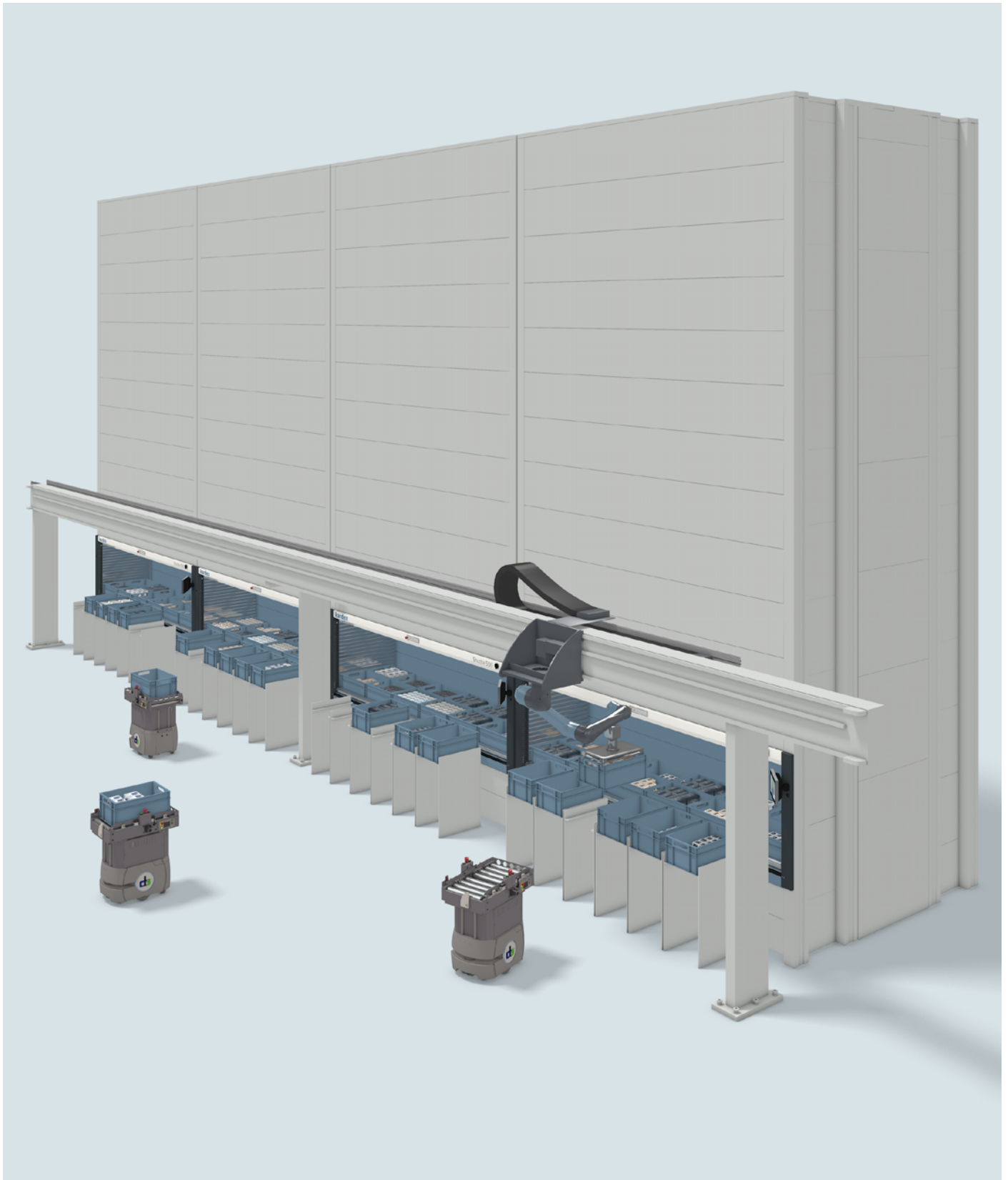
