

# Want to store and pick small items optimally?

Our vertical lift and vertical carousel system for the highest use of space.

 **JUNGHEINRICH**



# Save space. Increase your pick rates. Our recommendation: dynamic small part storage.

## Small items under control

You are faced with the special challenge of storing and making available many small items with varying sizes. The unavoidably high manual effort in order-picking of these items requires special solutions.

We offer you tailored systems for your small part warehouse, which can be static or dynamic, depending on the task.

## For dynamic small parts storage there are two racking types available to choose from:

- the vertical lift
- the vertical carousel system

## When should static small parts storage be used?

- The item stock is manageable.
- The item stock does not change very often.
- There is sufficient space available for seasonal or special items.

Then storage with modular shelving racks, which can be used as a modular shelving floor system, is ideal. The goods stay in one location during storage.

## When should dynamic small parts storage be used?

- Lots of items that require a great deal of order picking.
- There is only minimal space available.

Then storage with automated rack shelves, in which the "goods to man", is ideal. The goods are moved during storage, which is why it is called dynamic storage. It represents a cost-effective and particularly efficient solution.

**JUNGHEINRICH**  
500

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LRK 500

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LRK 500



# Vertical lift or vertical carousel system?

## Two systems, three significant advantages.

### The vertical lift system for various storage goods

The Jungheinrich vertical lift is a self-contained, automated storage and supply system. With the help of a lift individual trays can be pulled out and moved to the output service opening.

- The vertical lift system is perfectly suited to various and variable storage goods. This allows you to stay flexible even if the type and scope of your inventory changes.



### The vertical carousel system for regularly required small items

The Jungheinrich vertical carousel system is an automated vertical carousel. The self-contained system is made up of carrier and is suitable for various storage containers. The goods are moved to the operating opening via rotation, taking the shortest route.

- The vertical carousel system particularly proves itself when it comes to small storage goods with a high frequency of access. You benefit from better pick rates.

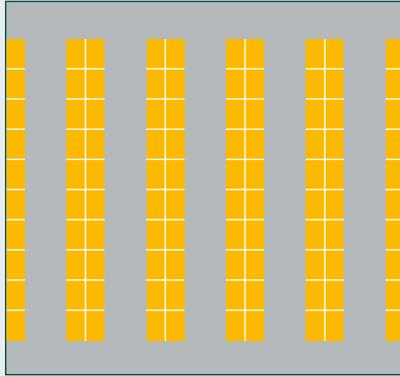


### 1st advantage: save up to 85% storage area

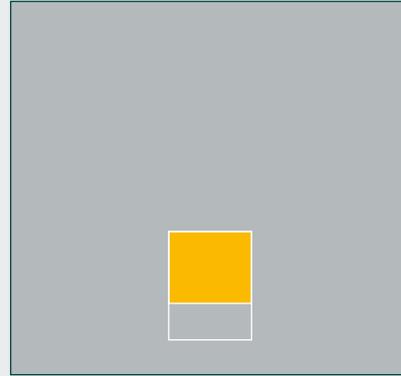
Conventional storage with classic small parts shelving require a lot of space for the rack shelves and the aisles between them. Our vertical lift and paternoster racking

system are built upwards. They thereby merge the storage items to the smallest space and save valuable storage area, which can be utilised for other uses.

Space requirement  
Small parts shelving  
42 m<sup>2</sup>



Space requirement  
vertical lift/paternoster  
racking system  
8 m<sup>2</sup>

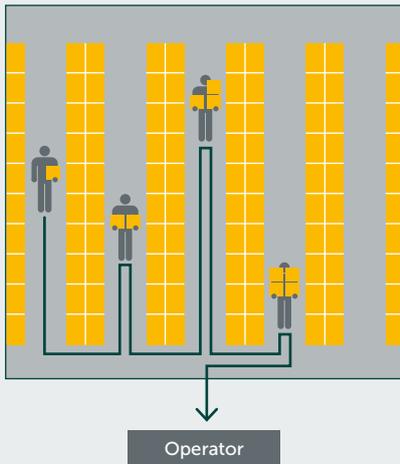


### 2nd advantage: shorten the distances

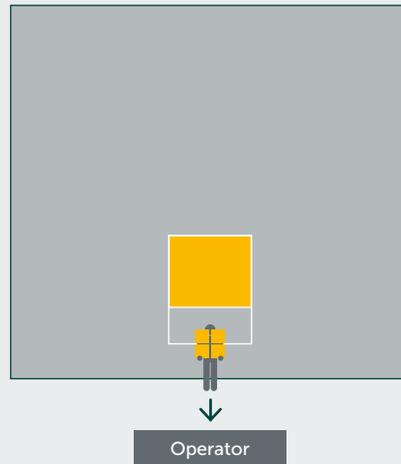
The operator in a static warehouse has to cover quite a distance when picking in order to complete a consignment. Depending on the storage location, they will bend over, stretch or even use climbing assistance. With our lift or

