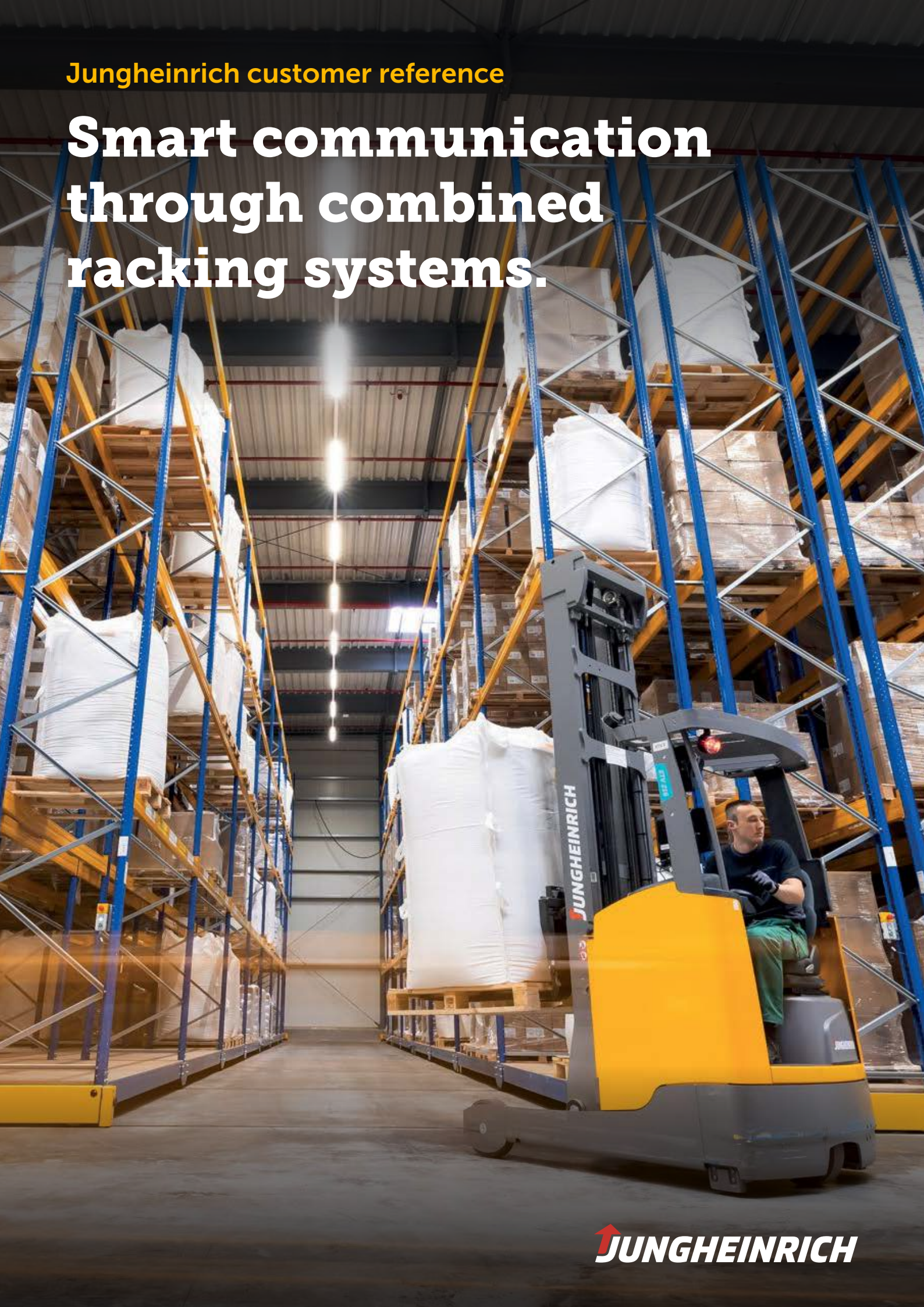
Jungheinrich customer reference

Smart communication through combined racking systems.