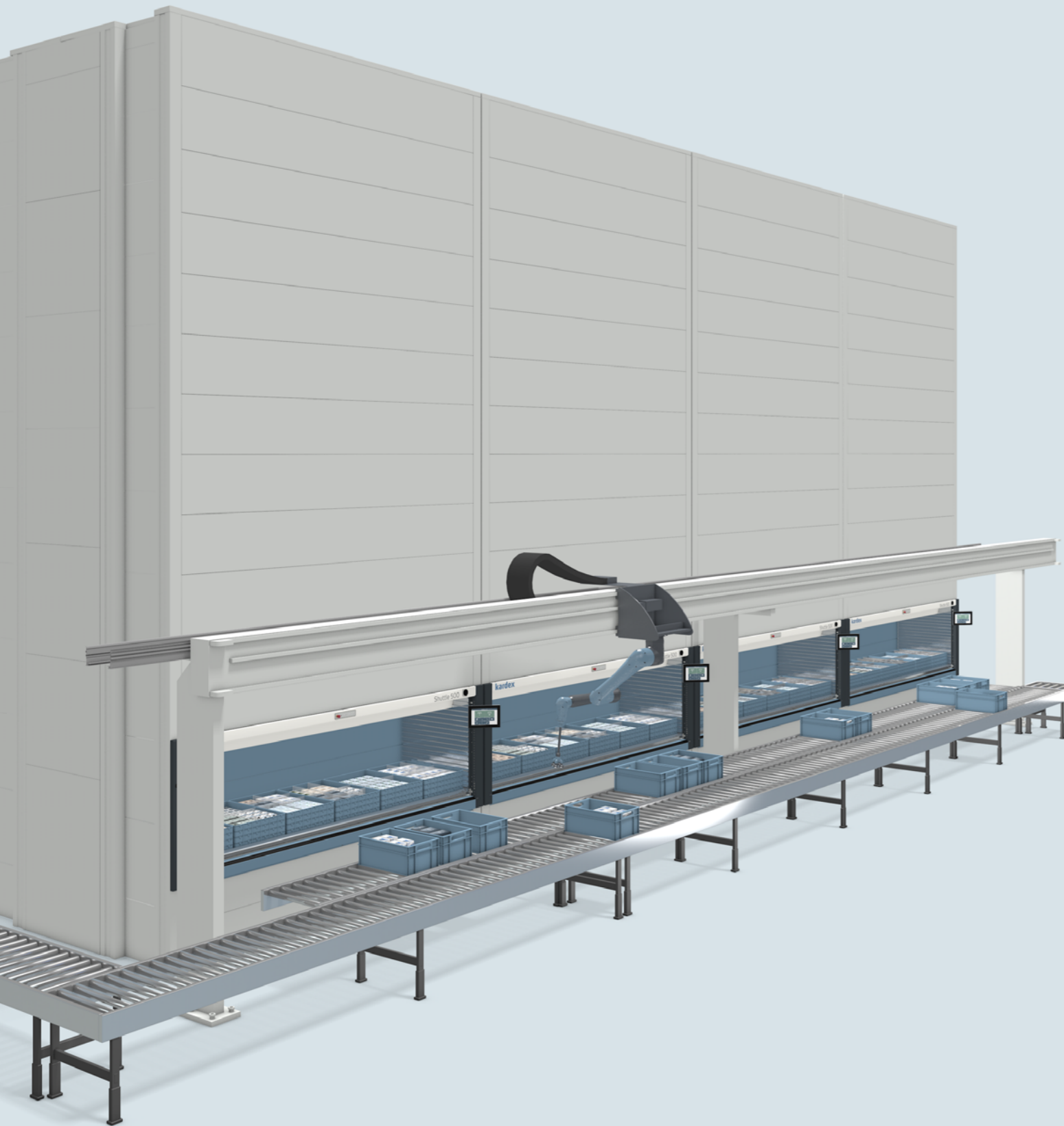


