

“Quality in everything we do.”

Toyota Material Handling

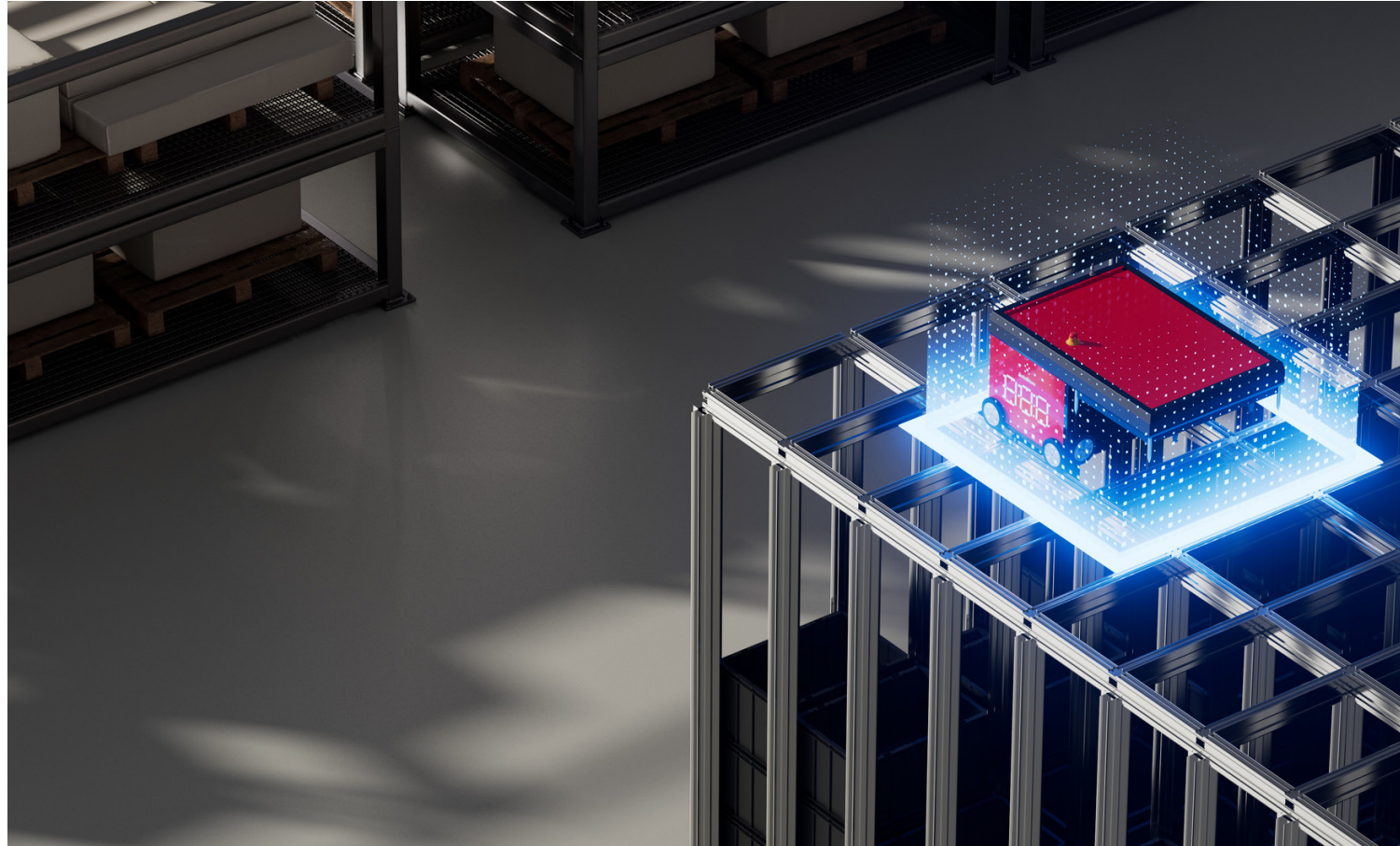
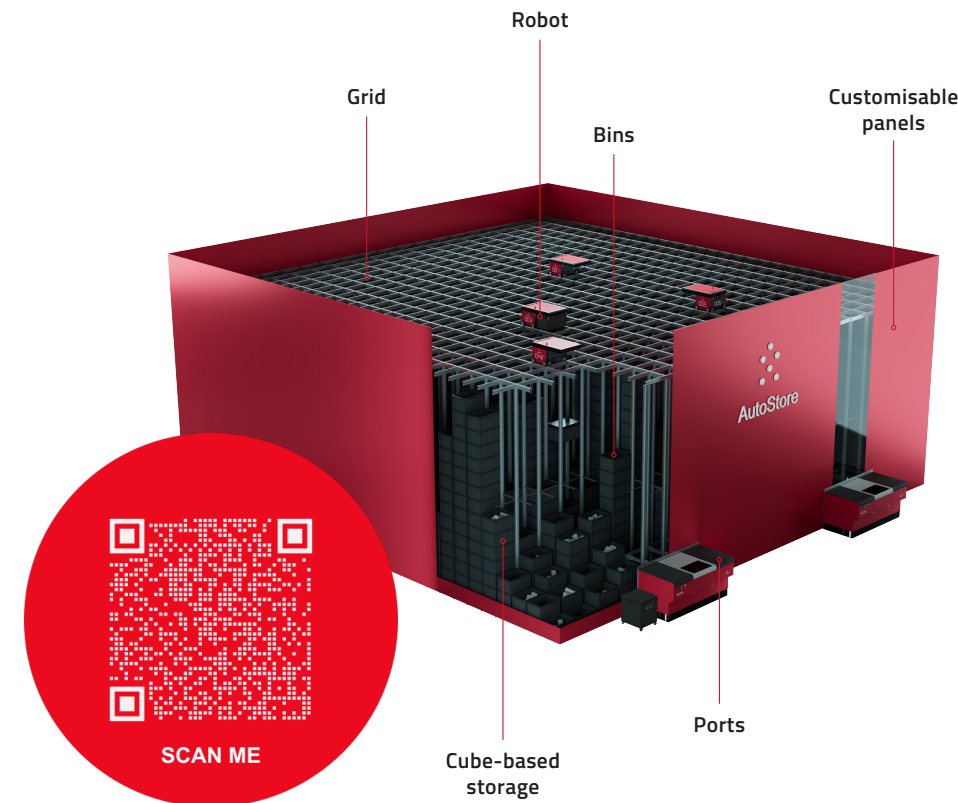


