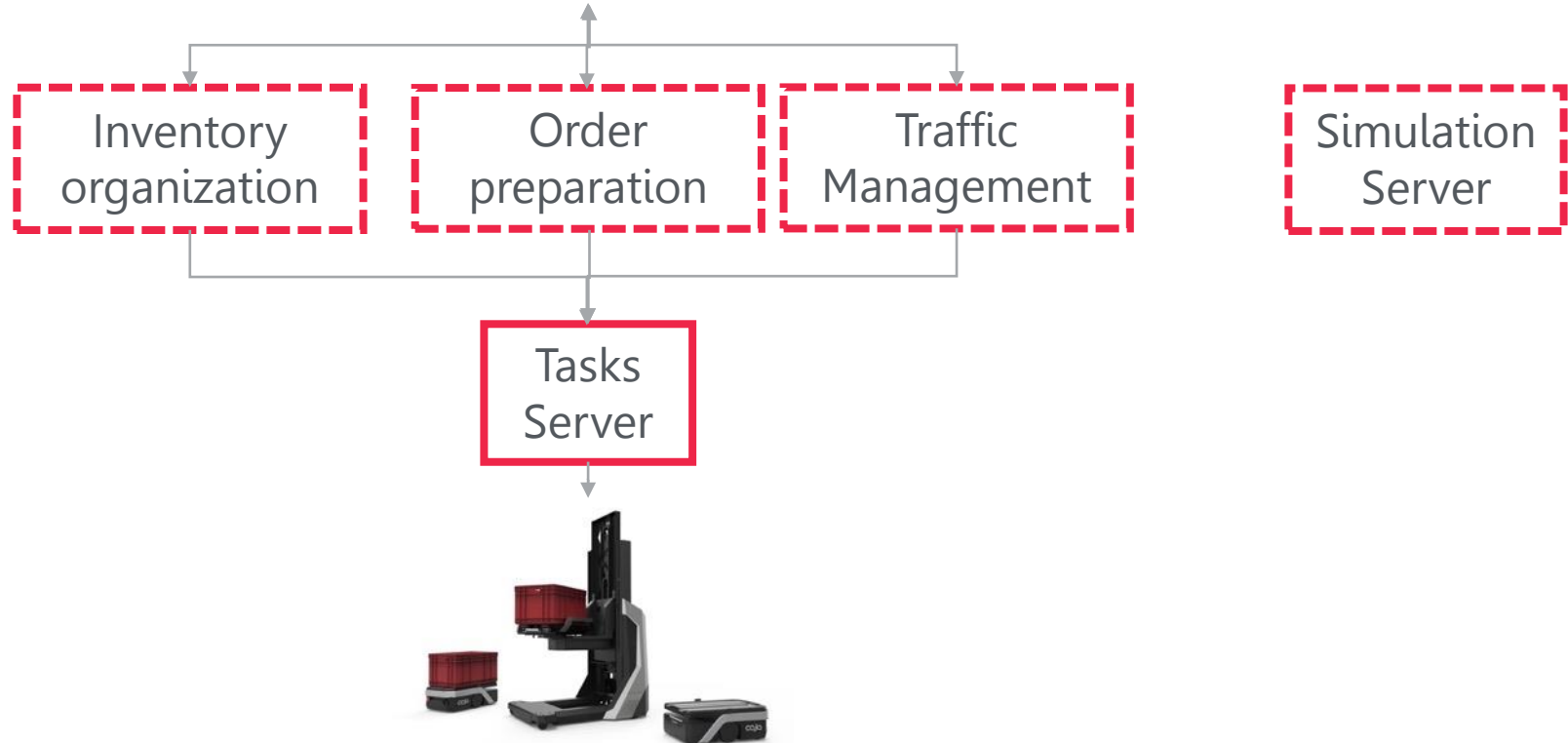


Works around
existing structures



SYSTEM ARCHITECTURE (CLOUD BASED)

Client's Warehouse Management System (WMS)

