

Kardex Order Picking Solutions

Faster and safer –
Kardex Remstar Order
Picking Solutions



Kardex Order Picking Solutions: For maximum efficiency of your picking and putting processes



Rapid and accurate order processing is key to the success of your enterprise – and has a positive effect on the satisfaction of your customers. However, picking and putting processes are very labour-intensive and claim a large part of the general overhead costs. Automated storage and retrieval systems significantly help reduce the time spent on order processing and minimise your workload whilst increasing productivity and picking accuracy. One further benefit: Compared to conventional storage systems, you can

optimise utilisation of your logistics areas – and on top of that, you can offer your customers even better service.

Kardex Remstar is one of the world's leading manufacturers of automated order-picking solutions. Each system is specifically designed to make your working processes more productive and efficient by integrating economically efficient and well devised concepts with proven technologies. Our solutions allow you to optimise your storage capacity whilst at the same time

reducing the cost of handling goods. The degree of automation can be selected to suit your business processes whilst integrating customer-specific criteria such as investment volume, flexibility and risk. However, our solutions also take into account the working conditions of your employees as well as other factors such as stress, ergonomics and motivation.

Modular structure and an intelligent order picking principle – the double benefit of more flexibility and storage space.



Kardex order picking solutions are based on modularly designed and custom-tailored overall concepts. Kardex Remstar has deliberately selected the standardisation of logistic processes in combination with proven storage and retrieval modules to be able to offer you these advantages. From our various standard modules and processes, we develop – always in close cooperation with you - the one Kardex order picking solution that best suits your enterprise.

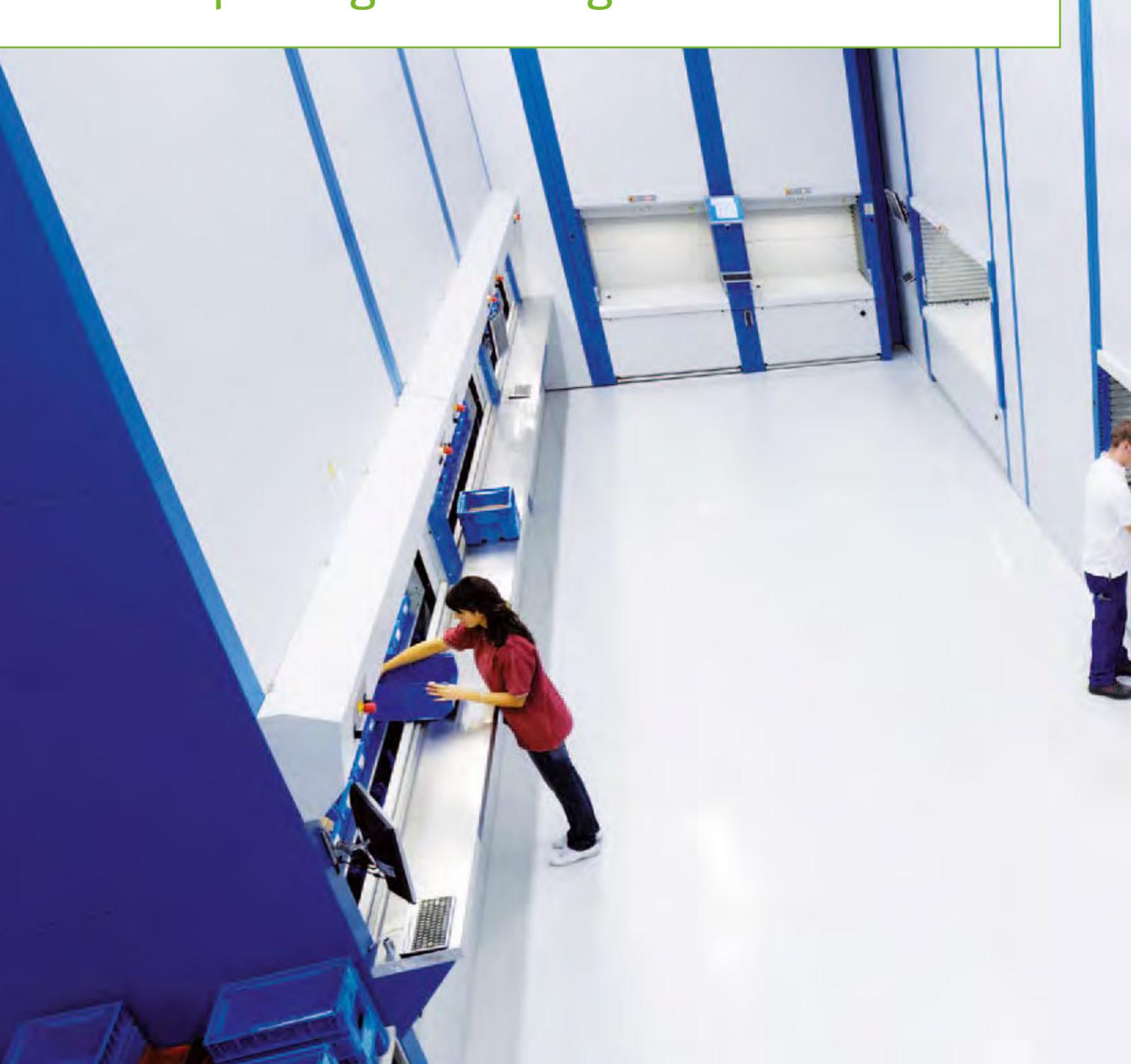
Many enterprises in the electronics wholesale and mail order trade, supplier firms, pharmaceutical and hospital logistics enterprises already focus on the obvious advantages of our order picking solutions. Join us and optimise your material flow with order picking solutions by Kardex – for increased productivity, performance, and accuracy!