paternoster racking systems this becomes a thing of the past. The goods come to the operator at a comfortable reach height. This allows productivity to be significantly increased in your warehouse.

Operator gets the goods  
from the warehouse.  
The effect: long distances,  
high time requirement,  
minimal efficiency.



The goods are brought to  
the operator. The effect:  
short distances, minimal  
time requirement, high  
productivity.

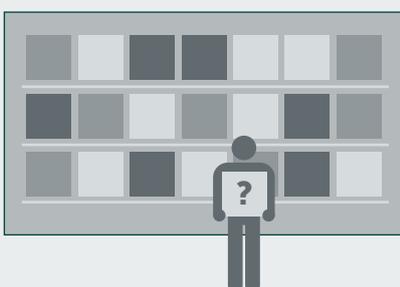


### 3rd advantage: minimise the error rate

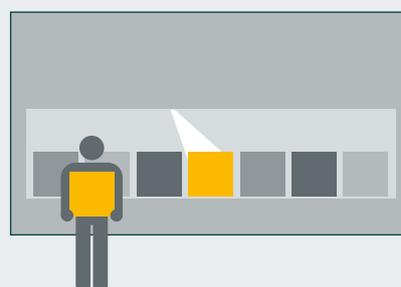
Mistakes are essentially unavoidable with manual order picking. With our lift and paternoster racking systems you can dramatically reduce the rate of incorrectly picked goods. This is ensured by optimally integrated pick-to-light

systems, that point out the goods to be picked to the operator using a laser pointer or TIC matrix. There is also the option to integrate barcode readers.

**Without a** lift or  
paternoster  
racking  
system



**With a** lift or  
paternoster  
racking  
system



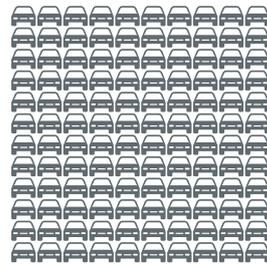
# Flexible access to variable goods.

## The Jungheinrich vertical lift system.

One vertical lift carries the weight of

# 120

small cars



on the surface of

# 19 m<sup>2</sup>

### Store up to 120 tonnes

Jungheinrich vertical lift system offer a wide selection of dimensions and associated load capacities – up to 1,000 kg per tray. In the maximum configuration our vertical lift carries a gross load capacity of 120 tonnes. Put another way: a number of 120 small cars can be stored in an area of just a few square metres!

### The vertical lift adapts to you

The tight adjustment grid allows a minimum tray distance of just 25 mm.

Together with automatic height measurement this creates an optimum compression and a problem-free change of the storage goods. The vertical speed of the lift can be set to max. 2 m/s. The putaway and retrieval speed can be varied by up to 0.7 m/s. The working height for the trays delivered to the operating opening can be individually adjusted.

### Individual configuration

Jungheinrich vertical lift system are assembled and mounted according to the modular principle. Their construction takes place from the inside – with the advantage that they can then also be positioned in tight areas. Furthermore, a subsequent restocking in 100 mm steps is possible at any time if your storage requirement increases.

### Extended access options

Depending on the room height, our vertical lift can supply numerous storeys. Up to six operating openings can be integrated at any point on the front and rear side. This allows shelf access from various areas of operation, such as as incoming and outgoing goods.

### Higher precision

Up to two integrated pick-to-light systems significantly reduce picking errors:

- Laser pointers guide your operator and show him the parts to be picked.
- The TIC matrix at the lower end of the operating opening supports a quick and precise picking of goods.

### Increased productivity

The “double picking” option allows for working on two levels. A tray is made available on the first work level in the operating opening, after which the lifting door closes. Whilst your employee fills up or picks items, the next tray is already made available behind the opening.