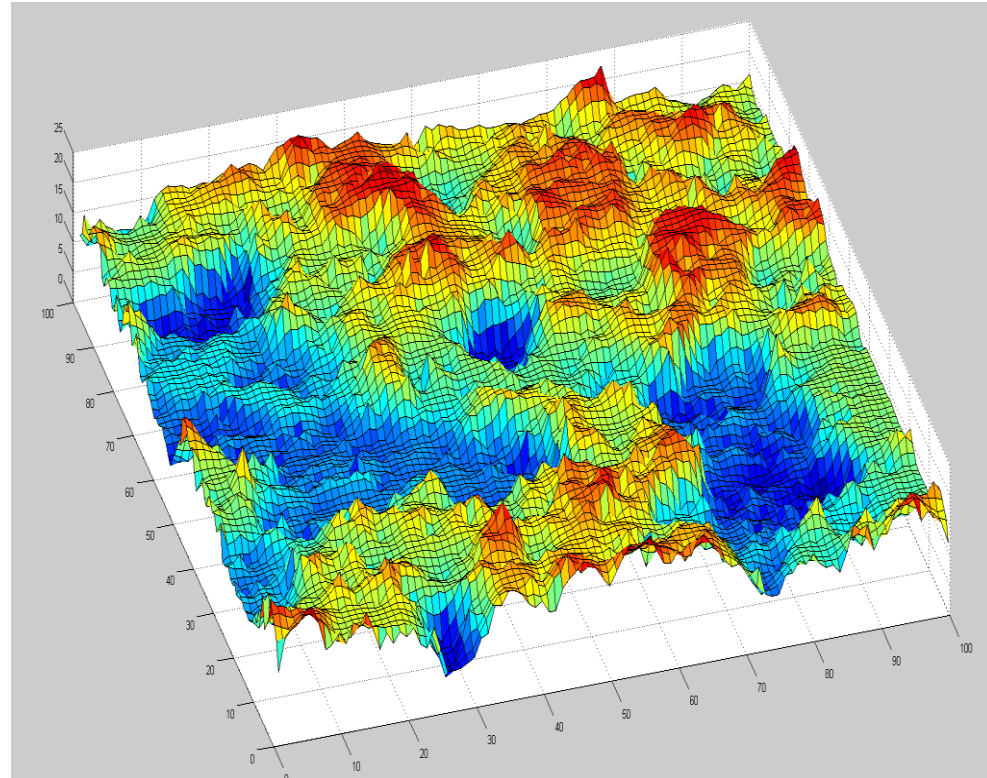


4D NAVIGATION & FLEET MANAGEMENT

Free-path technology: Cloud-based navigation algorithm that manages the fleet of robots by making sure the way is clear of other robot

Future path and locations of all robots are all defined with the resolution of a second

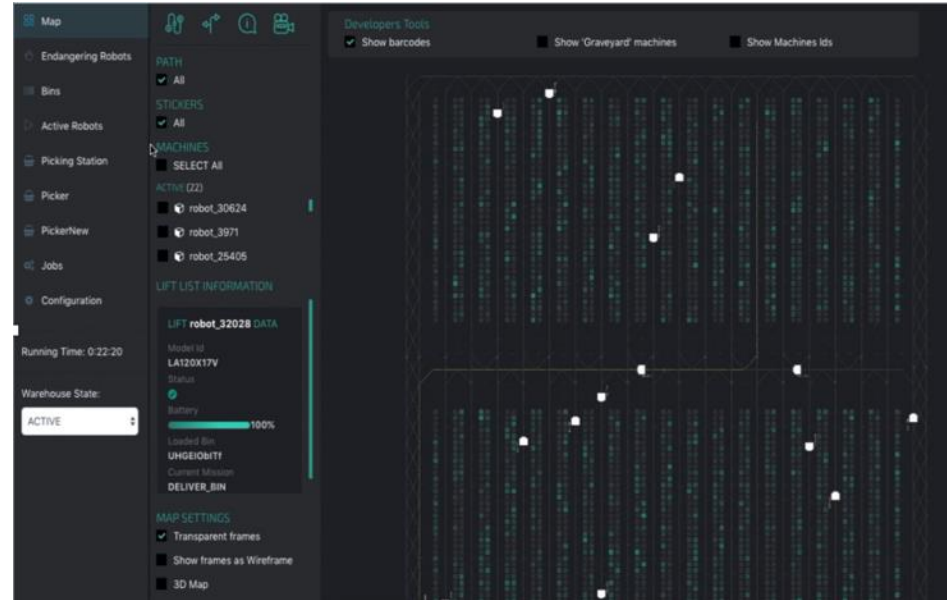
Additional powerful algorithms for optimization of inventory and orders



