

Paper-free storage system at stockist group

German stockist Kerschgens Group has reaped immediate rewards after it updated its storage system. Instead of using paper labels on its stock, the company logs everything on an IT system. Now 99% of delivery dates are met and loading and search times have been dramatically reduced.

SINCE 2007 Germany's Kerschgens Group has been modernising its internal processes in the steel trade.

So far it has been a success: stock placement and removal into and from the floor and high-rise storage systems at its headquarters in Stolberg, are now paper-free.

The adherence to delivery dates is at more than 99% – with confirmed overnight deliveries. A key part of this success is the use of a label as a data carrier.

Until 2007 the company had handled its stock placement and removal processes like many in the industry. Suppliers' lorries arrived on site, deliveries were checked against delivery notes by operators and the products located in the warehouse according to the instructions of the operator dealing with the delivery.

Dispatches were also controlled via printed lists. Products were individually prepared for loading, which was carried out during the night shift, frequently marked with unclear hand-written notes, located using a list and then loaded on to the lorry.

Problem

"The problem was these processes had developed over many years and were established at a time when standard products were supplied and there was much less competition and price pressure. Today, we deliver overnight, without any errors and orders made up of different individual products for customers and unloading points," said head of IT Michael Kötting.

This was the starting point for the modernisation project. The identification of products, which had been taken out of stock with just hand-written notes caused problems.

When the goods were moved from interim storage to the loading area notes, products were separated, leading to more time spent on searches as well as errors.

"During the project preparations it was clear that we wanted a real, sustainable leap in efficiency. We needed to synchronise material and information flows.

"This could only be achieved by a completely new interaction of warehouse organisation, warehouse technology and the stock placement and removal processes," said CEO Heinz Herbort.

External partners

Kerschgens Group sought the support of external specialists. All partners – from software to identification – met regularly, enabling them to attune the technical and organisational work.

Karl Tochtermann, CEO at identification company S+P Samson believes the project benefited from this approach – in its course and in its results. Overseeing the project were Consultant Engineers Ingenieurbüro Roth (IBR) that was given the task to bring technology and logistics in line.

While Kerschgens continued to operate as usual, the construction work for the new Kasto high bay racking system began – a system which was designed to accommodate steel products in 2000 sizes and of length up to 6m in 3000 mul-



Fig 1 Loading bays correspond to the delivery routes and each item machine coded

tipple cassettes. One objective was to eliminate lists and paper by mapping everything on the IT system. Labelling and process support through labels was key to achieving this objective.

Deliveries

The complete process from receiving goods to putting goods into stock was re-structured.

When a lorry arrives with goods now, a delivery note from the supplier will already be there. The driver is handed a goods transfer note and drives to the unloading point allocated.

Here, all the steps to receipt are concentrated. The goods are weighed immediately on the unloading crane and the delivery is checked against the delivery note.

For all goods, the IT system provides the required labels which are printed at the unloading point. The operator attaches the labels to the goods, enters them into the computer system and distributes them to the specified warehouse locations.

For fast-moving items and parcels this can be to cradles in the warehouse, for all other products it will be the Kasto racking system.

The material determines the warehouse location. The system where goods are distributed on the instructions of an operator is no longer used. This means that the actual locations in the warehouse and in the Kasto system always correspond with the information in the IT system.

In addition, name, weight, warehouse location and entry number are indicated on the label and clearly visible for all operators.

Stock dispatch

The processes for removal from stock were also restructured. In a computer-aided procedure the goods come out of the Kasto storage system, sorted by customer and/or unloading points. At the portal to the high-rise storage system they are assembled for each order and then receive an additional label for each bundle, which is automatically printed with barcode and full text.

Instead of being put down in a 'chaotic' man-

ner in the loading area, these bundles are moved to 13 holding bays which are organised by postal codes and routes.

The advantage is that the loading shift can find all the goods for a route in the corresponding holding bay. Collections and goods transferred for processing also have their own holding bay.

The holding bay system has reduced loading times and virtually eliminated time spent on searches. Delivery quality has improved, as the system helps prevent errors.

The bundle labels also enable a quick and reliable check against the order and loading lists stored in the terminal.

The height of the holding bays racks were improved so that the goods can be loaded by operators without any great physical effort, reducing back strain (Fig 1).

The bundle labels are attached in such a way that they always face the aisle between the two rows of holding bays. This saves time as the operators can read all the bundle labels from the aisle between the holding bays (Fig 2).

The identification with the combination labels supplied by S+P Samson plays an important part in operational reliability.

They can be either used as a tag or as a self-adhesive label to suit the individual products. In contrast the former hand written labels were difficult to read, became detached and caused errors (Fig 3).

The positioning of the terminals and printers at the workstations, as well as the covers protecting the printers against warehouse grime, were based on recommendations by S+P Samson.

Goods

And what about goods that need to be cut to size? If cutting is required, the IT system will route these orders automatically to the sawing station which uses another exit from the Kasto high-rise storage system.

The operator requests the goods, cuts to size, attaches a new label with the order data and sends it to the holding bays. If the remaining



Fig 2 Labels are machine printed and placed outward in the racks



Fig 3 Former hand written label

quantity is still a standard size, it will be returned to the high bay racking, smaller off-cuts are scrapped. The implementation of the modernisation project is ongoing, but there are already improvements.

"We were able to increase the speed and reliability of our warehouse processes considerably. Where we achieved just under 200 items in three shifts before, we are now processing just under 440 items in the Kasto system – in only one and a half shifts," reported Mr Herbort.

"We are achieving an adherence to delivery dates of more than 99%. This means that with only a few exceptions we are delivering without any errors and overnight as we had confirmed to our customers."

Unlike their competitors, the Stolberg site suffered neither a fall in sales nor reduced working hours during the economic crisis.

Transparency and process support from mod-

ern, label-based identification has played a major part at Kerschgens.

That the system was so readily accepted by the operators was because the information on the label was not only printed in barcodes, but also as full text.

During the transition period they had the option to print lists, but they dispensed with this facility. Today, the processes in the warehouse are completely paper-free.

The processes and labelling systems are being rolled out to other sites within the group.

In Stolberg, optimisation continues with suggestions from a continuous improvement process. One example is supplier integration: lorry drivers can phone ahead to enquire about unloading capacity at Stolberg, to announce their arrival and reduce time spent on site.

The times advised for collections are recorded on the intranet and communicated directly

to the collection area. The suppliers also receive instructions from Kerschgens to load their deliveries as 'crane-friendly' as possible – for instance, not under fixed covers.

For stock placement and removal the routes travelled in the warehouse are to be made shorter and data capture more efficient through the use of mobile scanners.

The radio equipment for the facility has already been installed in the warehouse. At the customer, there are plans to include customers' process information on the S+P labels and tags. The S+P Samson design included two customer-definable lines as standard. ?

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