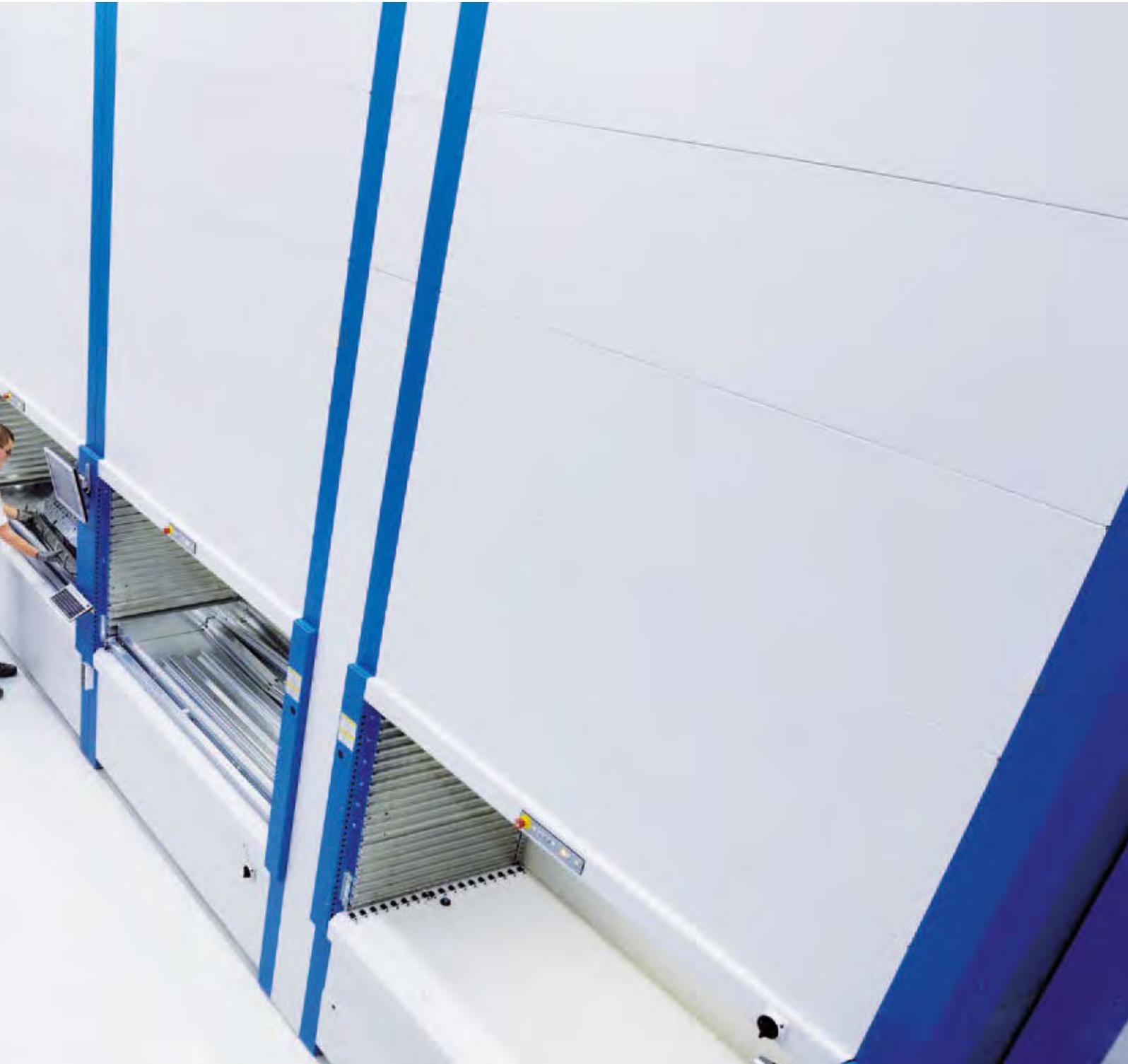
The following pages show you in more detail just a few of the many Kardex Order Picking Solutions.