Solution Guide

Boost Your Production



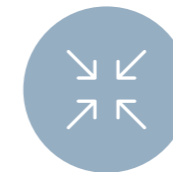


Time to modernize

Do your production logistics include modern technologies and best practices to gain the competitive edge necessary to succeed in today's market? Megatrends such as product individualization and just-in-time production processes are causing challenges in ways manufacturing companies are unfamiliar with.

Implementing smart technologies to improve material handling and transportation is a critical step to move your production logistics to the next level. The [Vertical Lift Module \(VLM\) Kardex Shuttle](#) combined with a [pick and place robotics](#) solution can do this. As a global leader in VLMs, the Kardex Shuttle offers reliable and efficient production logistics. It buffers raw materials and semi-finished products close to the shop floor or assembly line.

Kardex took this a step further cooperating with experts in pick and place robotics, providing customers a smart solution that fully automates material handling and transportation processes. Pick and place robots pick and replenish without any manual assistance for both single items and standard totes (e.g., 600 × 400 millimeters).



Save valuable footprint – automated solutions take up to 85% less space than static shelving



Optimize material handling processes with fully automated robots



Ensure process quality and receive the right material in the right quantity at the right time



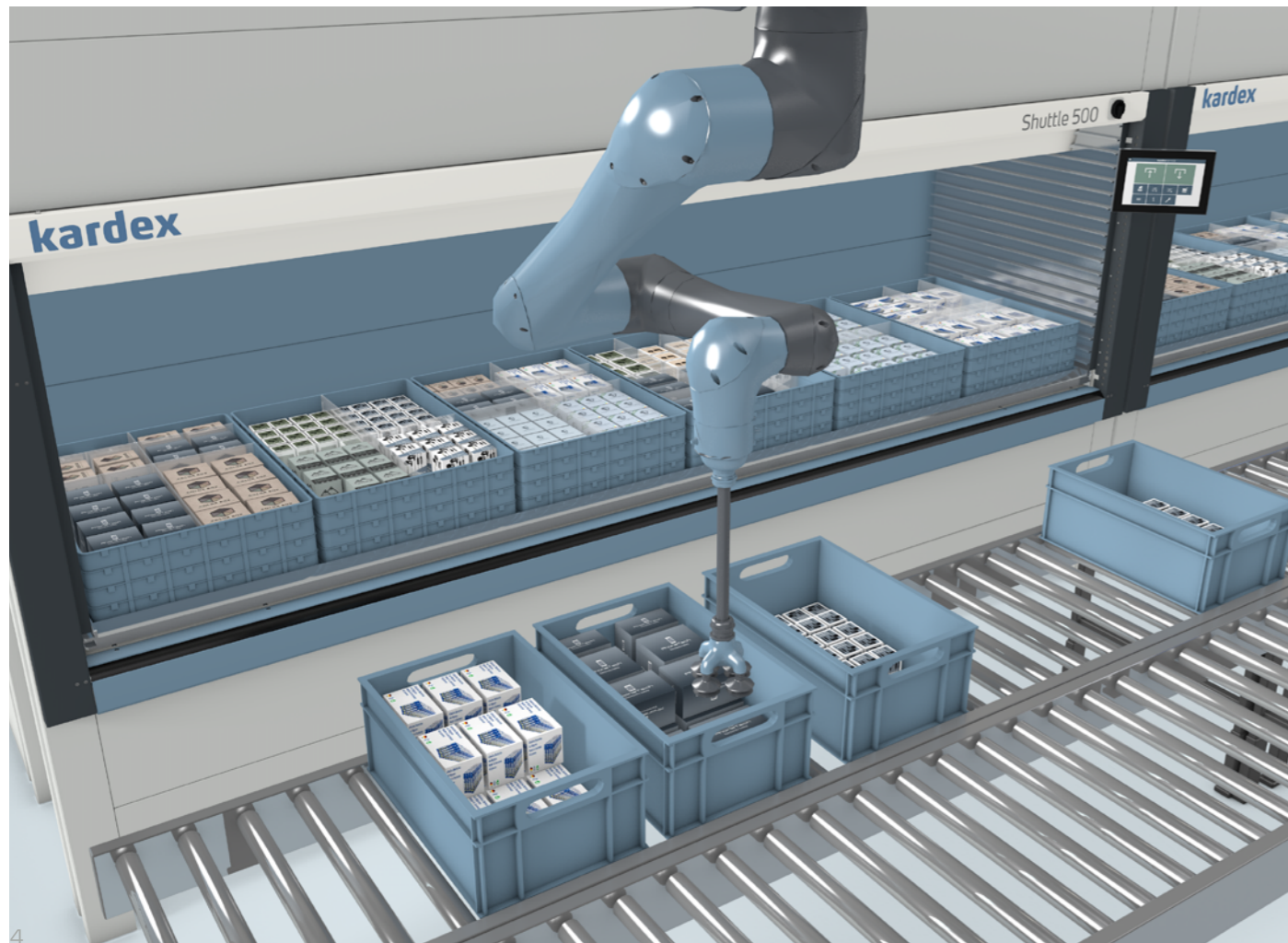
Optimize manufacturing equipment investments with state-of-the-art production logistics

