

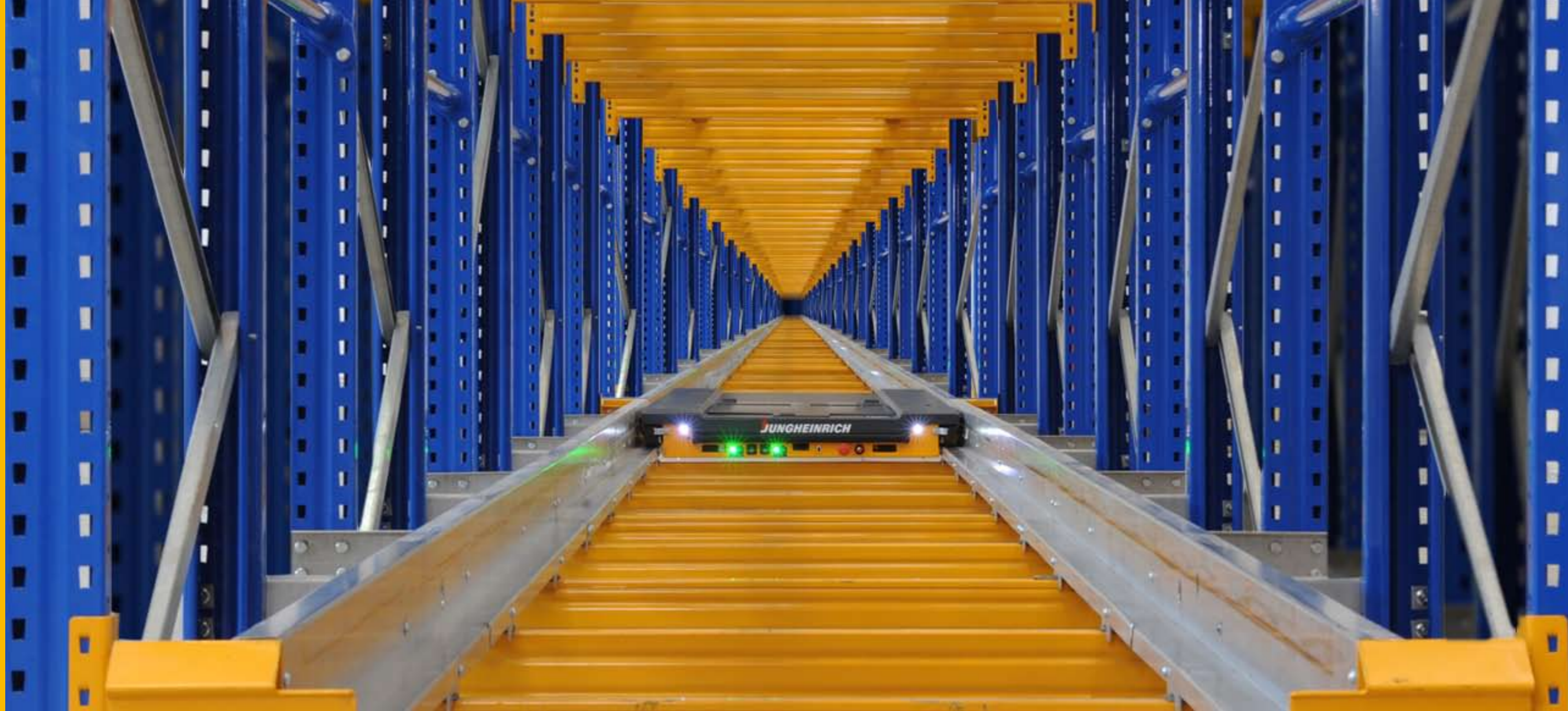


## **In Pallet Carrier/Under Pallet Carrier.**

Compact Storage Shuttle System.

Deep. Compact. Efficient.

** JUNGHEINRICH**



## The continuous solution.

### Compact storage shuttle systems for maximum space utilisation.

Carriers travelling independently in the pallet channel are the heart of the Jungheinrich compact storage systems – the complete solution consisting of the modules channel racking, carrier truck and carrier.

This expands your efficiency spectrum of traditional compact storage systems – space saving through the omission of working aisles – and realise optimisation potential regarding volumetric efficiency, throughput ratio, article variety, space utilisation ratio and careful treatment of loads.

Shuttle systems are therefore predestined for

- handling whole pallets,
- storage in batch quantities,
- application in cold stores,
- replenishing order picking tunnel systems,
- application in buffer storage.

The speciality of Jungheinrich shuttle systems: They are available for under-running pallets (Under Pallet Carrier, UPC) as well as entering pallets (In Pallet Carrier, IPC) – and even better, also in many variants adjusted to individual applications.

You will learn more about both systems on the following pages. Your Jungheinrich Systems Adviser will of course let you know during a personal consultation in your offices which of the systems will in the end be the most economical solution for your application. This is what customers all over the world have been accustomed to from Jungheinrich for almost 60 years.