Height:  
2,550 to 30,050 mm



### An overview of your advantages:

- For various goods with varying heights
- Extremely high storage capacity in a minimal area
- Flexibly adjustable to storage goods and operator
- Easily expandable thanks to modular design
- Easy to individualise thanks to versatile options

# Quick access to small goods.

## The Jungheinrich vertical carousel system.

### Up to 19 tonnes in circulation

Thanks to their space-saving rotation system our paternoster system, similar to our vertical lift, requires very little floor space. Nevertheless, they are able to withstand a high load. That's up to 650 kg per carrier. Our largest model carries a gross load of 19 tons in its maximum configuration – that represents the weight of five small trucks!

### Record access times

A clear advantage of the paternoster system lies in its high circulation speed. The control of the racking system also ensures that the storage containers always reach the operator with the desired goods over the shortest distance. Two factors that foster the picking performance of your employees and allow an increased picking performance overall.

### Individual configuration

Jungheinrich paternoster systems are assembled and mounted according to the modular principle. Their construction takes place from the inside – with the advantage that they can then also be positioned in tight areas. Many options, such as an individual carrier configuration, allow an individual customisation to your requirements.

### A flexible system

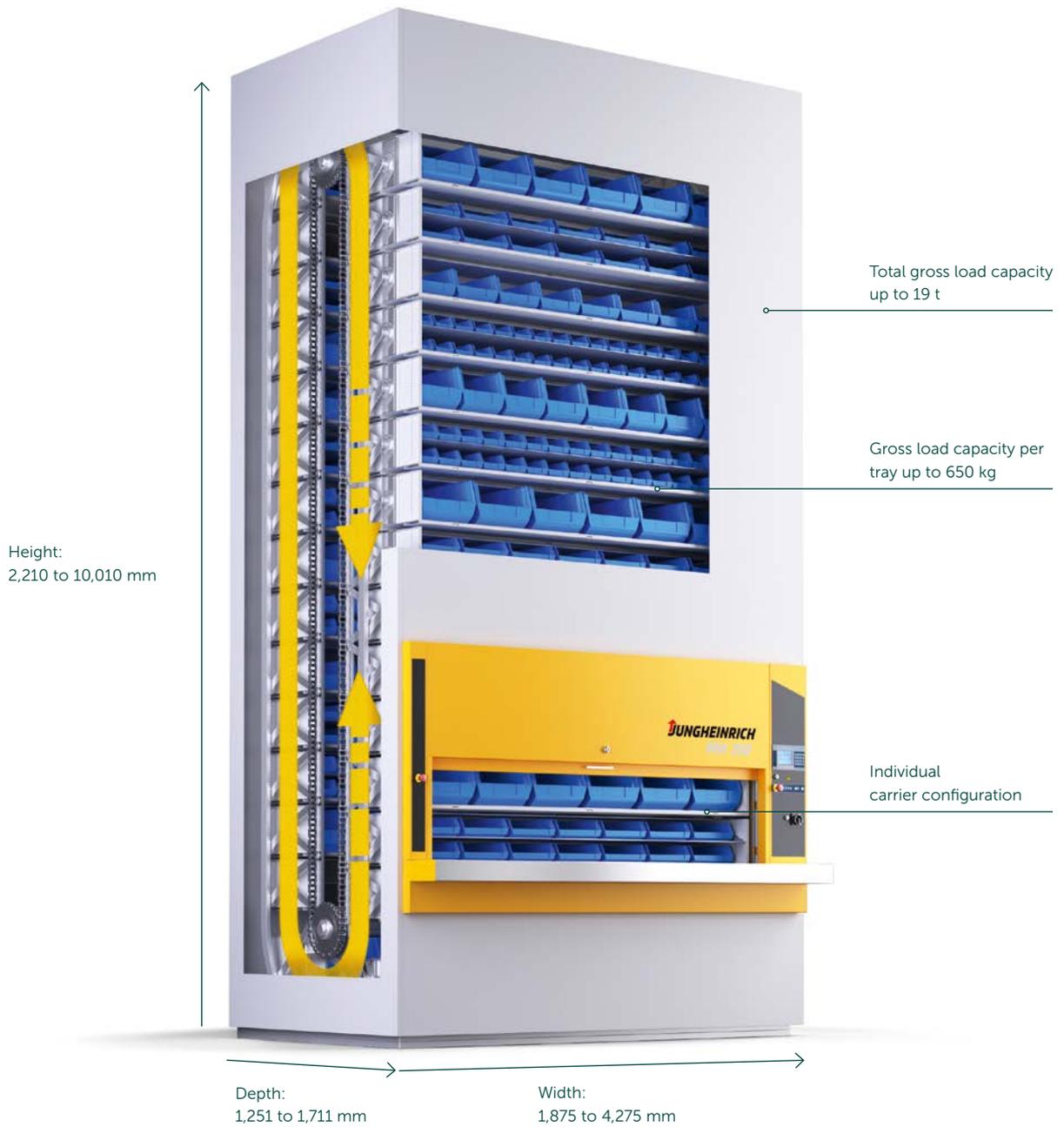
Our paternoster systems, just like our vertical lift, is modularly constructed. Its versatile carrier concept design optimally adapts to your requirements and offers picking options for the most varied of storage and transportation containers. The operational element can be individually positioned at the picking opening.