Improve just-in-time production supply

Is your goal to grow sustainably, meet customer requirements, maintain accurate inventory and deliver goods with speed and precision? All while avoiding bottlenecks? Enhanced by robotics, the Vertical Lift Module Kardex Shuttle can solve ongoing challenges and improve warehouse processes in the production environment.

Many manufacturing warehouses turn to a Kardex Shuttle because it has a compact footprint and high throughput rates. It can save up to 85% floor space. When complemented by pick and place robots, order accuracy increases significantly eliminating picking errors all together.

The Kardex Shuttle features an enclosed shelf-based storage system designed to increase capacity in a compact footprint. It consists of two columns of trays with an automated extractor positioned in the center. The extractor automatically locates the trays and retrieves them as needed. Kardex Shuttles operate on a goods-to-person principle and increase productivity by providing goods efficiently to an operator during order fulfillment.



Automate manual picking & replenishment

To fully leverage the Kardex Shuttle capabilities and undoubtedly surpass competitor speeds and precision, users may add intelligent robots. Exactly where you always need extra hands, robotic solutions provide additional resources 24/7, reducing dependency on manual labor.

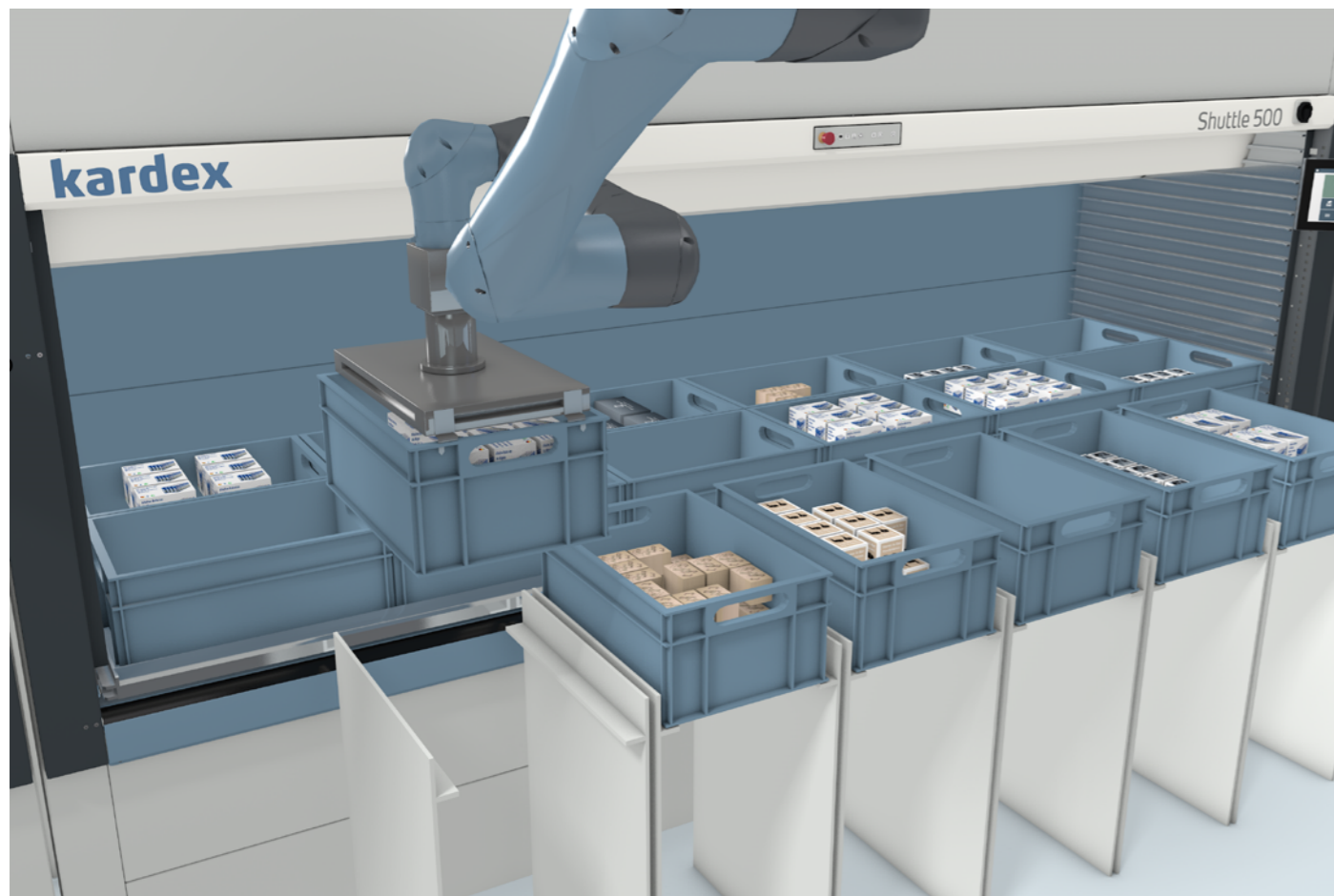
Kardex offers robotics solutions as a standalone subsystem added to the Kardex Shuttle solution. The pick and place robots seamlessly integrate and automate manual picking and replenishing processes. Kardex houses all critical components under one roof eliminating the stress often experienced by managing systems with multiple sources.