**Space utilisation ratio [%] = volume of occupied space [m3] / total volume of available space [m3] x 100**

These are your helpers:

**Carrier truck**

All trucks with FEM fork carriage can be used for transporting and transferring carriers. This ensures application in wide aisles as well as narrow aisles.



**Channel racking**

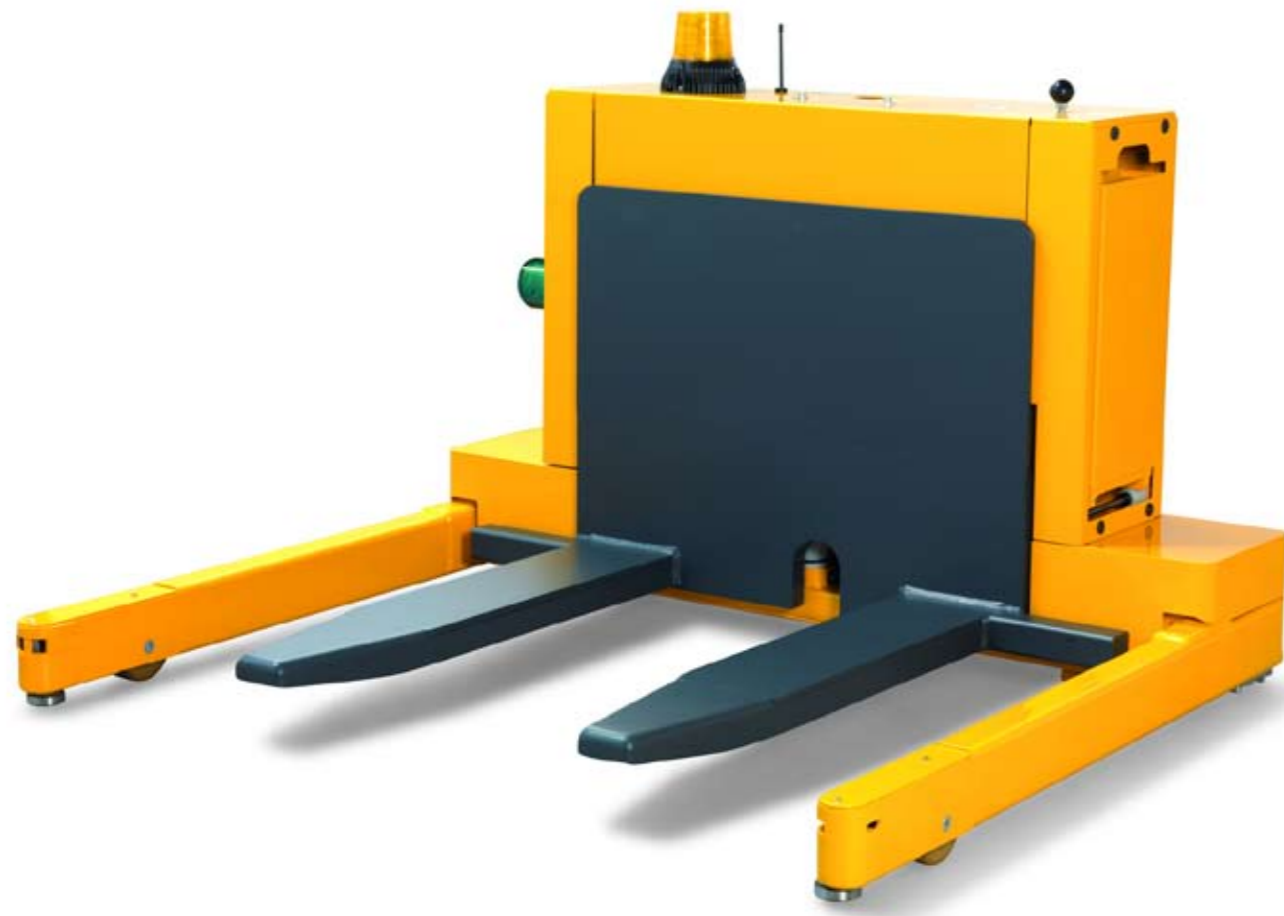
This is based on the well-trying and tested Jungheinrich pallet racking. Dependent on the carrier type used, uprights and supports are arranged as channels. Every channel is equipped with specially adapted guide rails that ensure safe travel of the carriers.

**In Pallet Carrier (IPC)**

The IPC pushes its forks into the pallet. For transports outside the racking installation, the stacker picks up the carrier incl. pallet instead of the forks. The carrier docks onto the carrier truck at a specially adapted interface.

**Under Pallet Carrier (UPC)**

The UPC picks up the pallet on its platform. It can move "freely" in the channel and run under stored pallets. A stacker picks up the carrier with its forks for transferring it to another channel.



## Two shuttles – one objective: the third dimension.

### Typical for In Pallet Carrier:

- High throughput efficiency when channels are frequently changed (e.g. due to low number of pallets per article, shorter channels, combining orders for different articles or replenishing order picking tunnel systems).
- Pallets are picked up with the IPC by the carrier truck and deposited together in the channel. The storage process can start immediately.
- Lifo (last in - first out) easily workable.
- Fifo (first in - first out) workable with shuttle transfer or second shuttle.
- Different pallet types can be used in the same racking system.
- Optimally adjusted to Jungheinrich trucks with individual interfaces and maximum utilisation of residual capacities.