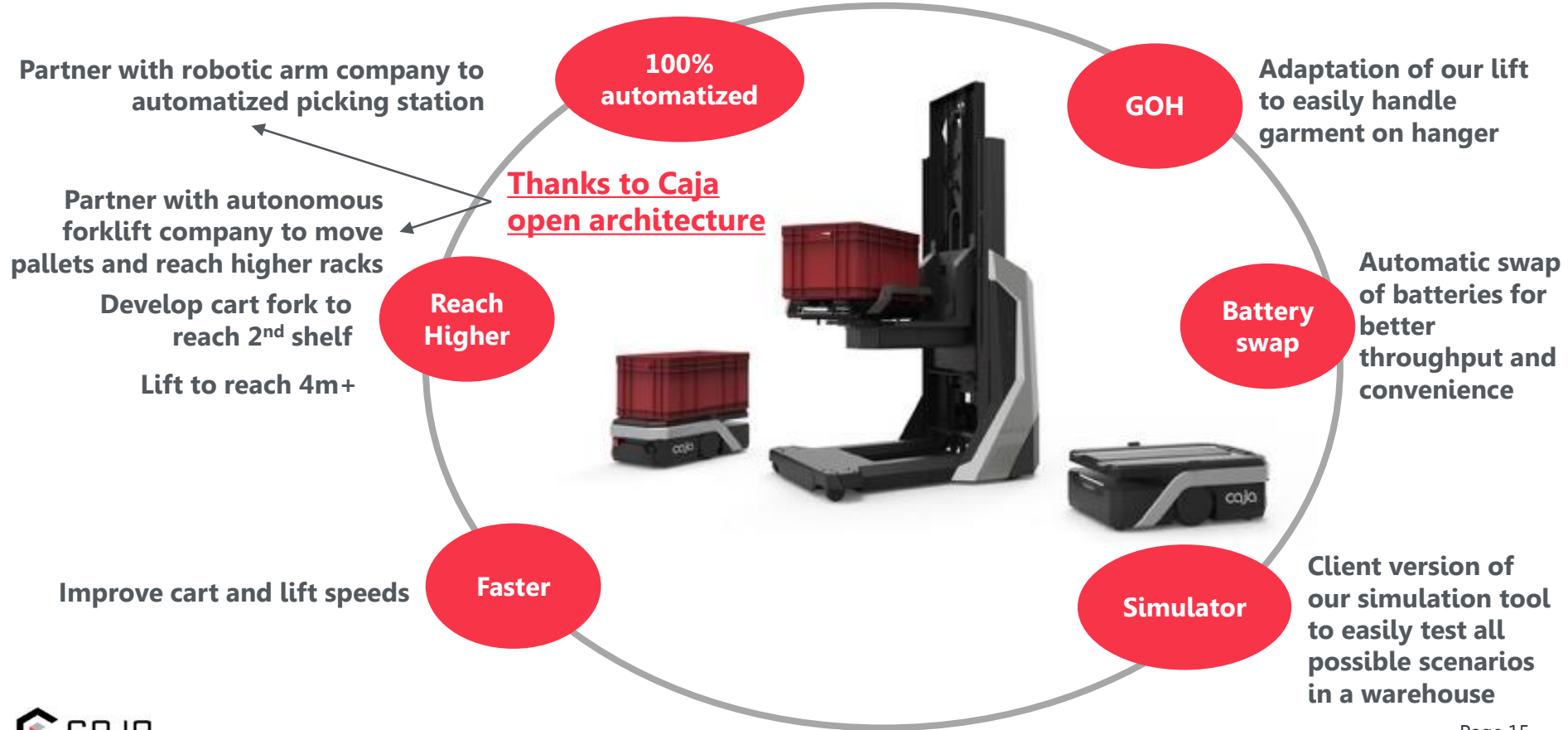
OUR UNIQUE SIMULATION TOOL

State of the art software that creates a virtual twin of the warehouse and simulates the physical actions of the robot and picking stations.

An excellent pre-sale tool also used to forecast warehouse expansions for existing customers.