Your advantages at a glance:

- Cost-efficient solutions based on our standard products and processes
- Increased picking accuracy
- Flexible layout design and easy expandability
- Minimised risk due to reduced system complexity

Kardex Order Picking Solutions: Intelligent, flexible, modular – Order picking at the highest level





Kardex Order Picking Solutions: We take full care of you and your products



Kardex Order Picking Solutions allow for the processing of complex orders, reliably and within the shortest possible time. Rapid order processing at the highest quality level – even during peak workload times – guarantees you maximum productivity and optimal flow of goods in your warehouse.

Our modular storage and retrieval systems can be combined in many ways and are ideally suited to meet your every business need. Each system allows picking and putting in one or more zones; one station may correspond to one zone, or one order per station may correspond to one bin. The goods are

automatically presented and manually picked at the access openings. The operator puts the goods into the bins; they are then transported directly to the next station or collection point.

Scalable

- Fast, secure, and process-oriented picking and putting
- Optimal expansion possibilities through modular structure
- Automated inventory check
- Integrated supply processes
- 1,000 to 50,000 order positions per day

Economical

- High efficiency through automated presentation of goods
- High productivity, consistently high quality and failure protection – also during peak times
- Reduced staff requirement for picking and putting operations
- Optimisation of storage capacity through effective space utilisation

