



**Automated Guided Vehicle System based on Jungheinrich stacker truck ERC 215a, e-commerce logistics centre, Werne.**  
**Efficient automation of shipping processes.**

**JUNGHEINRICH**

**Project:**

Leading online mail-order company, Werne, Germany

**Industry:**

Mail-order business, e-commerce

**Task:**

Automating previously manually operated transport of pallets from the order-picking area to the packaging workstations along a route of 500 m, including the return of empty pallets

**Project duration:**

07.2016 – 10.2016

**Services:**

- Automated Guided Vehicle System (AGVS) for pallet transport
- Five Automated Guided Vehicles pedestrian stacker ERC 215a
- Fully automated receiving station and pick-up station
- Order generation with tablets and wireless data transmission via Jungheinrich Logistics Interface

**Most important results:**

- Shortening routes and reducing the strain on staff
- High flexibility with possibility for changes to the warehouse layout
- Stand-alone system with short implementation time
- Investment in the system paid off within one year

**From e-commerce pioneer to online trading giant**

Initially offering a selection of books, CDs and videos, the American online mail-order company now sells a wide range of products, including its own electronic devices for media use as well as an integrated sales platform for other companies. In Germany alone, the company operates nine logistics centres, which in some cases enables deliveries within only two hours.

**Automated Guided Vehicle System in flexible mixed operation with manual vehicles**

The Jungheinrich AGVS consists of five ERC 215a Automated Guided Vehicles for loads of up to 1.3 tons. Laser navigation enables precise approach and automatic operation of the receiving and pick-up stations. As standard, all vehicles are fitted with a personal protection scanner and sensors.

**Installation and IT integration**

Before installing the vehicles, a layout was created and the route was measured and illuminated with reflectors. The delivery specification also included a control unit operated by the user via a tablet, using the middleware Jungheinrich Logistics Interface. The existing WLAN infrastructure is used to communicate with the ERC 215a. In addition to its technical commissioning, Jungheinrich also trained the staff using the vehicles in operating the system.

## The requirement

### Reducing transport routes for staff

The aim of the optimisation was to relieve staff of transport-specific tasks such as transporting fully picked goods for shipping. Existing routes were to be used, while also enabling mixed operation of automated trucks, manual trucks and staff. For Jungheinrich as a system integrator, the requirement was to implement a fully automated, safe and highly available AGVS with the option of manual operation that can be flexibly expanded and adapted to the environment if required.

## The solution

### Simple operation and significantly less strain thanks to automated processes

The order pickers start their work with a hand pallet truck and a pallet with an attachment. Once all items have been picked, the completed pallet is moved to the next automated receiving station. The Jungheinrich Logistics Interface software enables the Automated Guided Vehicles to be operated via a tablet. Job orders are easily input via an intuitive dialogue. The next AGV receives and processes the order in a fully automated sequence. The employees then remove the empty pallet from the station and continue their order picking.

## Customer statement

### Short amortisation period and flexible application options

"Our warehouse layout is very versatile and we always look at how we can optimally adapt to customer requirements. In order to maintain this flexibility, we needed a system that was just as flexible," explains Julius Hartje, Senior Operations Manager at the e-commerce logistics centre. Also, the investment in the system was to be paid off within one year. This goal was achieved in addition to a high level of acceptance of the AGV: "Not only have our employees learned how to operate the system, but they can also see how harmonious the processes have become and how the AGVS relieves the physical stress to which they were subjected. And if there is a fault or we need the truck for a different process, the truck can be operated in manual mode at any time."



Julius Hartje, Senior Operations Manager.

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