JUNGHEINRICH

Perfect combination of systems creates more space at Johs. Stelten.

State-of-the-art intralogistics meets age-old tradition in Krefeld. Johs. Stelten GmbH & Co. KG., a logistics and freight forwarding service provider for the food industry for almost 125 years, is preparing for the future. In its new logistics centre, a unique combination of dynamic pallet storage systems increases the warehouse capacity by one third – ensuring that the long-standing company will remain sustainable in the future.

It is 7 o'clock in the morning. All is still quiet at the Krefeld port, where historic warehouses and old factories stand alongside modern industry. And it is here, at the fourth largest inland port in North Rhine-Westphalia, where you will find the logistics and freight forwarding service provider Johs. Stelten.

Like every other morning, businesses are getting ready for the day ahead and the silence of Bataverstraße is broken as goods arrive by sea, rail and road. For the rest of the day, everything revolves around multimodal warehouse logistics: basic foodstuffs, pharmaceuticals and cosmetic items, as well as harmless chemicals and other economic goods, are delivered by train, ship or road transport, stored and, if necessary, filled, processed, packaged and forwarded.

For almost 125 years, Johs. Stelten has been storing, trading and handling products such as grain. And this remains the primary focus of the long-standing company, which today has around 65 employees. In an area spanning 35,000 square metres, all goods, ranging from bulk materials to liquids in barrels, are allocated to the most suitable storage system – from the silo to the new semi-automated shuttle warehouse. The goods are transshipped approximately every four weeks. The structure of the company allows Johs. Stelten to utilise the entire range of logistics facilities and thus to react flexibly and at short notice to customer requests.

OPTIMISATION OF SPACE WITH JUNGHEINRICH.

In 2018, Johs. Stelten began to find it a challenge to make best use of the limited space available in the warehouse. In order to remain viable in the long term, the family business needed additional storage capacity and further technical development. Improvements were made the following year and a new logistics centre was built. To help the company in its task, Jungheinrich AG from Hamburg was selected as a partner. However, this was not the first time the pair had worked together. The two industry experts have a long shared history, having collaborated on a professional basis for more than 30 years. Marcus Heldt, Managing Director of Johs. Stelten, explains the primary reason for choosing Jungheinrich as a construction partner: "We were won over by the fact that everything comes from a single source: from the assortment of different racking systems that work in perfect harmony to the Warehouse Management System, truck guidance system and additional manually controlled trucks."

The implementation of the project was a complete success. In the words of the Managing Director himself: "The combination of systems was perfect for Johs. Stelten". Everywhere you look, the state-of-the-art, semi-automated logistics centre is filled with the very best that technology has to offer. After just six months of construction, the future of intralogistics has arrived in Krefeld – in the form of a mobile racking system and a shuttle racking system. For Operations Manager Olaf Witte, the best thing about his new prize possession is the way these two storage systems work together so seamlessly. While the shuttle racking system is ideal for large batches, i.e. goods of the same type, the mobile racking system can house many different products in the smallest of spaces. As a result, Johs. Stelten was able to increase its capacity by around 30 per cent using the same amount of floor space and create storage space for an extra 13,000 Euro pallets or 10,500 industrial pallets. The logistics and freight forwarding service provider now has a total of around 23,000 pallet storage locations.

01
When using the mobile racking system, a working aisle is created by pushing the racks apart. This results in additional storage space and huge space-saving potential.

02
Under pallet carriers (UPCs) buffer pallets one after the other in a pallet channel to optimise space. Up to 15 Euro pallets or 12 industrial pallets can be stored in each channel.

MOBILE RACKING SYSTEM CREATES EVEN MORE SPACE.

The new electric mobile racking system even makes use of the space in the aisles between the rack units. Normally this area is off-limits and must remain accessible. However, this system, designed to optimise the use of space, is cleverly rewriting the rules: A working aisle can be created wherever it is needed at that precise moment, simply by sliding the rack apart. As if by magic, valuable storage space and a working aisle appear out of thin air. The racking system in Krefeld can be divided into three blocks. In order to ensure maximum flexibility, each block can be controlled individually and has its own aisle for storage and retrieval. By opening up three rack aisles simultaneously, the throughput can be adjusted to meet the required throughput speed. As an added bonus, the lighting only switches on automatically once the aisles are open, thus saving energy.