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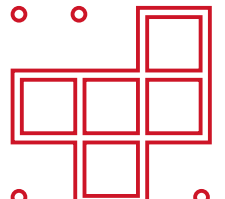
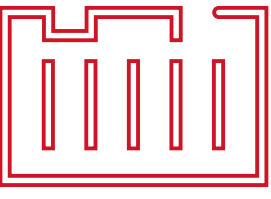
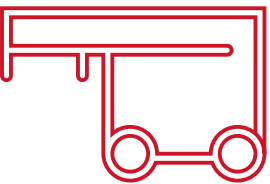
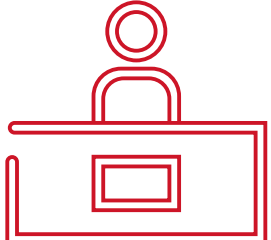
AutoStore & Toyota Material Handling

Global integrator, local service



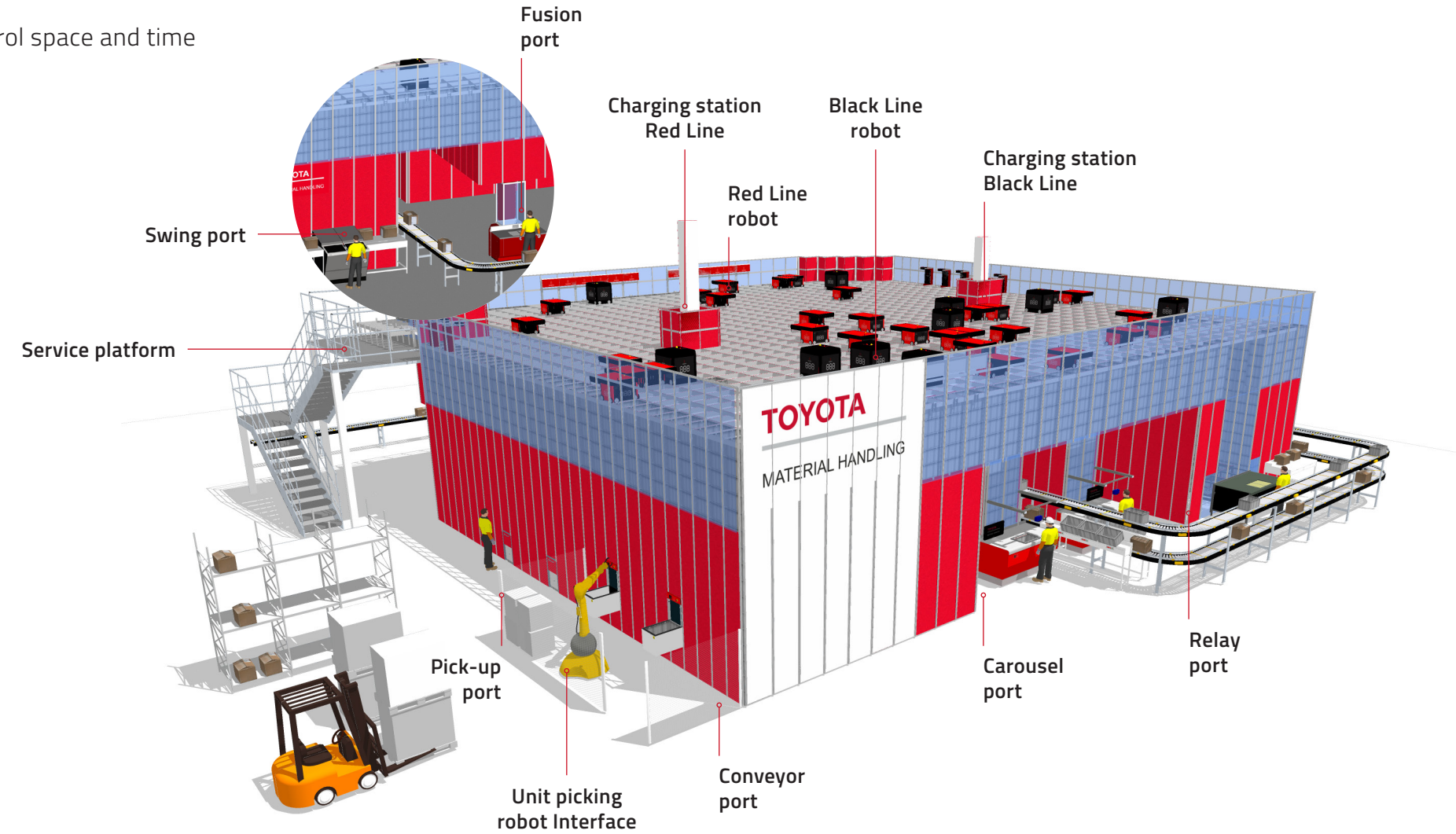
 <p>Want to make better use of your warehouse?</p> <ul style="list-style-type: none"> ✔ Maximisation of space: <ul style="list-style-type: none"> -75% of space needed. No air storage. 	 <p>Long picking route per order</p> <ul style="list-style-type: none"> ✔ Flexibility and adaptability: <ul style="list-style-type: none"> Configurable in different ways. Adapts to your building. 	 <p>Do you fear for the safety of your product?</p> <ul style="list-style-type: none"> ✔ Increased safety and reliability: <ul style="list-style-type: none"> Theft proof. Maximum precision.
 <p>Is your business growing?</p> <ul style="list-style-type: none"> ✔ 4x increase in storage capacity 	 <p>Do you have an existing operation?</p> <ul style="list-style-type: none"> ✔ Improved picking efficiency: <ul style="list-style-type: none"> We eliminate walking in the warehouse (50% faster picking time). 	