Our paternoster systems are suitable as a stand-alone version for "driving by sight", but can also be integrated into complex systems. They can optionally be equipped with standard interfaces with barcode readers and pick-to-light technologies.

### Safe for people and materials

A light barrier ensures that the rotational movement stops immediately if there is unintentional access to the racking systems. The particularly light-running sliding door at the operating opening can be opened or closed with one hand.

An automatic door is also optionally available. Thanks to an automatic chain tensioner wear is minimised and the longevity of the system increased. And should there ever be a power cut, our paternoster system can be kept in emergency operation via hand crank.



### An overview of your advantages:

- For consistent goods with the same height
- Very high storage capacity in a minimal area
- Particularly quick system for the highest pick rates
- Ideal for stand-alone and system operation
- Secure and long-lasting technology

# System integration made easy.

## This is ensured by the Jungheinrich Logistics Interface.

### Looking for a connection?

Do you deploy a warehouse management system to administrate and optimise your storage processes? Do you want to integrate our lift or paternoster racking system into the system and increase your efficiency? We offer you the optimum interface: the Jungheinrich Logistics Interface.

### Seamless integration

The data exchange between the warehouse management system and storage facilities requires a uniform language. Our Jungheinrich Logistics Interface software serves as a communications hub here. The middleware communicates both with your IT system and the lift and paternoster racking system, thereby allowing a seamless integration.

Alongside various types of connection, the Jungheinrich Logistics Interface also offers a standardised SAP interface. This reduces your modification expense accordingly. As a repeatedly proven piece of standard software with a modular design, the Jungheinrich Logistics Interface takes into account your individual storage strategy and thereby contributes towards networking within the warehouse.

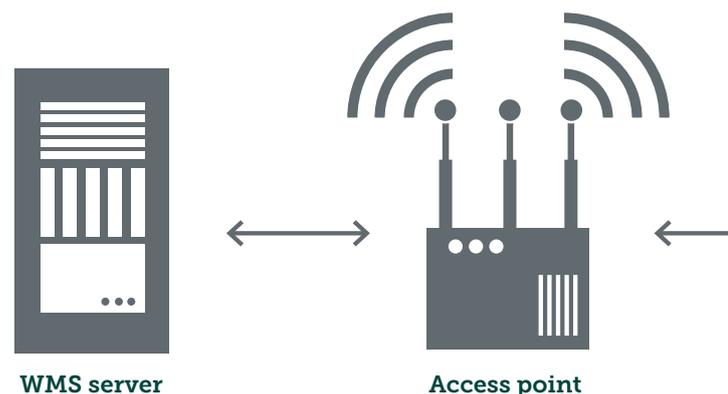
### Repeatedly tested

Our specialists have many years of expertise. Using the Jungheinrich Logistics Interface, they have connected several hundred plants worldwide to more than 90 different warehouse management systems.

Be it a standard configuration or individual adjustment for minimal costs – the Jungheinrich Logistics Interface is the optimum solution for the dataflow of your intralogistics.