PRODUCT NEXT STEPS



CLIENTS: A LEADER IN FASHION LOGISTICS

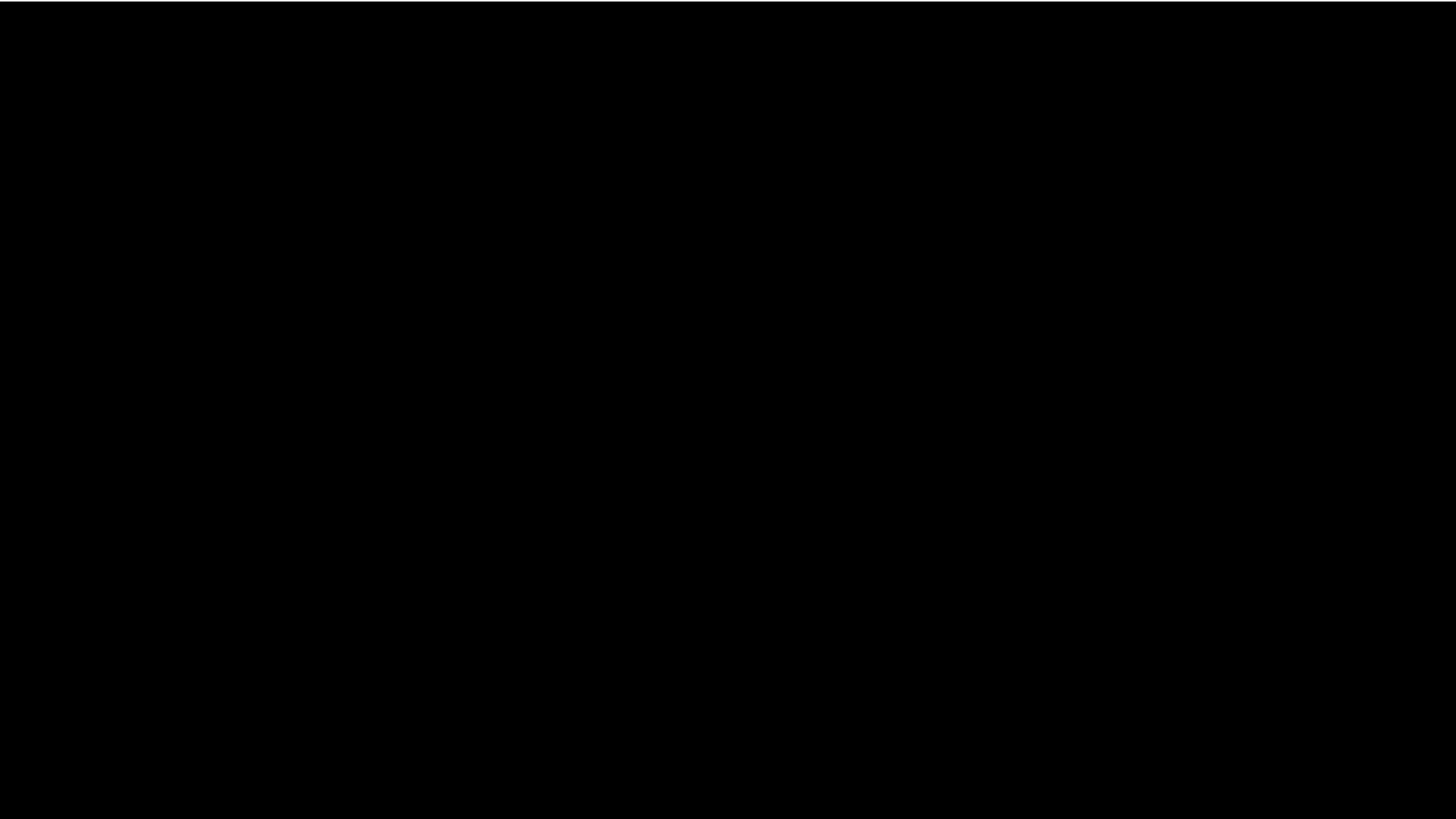


US based

**0.3M sqm of
warehouses**

**Operations in
USA, Canada and
Europe**

1st project on 2,500 sqm (20 robots), Live in North Bergen, NJ (installation and WMS integration started in 12/2018)