SEMI-AUTOMATED SHUTTLE RACK WITH UNDER PALLET CARRIER.

On the other side of Hall 5 is the shuttle racking, which also consists of three blocks and creates capacity for around 5,100 industrial pallets or 6,300 Euro pallets. The shuttle racking system is chosen for its flexibility. It was designed in such a way that both industrial and Euro pallets can be stored in the channels. Under Pallet Carriers (UPCs) then transport the pallets within the channels. They do this by driving under the pallets and lifting the pallets up to carry them. The UPCs can lift a maximum of 1.5 tonnes. After lifting up the pallets, they move at a speed of 2.9 km/h to the correct position in the corresponding channel. When they arrive at their destination, the UPCs are lowered to place the pallet on the rack. The UPCs then return to their position in lowered mode. In order to save space, up to 12 industrial pallets and 15 Euro pallets can be stored one behind the other in a single channel. The Warehouse Management System controls the shuttle and works in a process-optimised manner. Without anyone even noticing, the Warehouse Management System is already sending a yellow truck to the channel entrance carrying the next order while the UPC is still busy storing the previous pallet.

STAND-ON PALLET TRUCKS AND FRONT STACKERS IN GOODS RECEIPT AND GOODS ISSUE.

The goods that arrive at Johs. Stelten by HGV and container are collected by various Jungheinrich industrial trucks. While ERE 125 stand-on pallet trucks drive into the ramp area to unload HGVs, EFG 320 (four-wheel) and EFG 220 (three-wheel) counterbalanced forklift trucks are used to unload containers. Four-wheel counterbalanced forklift trucks feature a high-pivot floating axle to optimally distribute the weight to be carried, ensuring stability on uneven surfaces. As soon as the pallets are picked up, they are scanned by the operators and compared with the separate order in the Warehouse Management System. The pallets are then buffered in the goods receipt area. Once released, the Warehouse Management System assigns a storage location to the pallet and forwards the transport order to the next available appropriate truck. Depending on the structure of the goods, the pallets are stored either in the shuttle warehouse or in the mobile racking system. Large batches of goods are transported to the shuttle rack, while small quantities, individual pallets or remaining stock are placed in the mobile racking. The Warehouse Management System also handles the removal of goods. It sends the delivery order to an ETV 216 reach truck, which takes the pallets from the rack and drives them to goods issue.

CONTROL OF ALL COMPONENTS BY THE WAREHOUSE MANAGEMENT SYSTEM.

Both the new and more established areas at Johs. Stelten are controlled by the Jungheinrich Warehouse Management System. As well as communicating with the higher-level host system, the WMS is responsible for managing and monitoring orders and for allocating storage locations. In addition, the Warehouse Management System ensures that the trucks, shuttles and aisles in the mobile racking system are all operated in a process-optimised manner. Unnecessary empty runs are a thing of the past. The Jungheinrich Logistics Interface is also able to communicate with the mobile racking system. A number of special features are available, including double cycles to increase the cycle times and relocations of the two racking systems to increase warehouse capacity in different seasons.

The revolutionary idea of using a Warehouse Management System to control all components, i.e. all systems, UPCs and trucks, is a first for both Johs. Stelten and Jungheinrich. By combining this technology with a space-saving racking system and a semi-automated shuttle rack, this long-standing company is able to achieve optimal goods throughput and efficient process flows – thereby safeguarding its future for many years to come.

„We were won over by the fact that everything comes from a single source: from the range of different racking systems that work in perfect harmony to the Warehouse Management System, truck guidance system and manually controlled trucks. We were able to create the perfect combination."

Marcus Heldt
Managing Director of
Johs. Stelten GmbH & Co. KG

THE PROJECT AT A GLANCE.