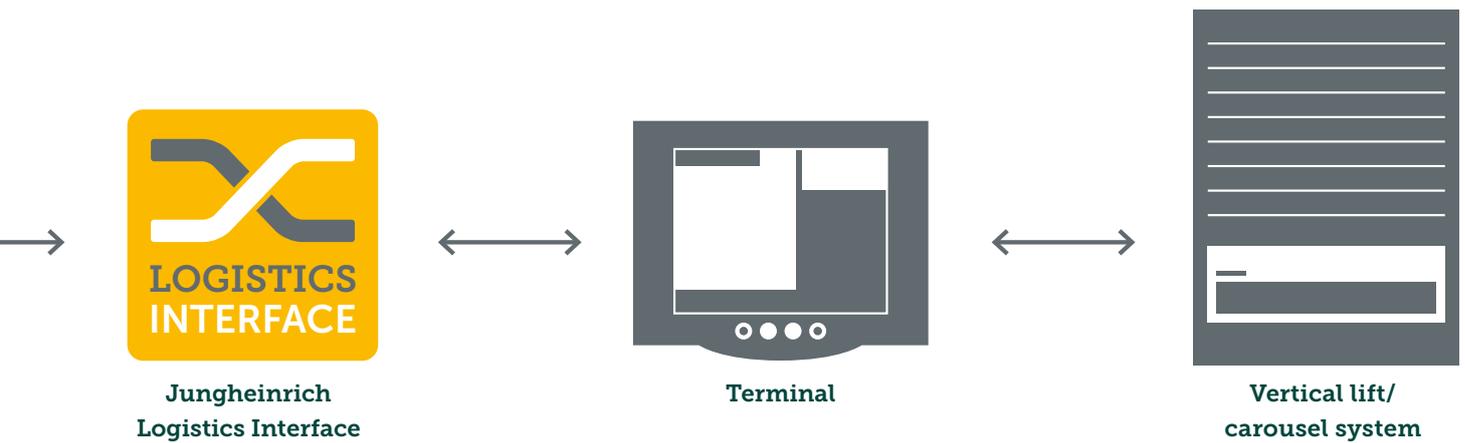
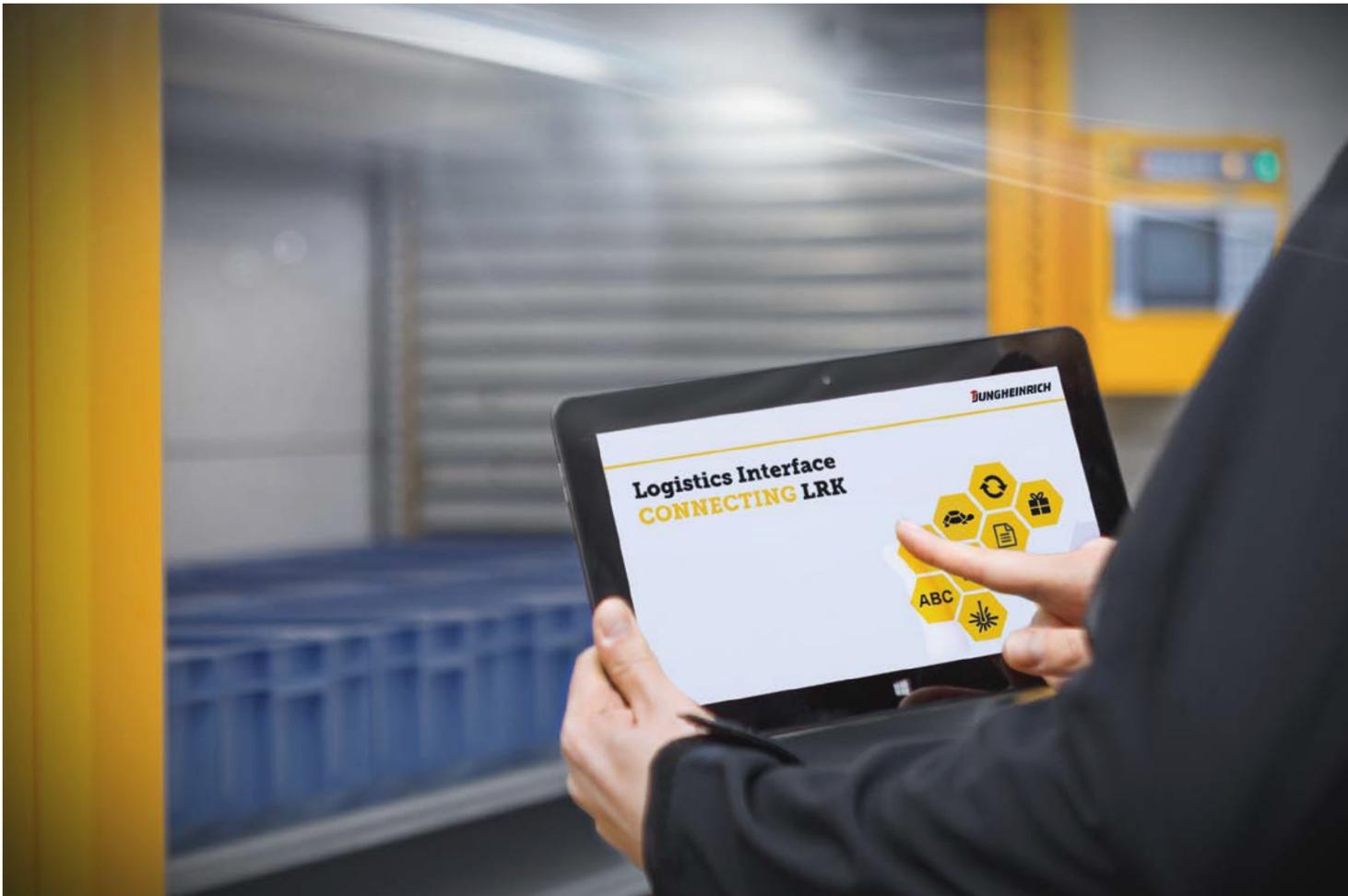
### An overview of your advantages:

- Connection to various warehouse management systems
- Increased productivity even with a high quantity of items
- Control options e.g. with laser pointers or DualTray for a more efficient communication
- Avoidance of user errors, as the racking systems are connected to the WMS



### Warehouse Management System (WMS)

- Jungheinrich WMS
- Any other warehouse management system



**Jungheinrich logistics interface**

- Middleware installed onto the radio data terminal (RDT) or a server

**Technology on the racking system**

- TIC matrix
- LED laser pointer
- Confirmation strip

# We provide you with safety.

## Service and support from one source.

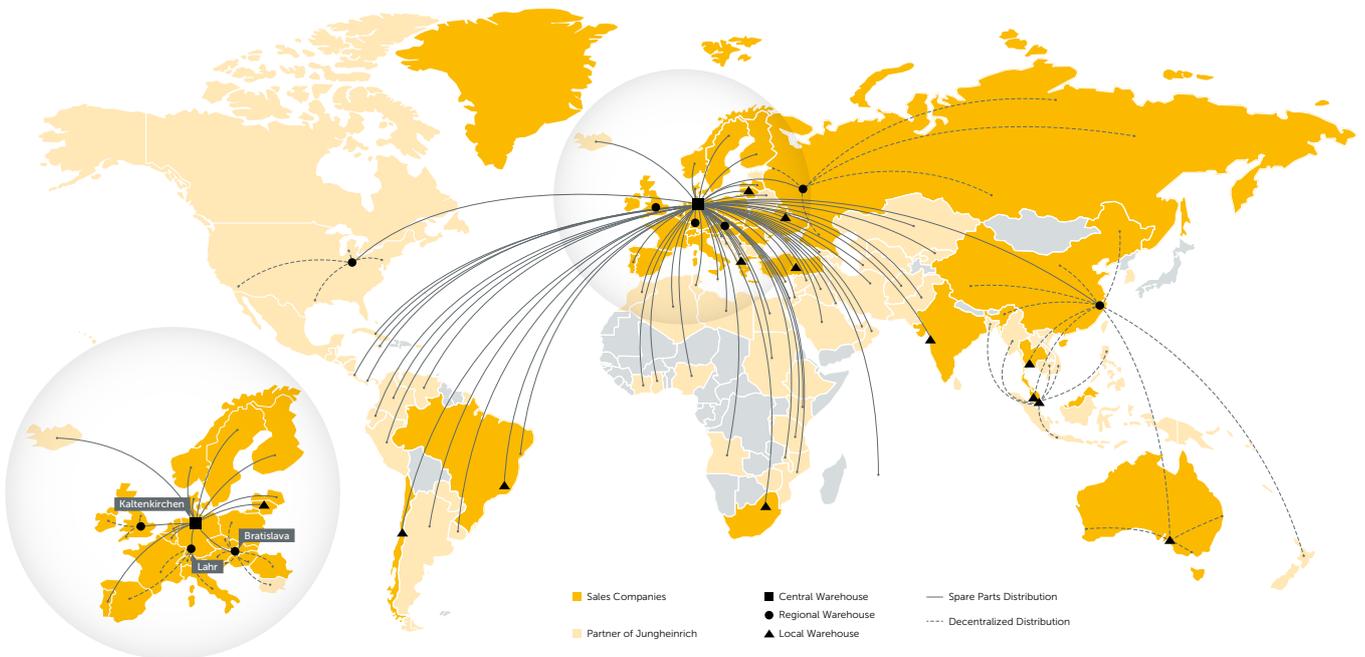
### Close to you, anywhere

If you choose a Jungheinrich product, you are on the safe side. With more than 4,500 Jungheinrich service engineers worldwide, we have one of the most comprehensive service networks in the industry.

Be it preventative maintenance to avoid costly downtime, regular safety checks, repairs or full service as a “worry-free package” – you are always in safe hands with us.



### Your Jungheinrich service network



### **Always nearby**

In the event of a fault, you are supported by Jungheinrich engineers from your area. These have not only undertaken special training in the subject of automated shelves, but are in most cases also very familiar with your racking system as they have already undertaken the commissioning.