Secure

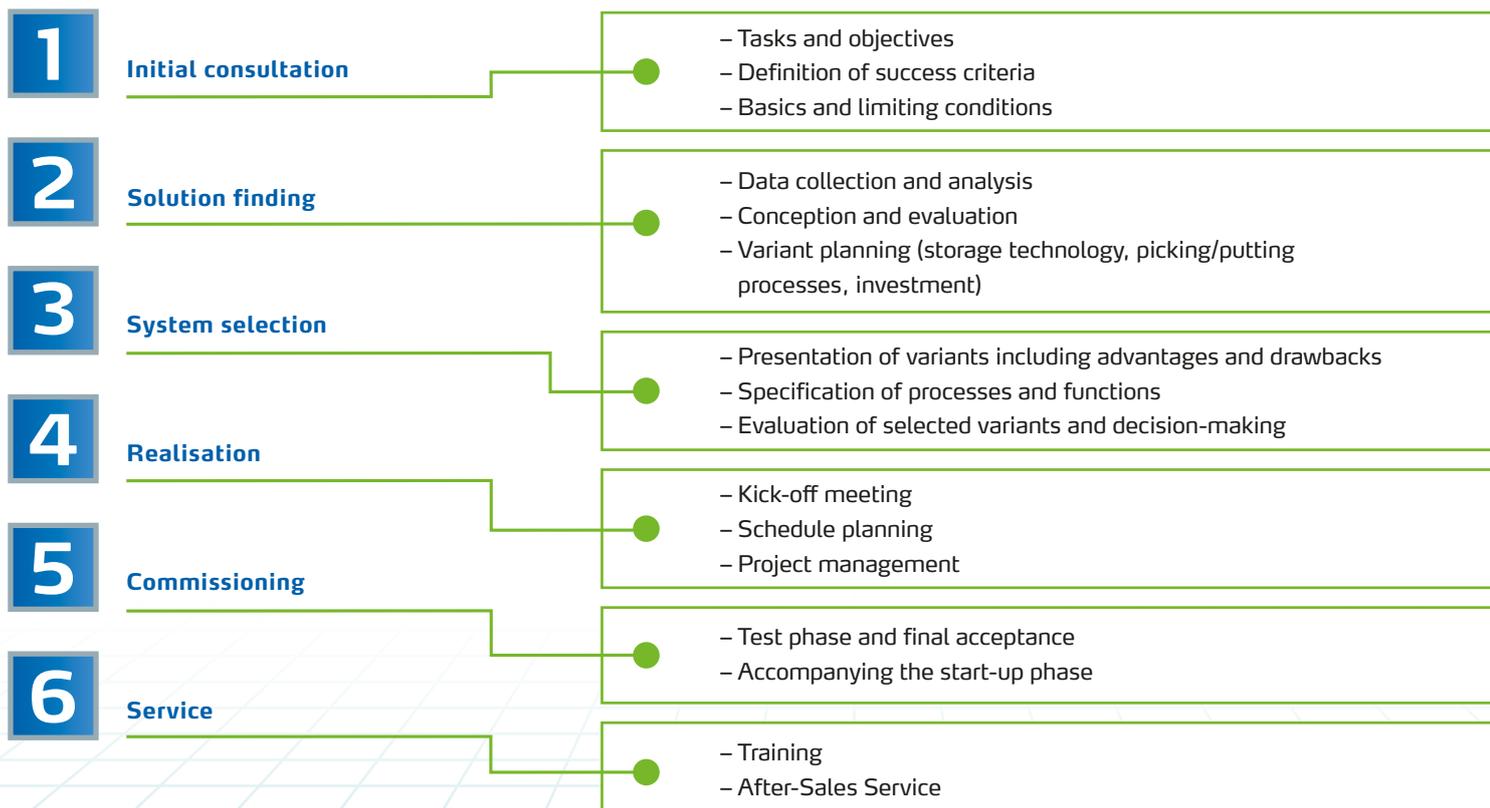
- Goods are protected against unauthorized access
- Allocation of picked goods to individual users
- Closed casing protects goods against external influences
- Air-conditioned, clean-room and fire protected solutions

All-round service and economically efficient, demand-oriented system solutions.



From initial meetings to practical user workshops and the regular maintenance of your storage and retrieval systems, the qualified and competent personnel at Kardex Remstar is always there to support you. Right from the very start and in close cooperation with you, we plan and analyse your working environment and deal with all issues and requirements that are essential to achieve optimal integration of your Kardex Order Picking Solutions.