Toyota Group's experience with AutoStore in numbers.

	<p>162+ Sites</p>		<p>5,894,584 Bins</p>
	<p>7,257 Robots</p>		<p>1,532 Ports</p>

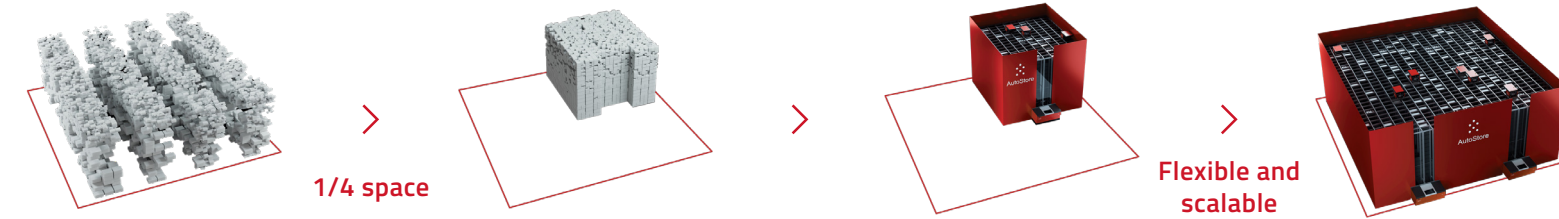
Introduction to the system

Control space and time



Benefits of AutoStore

A solution for the present and the future



📍 **Flexible and scalable**

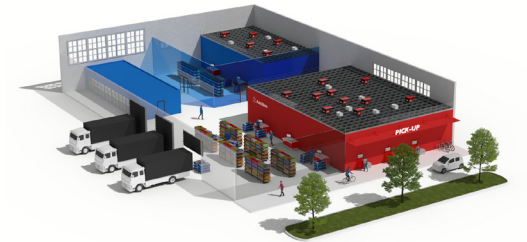
- Easy integration
- Modular construction
- Increased capacity: more robots and/or bins
- Minimal maintenance

📍 **Fast and efficient**

- 24/7 operation
- Faster order processing
- Higher productivity
- High reliability
- Easy integration into IT systems

📍 **Compact and versatile**

- Store small products
- Maximum use of space
- One system for all sectors



Compatible with a wide variety of products for different industrial sectors.



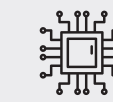
Pharma



Food > 0°



Kitting



Electronics



E-commerce



Fashion



Cosmetics



Construction elements

Modules

Grid

✔ A robust structure

- The grid is an aluminium structure.
- Bins are stacked in columns.
- Robots circulate on top of grid.