### Typical for Under Pallet Carrier:

- High throughput efficiency when a channel is completely emptied/filled (e.g. due to higher number of pallets per article, longer channels or combining orders for primarily the same articles).
- While the carrier is travelling, the stacker operator can pick up another pallet, deposit it at the channel start, the next depositing can start and a new working cycle can commence.
- Pallet retrieval takes place correspondingly.
- Lifo/Fifo (last in - first out/ first in - first out) easily workable.
- When a channel is completely emptied, e.g. for a supply order, the UPC automatically takes every pallet in the channel to the retrieval side where they are picked up by a stacker and taken to Goods-out.
- This functionality will also work for a defined number of pallets from one channel.
- Compression of pallet channels: If no stacking/retrieval is taking place (e.g. at shift end), all pallets can automatically be transported to the retrieval side.



## Two shuttles – many load carriers:

### Pallet handling with the In Pallet Carrier:

- Different variants ensure requirement-specific adjustment to different applications:
  - Euro pallet lengthwise pick-up.
  - Euro pallet crosswise pick-up.
  - Industrial pallet lengthwise pick-up.
  - Industrial pallet crosswise pick-up.
  - With manually adjustable stop for handling up to three different pallet sizes in the same warehouse system.
- With four forks for storing 2 half pallets next to each other at the same time in the same channel.
- A centre rail for the racking channel is available for this type of storage or also for pallets with large deflection or for storing pallets lengthwise.

- All trucks with FEM fork carriage can be utilised. This ensures application in wide aisles as well as narrow aisles.
- Other carrier variants are possible on request.

### Pallet handling with the Under Pallet Carrier:

- Different variants ensure requirement-specific adjustment to different applications:
  - Euro pallets.
  - Industrial pallets.
  - Euro and industrial pallets in the same racking system: Kombi carrier with sensors for recognising pallet sizes.
  - Chemistry pallets.
- All trucks with FEM fork carriage can be utilised. This ensures application in wide aisles as well as narrow aisles.
- Other carrier variants are possible on request.



## Ensuring total company satisfaction.

Pallet trucks, forklift trucks, order pickers and tow tractors in more than 600 truck variants. Added to this is a multitude of additional services. This makes Jungheinrich into an internal logistics services provider who will pave your way towards a complete logistics solution.

### Direct Customer Service network

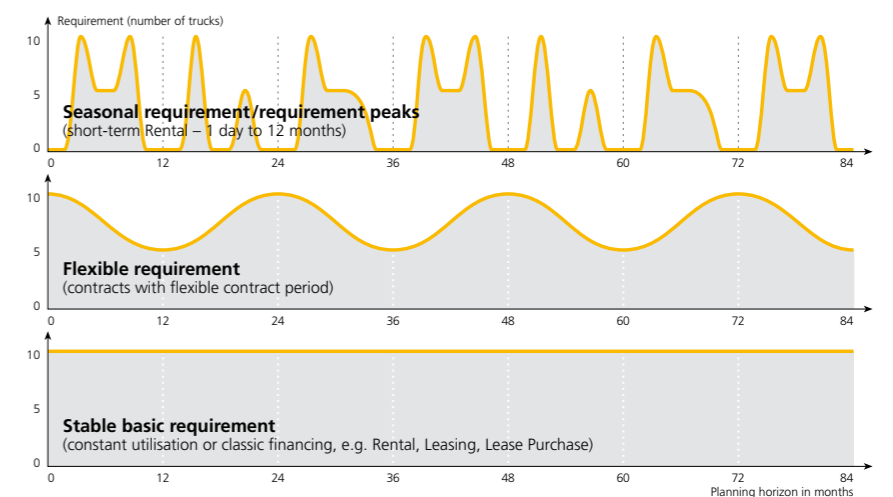
Circa 500 of our own service engineers are available in 6 countrywide locations. Every one of them is a Jungheinrich professional: mechanic, electrician, electronics and hydraulics specialist combined in one person. And he will usually be with you within four hours.

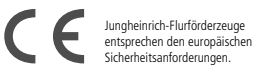
### For the right truck the right racking

Jungheinrich provides you with the complete solution: comprehensive warehouse planning that sees truck and racking as a system working "hand in hand". From projecting via CAD planning to handing over the key. From shelving via system-built platforms right up to high bay racking. From consultation via assembly to Service. Everything from one supplier. Everything from Jungheinrich, your "architect" for complete internal logistics.

### Financial Services and Rental Service

Jungheinrich provides you with a number of tailor-made solutions that optimally adapt to your general economic, tax and balance sheet conditions – even if these change during the course of time. So that you always react flexibly. Your specialist adviser will be pleased to calculate which solution would be the most optimal for your application.





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**JUNGHEINRICH**  
*Das lohnt sich.*