We accompany your project from A to Z:



Solution variant 1: Optimised utilisation of storage space on a minimal footprint



Suggested solution

One station consists of:

- 3 Shuttle or 3 vertical carousels
- 1 operator, one picking cart
- 1 PC with flat screen, one hand scanner

Performance

- 1 picker per station can process between 80 and 200 order lines per hour
- An ideal order comprises 3 to 5 order lines

Picking process

All orders are available at the respective station in paper form. A picking cart with empty bins – the number of bins depends on the application – is available.

The picker scans the first order barcode and puts the order documents into the first bin – this process is repeated until all empty bins are filled with order documents or until there are no orders left. The confirmation that follows completion of all order entries finalises the batch. The position of the bins on the loading cart equals the sequence in which the orders are worked off.

The display on the screen informs the picker about which tray to pick from article name and quantity of the goods to be picked. The picker takes the requested number of parts, puts them into the target bin and confirms the process. These steps are repeated until



the picker is informed that the batch is completed. The picking cart with the bins is then taken directly to the next station or to the collection point.

Replenishment process

The replenishment bins contain only one item and for the purpose of easier identification, marked for example, with different colours. They are positioned directly at the picking station. Replenishment operations, however, should not be carried out at the same time as picking processes.

The operator scans the barcode of each order from every bin. Once all bins have been registered, completion of the process, i.e. batch forming, is confirmed. The display on the screen shows the bin on the picking cart from which parts are to be removed, and the machine into which the parts are to be placed. The storage of the parts is

validated at the machine – these steps are repeated until a message indicates that all orders have been completed.

The picking cart with the empty bins is then taken to the batch station.