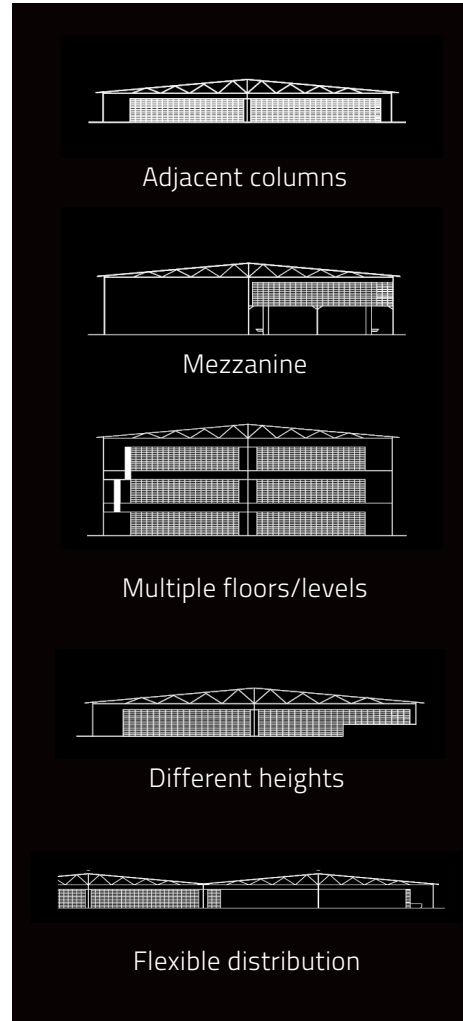
Capacity	5,000 - 300,000 bins
Capacity per level	up to 24 bins vertically
Maximum storage height	5,4 m
Length and width	Modular



Max. 35°C
Min. 2 °C



Max. 95%
Min. 5%

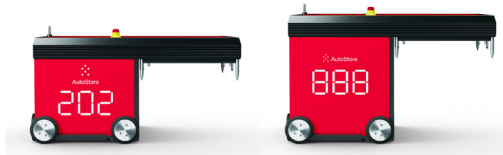


Robots

✔ Standardised, fast and efficient

Red Line or Black Line

- The type and number of robots determines the performance.
- With additional robots and/or by modifying the software, performance can be increased.



R5 / r5+ (Red line)	30 Presentations/h	3.1 M/s
B1 (Black line)	35 Presentations/h	4 M/s



Electro-mechanical Throughput	Speed
30 Presentations/h	3.1 M/s
35 Presentations/h	4 M/s

Bins

✔ 3 sizes available

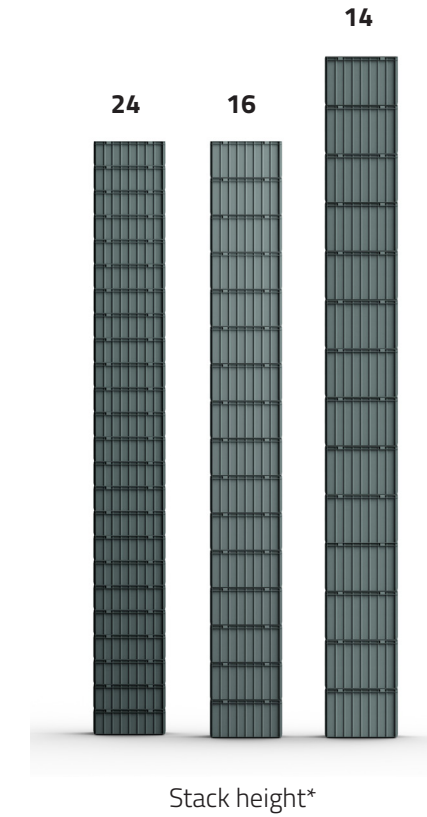
- Products are stored in structural bins that are stacked one on top of the other, achieving maximum density.
- There are 3 types of bins.
- It is not possible to combine different types of bin in the same system.



The tray outlay can be customised with dividers



	BIN 220 mm	BIN 330 mm	BIN 425 mm
Compatibility	R5 and B1	R5 and B1	B1
Stacking height*	24 units	16 units	14 units
Volume	48 L	75 L	99 L
Max load capacity	31.6 kg	30.6 kg	29.6 kg
Internal dimensions	W: 403 mm	W: 403 mm	W: 403 mm
	L: 603 mm	L: 603 mm	L: 603 mm
	H: 202 mm	H: 312 mm	H: 404 mm



Work stations

☑ Comfortable handling areas

- Store and retrieve merchandise, collect orders and avoid long-distance traveling.
- Maximum efficiency for the worker and facilitate all movements.
- Highly ergonomic workplace.