### **Nothing is better than the original**

We use exclusively original spare parts worldwide. This is the only way that the optimum interaction between all components can be maintained with the highest degree of reliability. Via our spare parts locations worldwide our original spare parts always reach their areas of application in the quickest way possible. Thanks to a very high spare part availability, downtimes are reduced to an absolute minimum.

### **Service and support for logitics systems**

Our support employees are your first contact in the event of a fault or if you have any general questions about the system. All support staff have many years of experience. If required, our support personnel immediately contact an on-site service engineer. At Jungheinrich, service and support go hand in hand.



**Own sales and service companies in Europe, Asia, South America and Australia**



**Original spare parts delivery**



# **Solutions with system – we do it for you.**

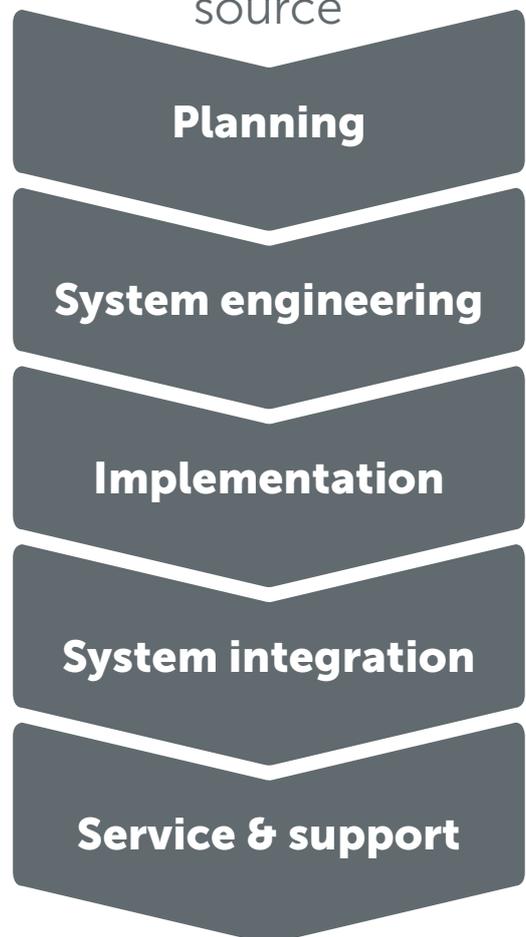
## **Jungheinrich as a general contractor.**

### **Leave it to us**

If you choose a lift or paternoster racking system by Jungheinrich, you will receive so much more.

You benefit from more than 60 years of Jungheinrich expertise. From the variety of logistical options, we develop the optimum solution for you. Behind your personal Jungheinrich contact person there is a team of experienced specialists from the areas of material flow, system engineering, simulation, storage administration and fork lift control.

Everything from a single  
source



Jungheinrich as a  
**general contractor**

### Professional project management

An experienced team supports you with effective project management methods over the entire length of the project. To ensure everything runs systematically and efficiently.