Nest



CLIENTS: A MAJOR 3PL

CONFIDENTIAL

**TOP 10 3PL
worldwide**

**5M sqm
80 countries**

**Decided to make
Caja only
preferred supplier**

**Showroom in Holland (Venlo) in 11/2019 to present Caja to the Group
warehouse managers and customers**

1st production project in Finland on 1,000 sqm (10 robots) in Q2 2020

OUR PROJECT SCHEDULE - LIVE IN 6 MONTHS

Activity/warehouse fit

Identification of relevant warehouses within UPS SCS

High-level quotation

First quotation, layout and schedule proposal

LOI + Simulation

LOI is signed a full simulation based on actual data

Final price quotation

Final price quotation based on simulation results

WMS Integration

Integration between UPS SCS WMS and Caja Software

Final agreement

Final agreement is signed defining the scope of the partnership

Robots manufacturing

Caja manufactures robots and other equipment

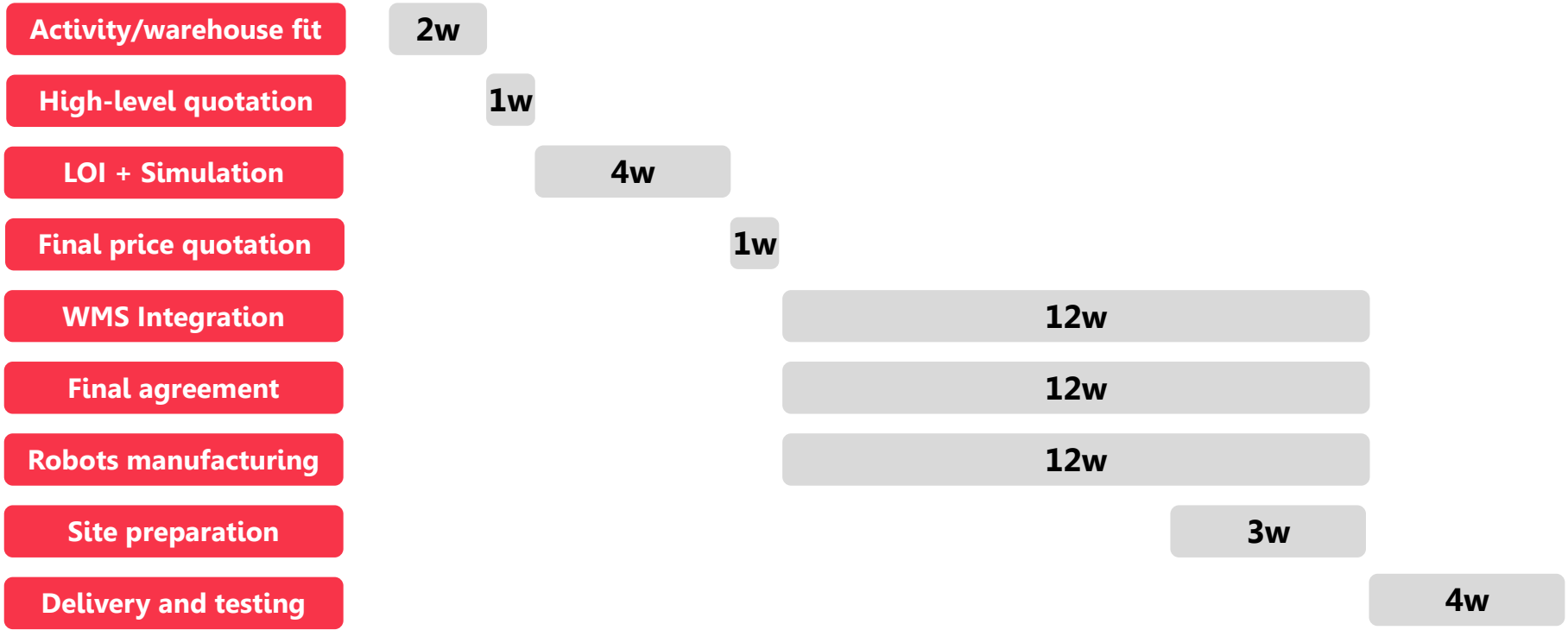
Site preparation

Site preparation by UPS SCS (incl. layout, network installation, etc.)