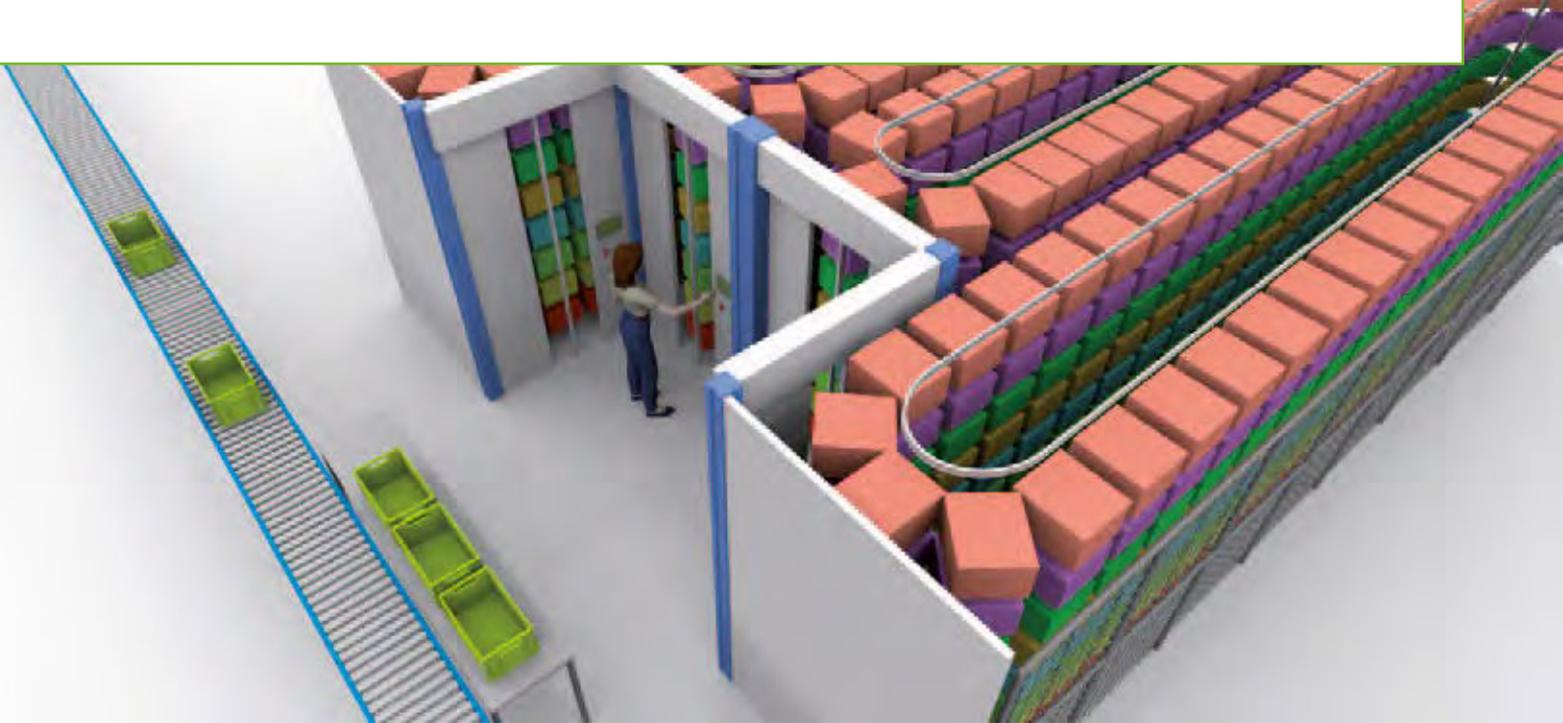
Expansion possibilities

- Upgrade of the picking cart with pick-by-light display

Your advantages at a glance:

- Optimal utilisation of storage capacity
- Simple, user-friendly picking and putting operations
- Automated processes
- Fast integration

Solution variant 2: Order-picking solutions for fast access times



Suggested solution

One station consists of:

- 3 Horizontal carousels
- 1 operator
- Multiple picking/putting stations, each equipped with a pick-by-light display
- 1 conveyor for the supply and removal of the bins
- 1 location as a buffer for empty bins
- 1 PC with a flat screen and a hand scanner

Performance

- 1 operator can process between 200 and 400 order lines per station and hour
- An ideal order comprises 3 to 5 order lines; a batch consists of 5 to 10 orders

Picking process

The number of picking and putting locations and therefore the amount of pick-by-light displays is determined by customer-specific requirements. Order print-outs and empty bins are already available at the respective order picking station.

The operator puts the empty bins on the picking locations, scans the barcodes on the bins and on the order print-outs and places the latter into the bins, one after the other, until no orders are left. Completion of this process is then confirmed, and a new batch has been formed. Following the instructions displayed on the screen, the picker takes the parts from the defined compartment and confirms the picked quantity. Target bin and quantity are indicated by the pick-by-light displays. The operator places the goods in the bins provided for this purpose and confirms the process at the pick-by-light display.



If necessary, the operator can take another empty bin from the buffer. The operator then scans the barcode of the full and that of the empty bin.

Once an order is processed, the finished bin is pushed onto the conveyor line – this is also confirmed on the pick-by-light display. Afterwards, the conveyor system transports the bin directly to the next picking station or to the consolidation point.

Your advantages at a glance:

- High density storage in rooms with a low ceiling height
- Flexible restructuring options
- Low error rates due to multiple validations
- Automated processes

Replenishment process

Replenishment bins are sorted by item and, for the purpose of easier identification, marked for example, with different colours. The Replenishment process should not be carried out at the same time as the picking operations.

The operator places the bins, which were previously manually transported to the picking stations, onto the picking locations, takes out the order print-out, scans the barcodes on the documents and continues to do so until all bins are registered. Confirmation of the order entry process finalises batch formation.