Using hardware-independent 3D vision software, pick and place robots can replicate the exact precision and synchronization of a human's eye-hand coordination to create a multi-functional and versatile robotic solution.

Optimize material flow

Pick and place robots manage single items as well as standard totes. By integrating them into an existing conveyor system or an autonomous mobile robot (AMR) system, they separate, orientate, measure, sort, scan and transfer goods from A to B. The robots can handle order totes or replenishment totes, automatically across multiple Kardex Shuttles. Traveling along a gantry from Kardex Shuttle to Kardex Shuttle, they operate where you need them and thus optimize the utilization of the entire installation.

- Achieve up to 600 picks per hour
- Capable to handle single items as well as totes
- Recognize and separate products regardless of shape, size or packaging
- Process orders accurately and efficiently 24/7



A competitive edge

Manufacturing and production processes

A highly flexible supply chain solution is required for navigating customer product configurations and assembly of project specific machines and systems. Normally, small manual warehouses are placed close to the shop floor / assembly line to fulfill materials demanded by production - the so called supermarkets. Operating supermarkets requires valuable shop floor footprint and intense manual effort, typically seen in multi-shift operations. External customers often audit these processes to ensure product quality when deciding on forming a strategic business partnership.

The Kardex Shuttle in combination with pick and place robotics will replace the manual supermarkets and significantly improve the quality of your production logistics as well as its efficiencies. It will eliminate the need to hire multi-shift operators and ensure smooth, 24/7 production and assembly processes.

A smart and fully integrated solution from Kardex will boost your warehouse production, positively impact customers, and ensure you outshine competitors.

Implement a complete solution

The flexibility of the Kardex Shuttle combined with the agility of pick and place robots provides one integrated solution. Processes become fully automated. This reduces overall labor needs, improves ergonomics, and optimizes efficiency of the entire manufacturing process. The smart, modern technology designed for today's market offers warehouses an unrivaled competitive advantage.

- Increase picking performance and accuracy
- Optimize inventory transparency to ensure auditable processes
- Operate 24/7
- Improve ergonomics at picking and replenishment
- Reduce labor





Are you ready to take your business to the next level?

To succeed in the manufacturing industry, especially when working with automotive / mechanical, engineering, metal or electronics, warehouses need sophisticated, state-of-the-art production logistics and technology. Kardex understands the intricacies of managing a high number of SKUs, navigating service demands such as same-day delivery and shining through in a highly competitive market landscape. Our combined, automated solutions work 24/7 and provide the speed and precision necessary to succeed in today's market.

 [Contact a specialist](#)

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