Conveyor Port

- Simpler workstation.
- Contains a scale
- Ideal for replenishment

Bins/H 60-180



Carousel Port

- Large work station, ideal for preparing orders
- It works with three rotating arms.

Bins/H 150-360

Other available ports



Fusion Port

- High speed
- Ergonomically advanced



Swing Port

- Direct connection to the elevator
- Two rotating arms



Relay Port

- Highest throughput



Pick up Port

- Port facing orderpicker
- Contactless store pickup

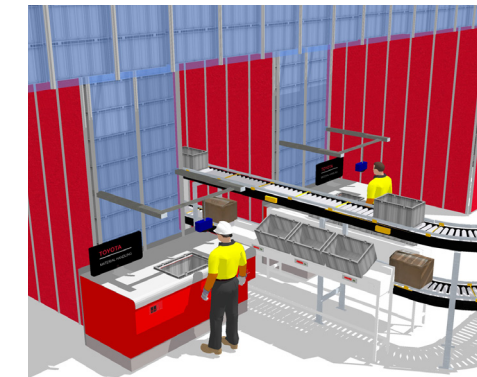
Integration

Pick-to-light, transport technology and more

AutoStore workstations connected to intralogistics systems ensure that orders arrive even faster.

To facilitate packaging operations, Toyota offers:

- Box erectors
- Box sealers
- Box closers
- Labellers
- Weight scale
- Palletizers



- 1 | Carousel port
- 2 | Multiple box positions
- 3 | Presentation of the bins
- 4 | Pick-to-light indicates the item to be extracted
- 5 | Guide screen for the operator
- 6 | Put-to-light system indicates where to place item

☑ Robotised collection of parts

- Accurately pick up individual parts 24/7.
- Advanced vision system: recognise items
- Determine the proper grip points.
- Quick implementation.
- It gets better with time.
- Reduced dependency on labor.



Maximum load	2 kg
Product dimensions	Min. 1 cm - max. 30 cm
Performance	1200 products/hour
Reliability	>99%

A personalised study will be provided*

T-WCS

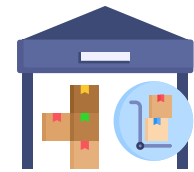
Our software

Toyota Warehouse Control System

T-WCS connects the control functions of the AutoStore with the client's ERP, WMS and MFCS, and with automated material flow control system solutions (conveyors, pallet systems, AGVs, etc.)



System integration



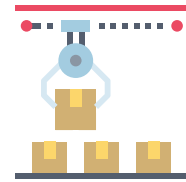
Warehouse management



Order scheduling



Picking

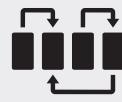


Shipment Preparation

Functionalities



Order management



Control of the workflow of robots



System monitoring and control



Communication with external systems, maintaining data synchronisation



Reporting and analysis

Customer service

Our pillars

- At Toyota we have a broad and solid After-Sales & Technical Service.
- We study each case offering the best solution.
- From full service to a remote monitoring option.
- 2-year warranty.



Service scalable to your needs, offering the best solution.



Full service. VPN access: troubleshooting in real time.



Customer Service 24hours



Personalised solutions for each client



Possibility of financing through Toyota.

Solutions distributed throughout Europe

We provide first-class support thanks to our service network.

