



## **Little space. Plenty of room. - Innovative packaging producer relies on the combination of planning know-how and modern technology for efficient logistics.**

### **Abstract**

The company Heuchemer based in Rhineland-Palatinate knows how packaging works. With around 430 million packages stored and delivered per year, the storage capacity at the logistics centre in Miehlen was exhausted. In cooperation with STILL, the expert for customised logistics solutions, a new 18 metre high channel storage with four PalletShuttles and two MX-X order picking stackers was installed in the extension building. The combination of semi-automatic PalletShuttles and order picking stacker trucks in the high rack warehouse is an entirely new system solution for the intralogistics specialists from Hamburg so far. Cost-intensive external storage areas were discontinued and the entire logistics was centralised in Miehlen. With the iGoEasy system from STILL, a combination of an automated EGV-S high lift pallet truck and an iPad as configuration and control unit, recurring transports for production retrieval and buffering storage were designed efficiently and flexibly. The automated production vehicle is easy to activate, operate and can be adapted to changing conditions simply using the iPad.

### **1. Heuchemer Packaging**

Be it partition boxes for sweets manufacturers from the food and beverage industry or fully automatically manageable workpiece support for high-tech products in the automotive, electronics, construction and chemicals industries: Heuchemer Packaging develops packaging solutions using the latest CAD technology of all kinds. With thermo-paints as well as effect and scented lacquers the innovative products are printed and the special packaging is checked directly in its 3D design for proper function.

While wood is then as now processed at the company's headquarters in Bad Ems, where the company was founded as Lahn- Säge- und Hobelwerk (saw and planning mill) by Carl Heuchemer in 1920, the production of packaging from plastic and corrugated board is located in Miehlen. Heuchemer Packaging develops, stamps and sticks around 269 million packagings from corrugated board and 160 million plastic packaging solutions per year. At the logistics centre in Miehlen not only the deliveries are controlled, but also the stock for call orders and assemblies.

### **2. With a new logistics centre and a customised shuttle high rack warehouse well prepared for the future**

Due to the large increase in pallets that needed to be stored, the storage capacity of the existing logistics centre in Miehlen was soon reached. So in autumn 2012, Heuchemer decided to realign its logistics and to expand the existing logistics centre. Since only a limited construction area was available and there was a restricted construction height of 20 metres, Heuchemer was looking for a logistics solution with the best possible land use. In addition to the effective use of storage space, the goal was to gradually automate as many processes as possible. Already in 2006 a channel storage with pallet shuttles and forklift trucks from the Hamburg based STILL GmbH was installed and so it was obvious to closely involve the planners



and developers of STILL in the planned construction project. In the logistics centre, two new 18-metre channel storages for raw and finished packaging with 10 650 pallet bays on 1 995 m<sup>2</sup> floor space extended the existing STILL shuttle storage in the first logistics centre. Due to the low loss of area for aisles, buffer shelves and picking stations, the space utilisation level is at a remarkable 93 percent. The expensive external storage areas, which were needed during the growth period, could definitively be resolved by this step.

As a system integrator STILL not only planned and installed the entire solution, but also carried out the fine tuning between shuttle, shelving, conveyors, stackers and driverless transport systems. To handle the pallets with overhanging and delicate finished cardboard and plastic goods, all shelves have been adjusted and the shuttles were also equipped with sensors for dynamic overhang detection, an innovation that was unavailable at the market so far. The goods are scanned and the distance between the goods is minimised to make the most of the valuable storage space in the channels. The storage density of the overhanging pallets can hereby be increased by up to 50 percent. That meets every applicable safety regulation.



*Figure 1: Logistics centre of Heuchemer Packaging in Miehlen built in 2013*



*Figure 2: Pallet shuttle high rack warehouse (18 metres) with space for 10 650 palettes*

### **3. Automation easy and flexible**

To automate recurring transports for production retrieval and buffer storage, the company was looking for an automation solution that was very easy to integrate into the existing process flow, without having to invest in complex infrastructural adjustments. Beyond this the new system was not to interfere with the existing ERP system or require complex overlaid software systems. The decision for the iGoEasy system from STILL was finally made because it fully met the requirements, needing only minor system modifications, while providing a cost-effective basic automating system, which can be gradually extended in the future.

The iGoEasy system is the first automation solution worldwide for simply standardised orders of an automated single vehicle that features complete configuration, operation and monitoring via iPad.

Even more: The system can be automatically installed and adjusted to new conditions later on. The minimal infrastructure of the iGoEasy provides the necessary flexibility to easily integrate the solution into the existing process flow. So infrastructural changes are reduced to a minimum. IT investment and connection to the overlaid ERP system are not necessary. That means, there are no high follow-up costs in case of process or production changes. Furthermore, the iGoEasy system of STILL guarantees a later integration into a complex automation solution.

#### **4. The flow of goods**

After completion, the different finished products of the production line are removed from the production hall on a roller track. At the transfer station two scanners identify the goods by reading a barcode. The iGoEasy interprets the information obtained and moves the goods correctly sorted to the respective conveyor. Therefore a conveyor line per production line was installed in the lowest levels of the existing buffer stock. Using iGoEasy the conveyor lines are filled with pallets according to the FIFO principle. These are then stacked by the MX-X order picking stacker and passed into the shuttle high rack warehouse. The shuttle storage is designed to store larger batches. The finished goods therefore have to be buffered beforehand in a well sorted way. In this case the iGoEasy functions as a sorter, without blocking the operations and allowing a flexible assignment of the goods. The possibility to use a barcode scanner for order dispatch was not available in iGoEasy standard so far, but was extended to the individual requirements of the processes of Heuchemer Packaging. This additional feature has been developed generically and is from now on also available in the standard iGo Easy system.

#### **5. Conclusion**

Due to the complexity, there was no ready-made logistics solution. Hand in hand with an experienced partner all the procedures and processes in the new STILL PalletShuttle high rack warehouse as well as the interaction of the two logistics centres were analysed and optimised. For any unexpected small challenges during the project phase, solutions were found quickly, so that the previously defined project plan was adhered to the exact day. With the STILL PalletShuttle – high rack warehouse Heuchemer Packaging is ideally equipped for further growth and has taken an important step towards automating its processes with the iGoEasy system, conveyors and a variable number of shuttles in the high rack warehouse.



*Figure 3: Automatically removing produced materials Image*



4: *STILLPalletShuttle in the high rack warehouse*

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