

**ERC 215a, ThyssenKrupp,  
Krimpen, Netherlands.**  
**Decision for  
flexible automation.**

**JUNGHEINRICH**



**Project:**

ThyssenKrupp, Krimpen aan den IJssel, Netherlands

**Industry:**

Steel processing, stair lifts

**Task:**

Optimising manufacturing processes with focus on lean production principles

**Project duration:**

10.2010 – 02.2011

**Services:**

- Electric pedestrian pallet truck ERC 215a
- Connection to host system

**Most important results:**

- Increased efficiency
- Increased added value
- Traceability of pallets in the individual production steps
- Relieving pressure on personnel

**Improving quality of life with stair lifts**

"It is a question of exact cutting, accurate bending and precise assembly. The precise drilling of the correct holes and the very straight welding of the gear rack contribute to the basis of the stair lift, with which we are able to solve some of the world's mobility problems. We manufacture stair lifts for people who have trouble walking, enabling them to remain living in their own homes for longer," explains Operations Manager Kurt Debaene.

**The choice – the Automated Guided Vehicle from Jungheinrich**

ThyssenKrupp has automated its internal transport with an Automated Guided Vehicle (AGV) from Jungheinrich. This unmanned pedestrian stacker is now responsible for transport between the various workstations in the stair lift manufacturing process. Optimum flexibility and minimum space requirements were the key factors which led to this choice.

**The optimum solution for the customer processes**

When establishing the work process, a balance was sought between the manufacturing processes and the number of transport movements by the AGV. Careful planning using several defined sections in one transport movement made it possible to use one truck. Should the required capacity increase in the future, it will be a simple procedure to integrate additional AGVs into the system.

## The requirement

### Automation and maximum flexibility

The requirements for the new Automated Guided Vehicle were:

- a) Automated transport of the materials between the individual manufacturing stages
- b) Synchronisation of processes
- c) Low space requirement
- d) Traceability of materials in the production process
- e) Retaining flexibility of the manufacturing
- f) Relieving pressure on personnel

The principles of lean production were the main reason behind the implementation of the AGV. The aim was for the AGV to lessen the strain felt by the employees, thereby giving them more time for their work. It has also done away with work stoppages for internal transportation. Thanks to this automation, errors have been minimised and work flows optimised.

## The solution

### The ERC 215a

The AGV is an automatically controlled truck based on a standard Jungheinrich fork lift truck. Using laser navigation and triangulation, the Automated Guided Vehicle knows precisely where it is located. The AGV delivers the steel pallet frames to each of the 28 entry and delivery points, with a maximum of up to eight pipes and gear rack profiles being transported at the same time. As soon as an operator has completed their processing stage, they press a button. The logistics software controls the sequencing of the control unit, within which the AGV independently and automatically transports the pallets carrying the orders between the workstations. This automated system has replaced the manual transports between the workstations. As the AGV is operating in an area in which people are moving and working, safety is of the utmost importance. In order to avoid injury or damage, the AGV is equipped with a number of safety sensors. The truck stops immediately if an obstacle blocks its path. Once its route is free again, it automatically continues on its way.

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## Customer statement

### Improved efficiency and flexibility retained

The rail construction department at the plant in Krimpen has six different production clusters for the processing of pipes and gear rack profiles. Each of these is responsible for a specific processing stage. Consequently, the materials visit each of these stations. Kurt Debaene: "We also included the internal transport system in our recent automation and improved efficiency. It was crucial that flexibility was retained, both in terms of routes and of space requirements." This original requirement meant that, ultimately, an automated guided vehicle system was chosen ahead of an overhead track and a stationary conveyor belt. Neither of these solutions was flexible enough to be able to cope with any possible changes to the production layout that may occur.

Consequently, ThyssenKrupp chose the flexible AGV from Jungheinrich.



Kurt Debaene. Operations Manager ThyssenKrupp Accessibility in Krimpen aan den IJssel, Netherlands.

### More information:

[www.jungheinrich.ch](http://www.jungheinrich.ch)

The Jungheinrich logo consists of a stylized red arrow pointing upwards and to the right, followed by the word "JUNGHEINRICH" in a bold, black, sans-serif font.