Delivery and testing

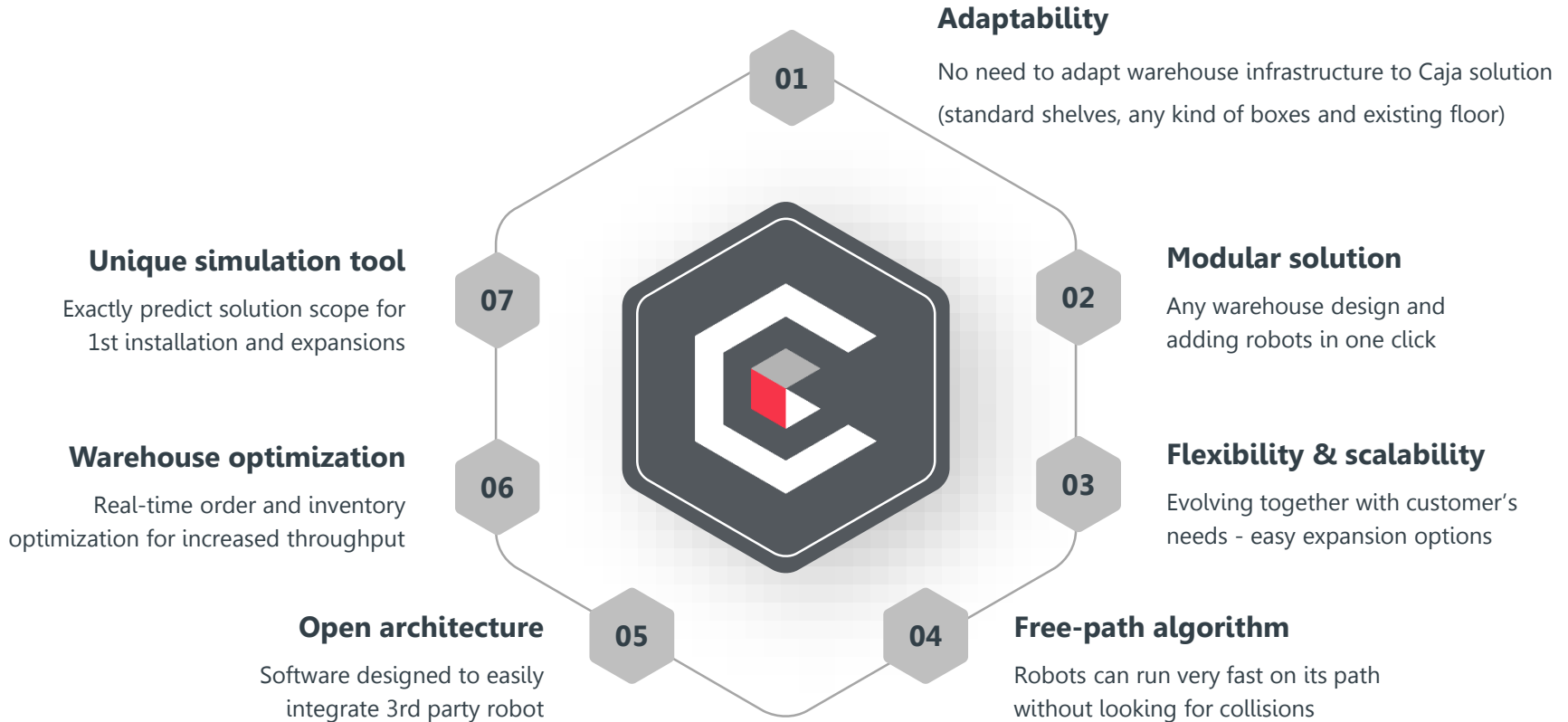
Shipment to the warehouse, testing of equipment and WMS integration

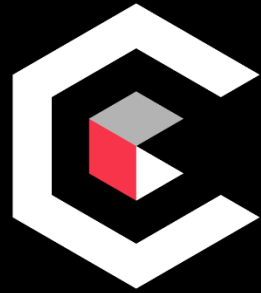
OUR PROJECT SCHEDULE - LIVE IN 6 MONTHS



Robots can be operational in 6 months

7 REASONS FOR CAJA





CAJA

R O B O T I C S