+5,000

Maintenance technicians

+400,000

Service trucks

+4 M

Services per year

Case studies



Metro
Madrid, Spain



Industry
Management and maintenance of train lines

Product
Spare parts

Thanks to Toyota

- €14.6 M to save in 15 years
- Reduction in the number of operators
- 67% of space gained in the warehouse

Characteristics

- 15,000 bins
- 8 Red Line Robots
- 3 ports



Intersport Elverys
Castlebar, Ireland



Industry
Fashion Retail

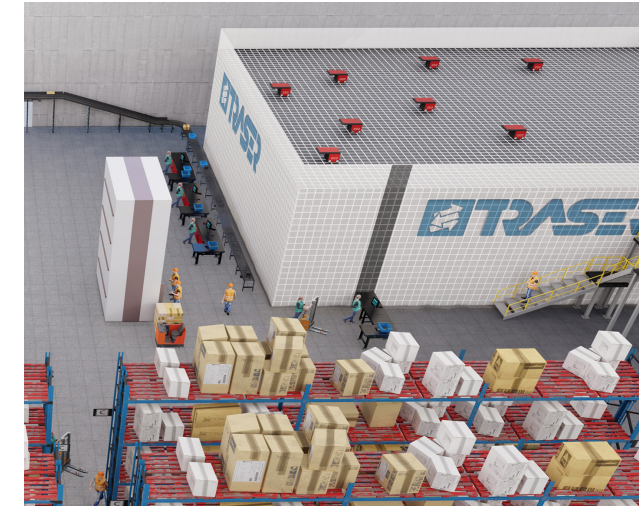
Product
Clothes and accessories

Thanks to Toyota

- Expands its quota achieving an annual growth of 5% in sales
- 50% more production capacity with the same workforce
- Addresses labor shortage in the area

Characteristics

- 35,000 bins
- 35 Red Line + Robots
- 7 ports



Traser
Bologna, Italy

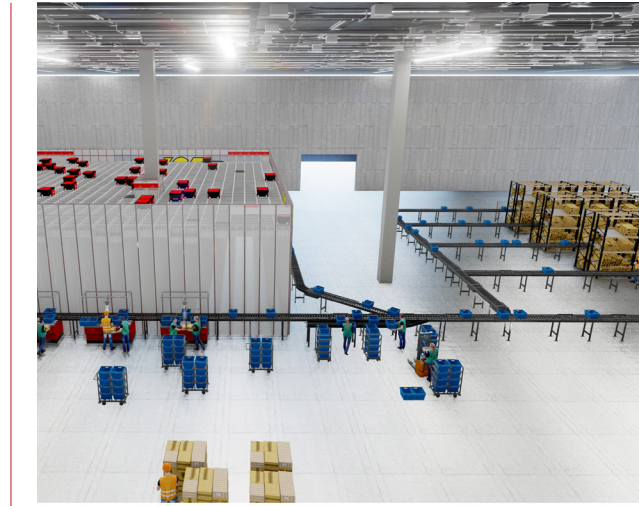


Industry
3PL for hospitals

Product
Pharma and medical devices

Characteristics

- 17,000 bins
- 10 Red Line Robots
- 4 ports



Austrian Post
Vienna, Austria



Industry
3PL for two different clients

Product
Health & beauty

Characteristics

- 30,000 bins
- 35 Red Line Robots
- 8 ports



PV Automotive
Bielefeld, Germany



Industry
Auto Parts Wholesaler

Product
Spare parts

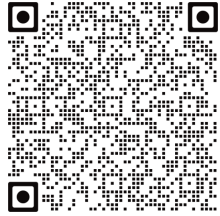
Characteristics

- 32,000 bins
- 39 Red Line Robots
- 3 ports
- 4 transfer cells

**Contact us to learn more about AutoStore
and the right solution for you.**

Phone: +34 915 56 31 88 / +34 902 420 422
info@es.toyota-industries.eu

Website



THINK : LIKE : TOYOTA

Toyota has a worldwide reputation for lean-thinking based on the principles of the Toyota Production System.

We aim to share our thinking with our customers, and together we are aiming for zero muda to improve efficiency, increase profitability, and protect the environment.

We are continuously planning for the future and thinking ahead. This leads us to prepare for our customers' futures, with effective use of new technologies such as connectivity and automation.