The pick-by-light display directs the operator to the bin from which the parts are to be picked. The screen or the machine operator panel shows the machine into which the parts are to be placed, the article number, storage location and the quantity of items to be stored. Storage of the goods is then validated at the machine. This process,

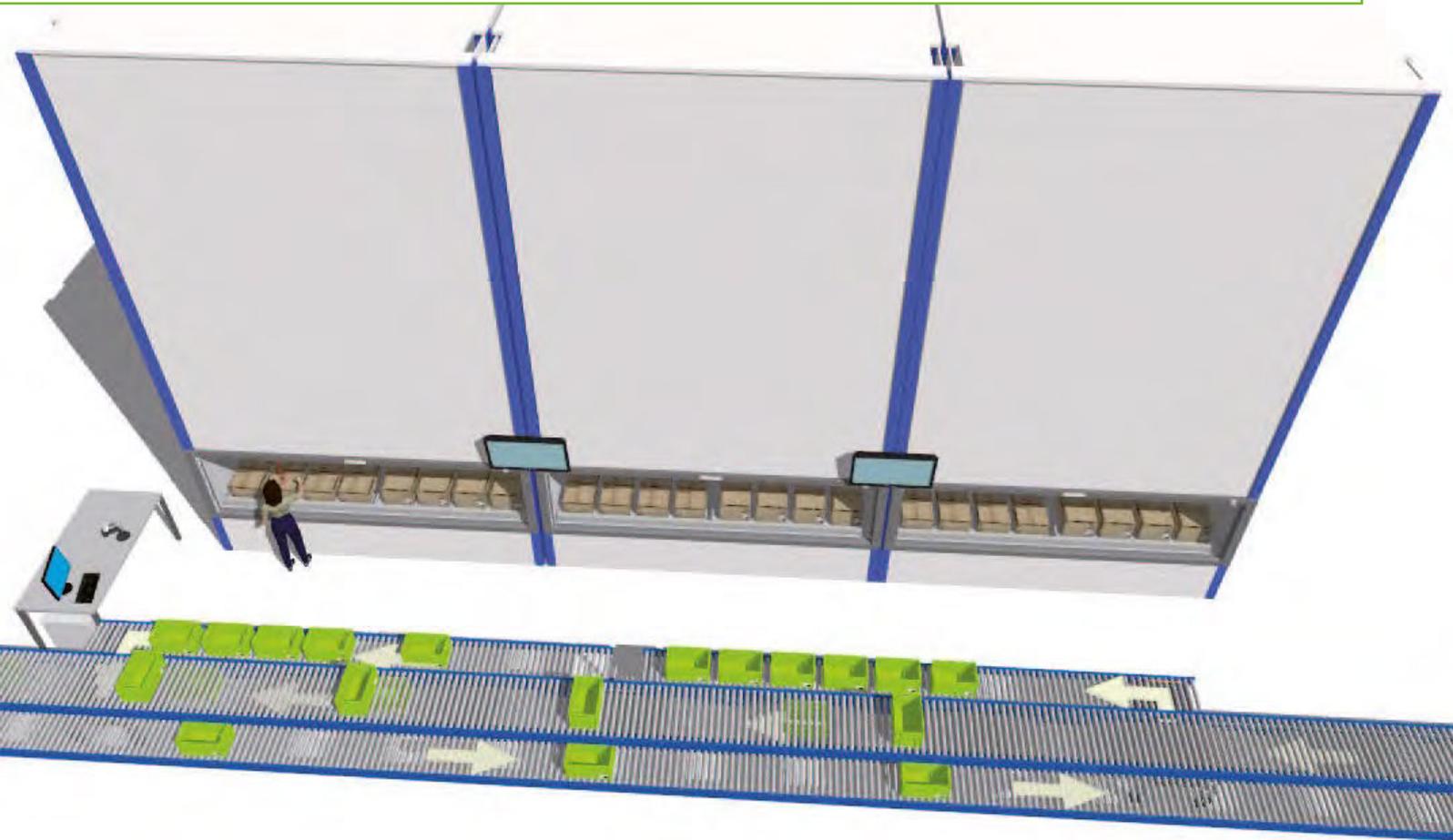
too, is repeated until all orders are processed and completion of the batch is indicated.

The empty bins can be collected at the buffer that is available at the picking station, or transported to the consolidation point.