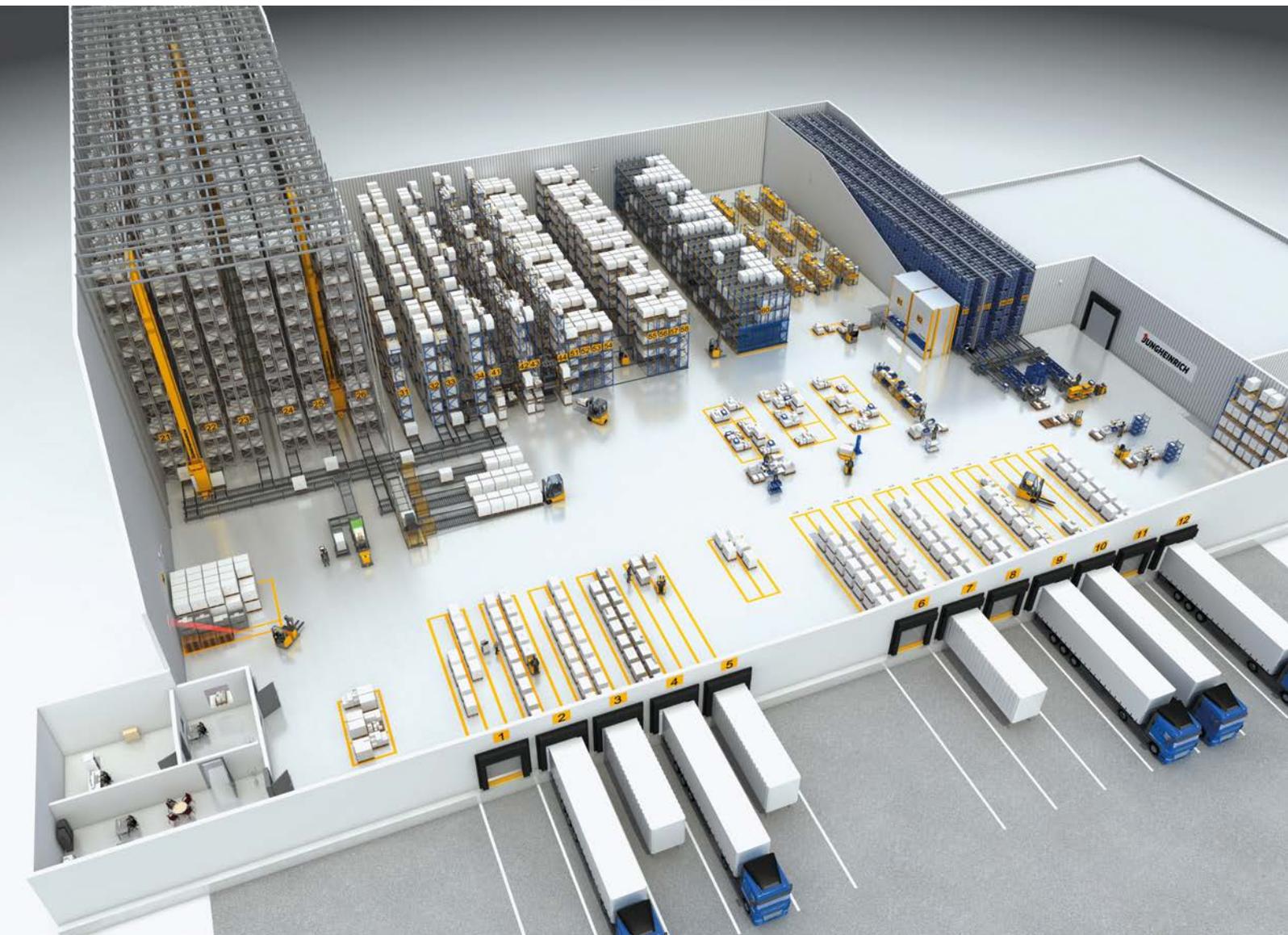
### We plan and optimise flexible and multifunctional systems for you:

- Individual storage systems up to complex distribution centres
- Manual, partially or fully automated
- Optionally with or without IT integration
- Can be customised and scaled at any time
- With a diversified and flexible product range

- Optimised use of space and high storage utilisation
- Accelerated processes thanks to customised systems and exceptional industry expertise
- Individual maintenance concepts for individual needs including hotline support or remote maintenance/ on-site access

### Your advantage:

A contact person who coordinates every subsystems involved and keeps an overview at all times.



**ISO 9001** The German production facilities  
**ISO 14001** in Norderstedt, Moosburg  
and Landsberg are certified.

 Jungheinrich trucks  
conform to the European  
Safety Requirements.

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