Customer:	Johs. Stelten GmbH & Co. KG
Sector:	Logistics service provider
Company size:	65 employees
Location:	Krefeld

CHALLENGE.

The fact that the existing storage area was reaching its capacity limits, especially during seasonal peaks, made it necessary to expand the warehouse capacity for different types of pallets and batches.

JUNGHEINRICH SOLUTION.

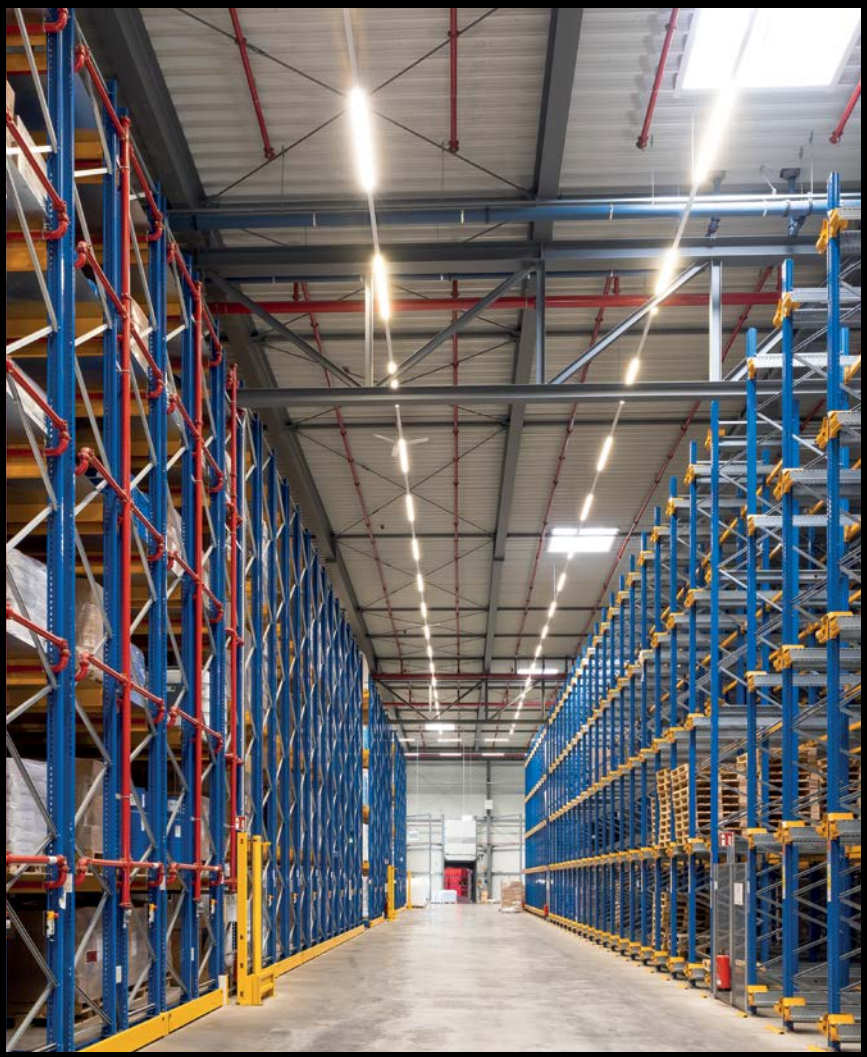
A mobile racking system and a shuttle racking system with a truck guidance system were combined with manual trucks to create space and flexibility. The Jungheinrich WMS and Logistics Interface ensure safety and efficiency.

RESULTS.

By optimising the use of space, the company can benefit from maximised goods throughput. The improved utilisation of the industrial trucks also saves costs and reduces downtimes.

IMPRESSIONS.

By combining mobile racking (left) and semi-automated shuttle racking (right), Johs. Stelten was able to use the same amount of floor space to create a new logistics centre with one third more warehouse capacity.



UPCs can be operated with a practical hand-held radio terminal.

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