Expansion possibilities

- Automated supply of empty and replenishment bins by conveyor system

Solution variant 3: Everything flows – Intralogistic solutions from one single source



Suggested solution

One station consists of:

- 3 Shuttles
- 1 operator
- Two conveyor sections – both are powered roller conveyors
- Section 1 is a buffer for picking and replenishment bins
- Section 2 consists of several commissioning locations, each equipped with a pick-by-light display
- Conveyor lines to supply and remove picking and replenishment bins
- 1 conveyor line as a buffer for empty bins
- 1 PC with a flat screen and a hand scanner



Performance

- 1 picker per station can process between 100 and 250 order lines per hour
- An ideal order comprises between 3 and 20 order lines

Picking process

This system works entirely without paper: All picking orders are available online; all bins are already linked to the corresponding orders.



The amount of order picking locations and pick-by-light displays and the buffer capacity are determined by customer-specific demands.

After automatic barcode scanning, the conveyor system transports the picking bins to the respective stations; here they are kept in the buffer. When the buffer is full and the picking locations are empty, they are transported further. The batch is automatically formed and the pick-by-light displays are activated. On the push of a button, the operator can also provide buffered bins to the order picking locations at any time – to form smaller batches, for example. In this case, the operator links the bin to the pick-by-light display with the help of a hand scanner.

In accordance with the instructions displayed on the screen, the operator picks the indicated number of articles from the tray and confirms the process. The pick-by-light display indicates the target bin and the quantity of articles to be put into this bin; completion of the picking process is also confirmed via the

pick-by-light display. If an additional empty bin is needed to complete the order, the operator takes it from the conveyor line and scans the barcodes of the empty and the full bin.

After order picking, the finished bins are pushed onto the conveyor line– validation of this process is also done by pick-by-light – and then transported to the next picking station or consolidation point.

Your advantages at a glance:

- Paperless picking and putting
- Low error rates due to multiple validations
- Automated processes
- Expansion possibilities

Replenishment process

The replenishment bins are sorted by item; they are already linked to the replenishment orders. Ideally, replenishing should not take place at the same time as picking.

Transporting the replenishment bins to the respective stations and batch generation follows the same steps as the picking process. Pick-by-light indicates the target bin, the screen or the machine operator panel displays all information regarding target machine, article number, storage position on the tray and quantity of goods to be stored.

The operator confirms the successful storage of the parts at the machine. This procedure is repeated until all putting orders are completed. When batch generation is completed, the operator receives a respective message. The empty bins can be pushed onto the conveyor line or positioned at the upper part of the buffer line.

Kardex Group:

Your reliable partner for automated storage and retrieval systems



kardexgroup

The Kardex Group is one of the world's leading manufacturers of automated warehouse and office logistics systems.



Our organisation is specialised in the development of innovative products, services and customer consultancy. In close co-operation with you, we work towards strengthening your competitive position significantly by exceeding your expectations and requirements.

Through the successful implementation of our business aims, we offer our employees a portal full of opportunity and prospects for challenging and lively careers.



kardexremstar

Kardex Remstar is one of the world's leading manufacturers of automated storage and retrieval systems. Since 1973, we have installed over 140,000 systems successfully in the "Office", "Warehouse" and "Commerce" segments.

Each of our products has been developed with the aim of increasing your productivity and improving the efficiency of your work processes. Our tailor-made solutions allow you to make the best use of your warehouse space.

kardexmlog

Mlog Logistics GmbH, with its head office in Neuenstadt am Kocher, is one of the leading providers of automated storage and material flow systems. Since May 2010, it has been part of the Kardex Group and has over 40 years of experience in the planning, implementation and maintenance of fully automated logistics solutions. Whether modernisation in service is required or the installation of new turnkey installations, Kardex Mlog has the best logistics concept for your high bay warehouse.

Thanks to innovative and proven products and complete logistics concepts based on experience gained from more than 800 successfully implemented projects, Kardex Mlog can respond to your requirements quickly and flexibly.

Kardex Remstar: Always close to you – Worldwide



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Further information:
www.kardex-remstar.com