



BEST PRACTICE

Kräuterhaus St. Bernhard

—> High-performance intralogistics system in e-commerce

Kräuterhaus
Sanct Bernhard

FURTHER EXPANSION WITH NEW LOGISTICS CENTER

HIGH-PERFORMANCE INTRALOGISTICS IN E-COMMERCE

psb intralogistics has extended the inhouse logistics system, operated by Kräuterhaus Sanct Bernhard. The existing miniload warehouse, with order picking stations, up to now the core of the system, has been extended by a Multi Access Warehouse with *vario.sprinter* shuttles and *rotapick* high performance order picking systems. On the basis of the current orders in line, the system processes are permanently optimized by the psb *selektron* software. In this way, the degree of economic efficiency has been substantially increased.

At the company headquarters in Bad Ditzgenbach (Stuttgart), Kräuterhaus Sanct Bernhard, with a company tradition of 112 years in business, develops and produces, with approx. 300 employees, a very large range of natural remedy, dietary supplements as well as body-care products and cosmetics. Besides the two company-owned stores, the products are mainly sold via internet to customers in Germany and abroad.

Kräuterhaus has considerably enlarged its intralogistics system, in order to be able to meet the requirements of the positive order situation and the continuously growing product range. The basis for this extension was the existing system solution by psb, which includes a two-aisle automated miniload warehouse, connected with 16 order picking stations supplied by 800 static and dynamic flow racks, and a four-aisle replenishment pallet warehouse with integrated control system for VNAs.

INFORMATION +
VIDEO ON OUR
WEBSITE



CUSTOMER

Kräuterhaus St. Bernhard,
Bad-Ditzgenbach | GER

SYSTEM

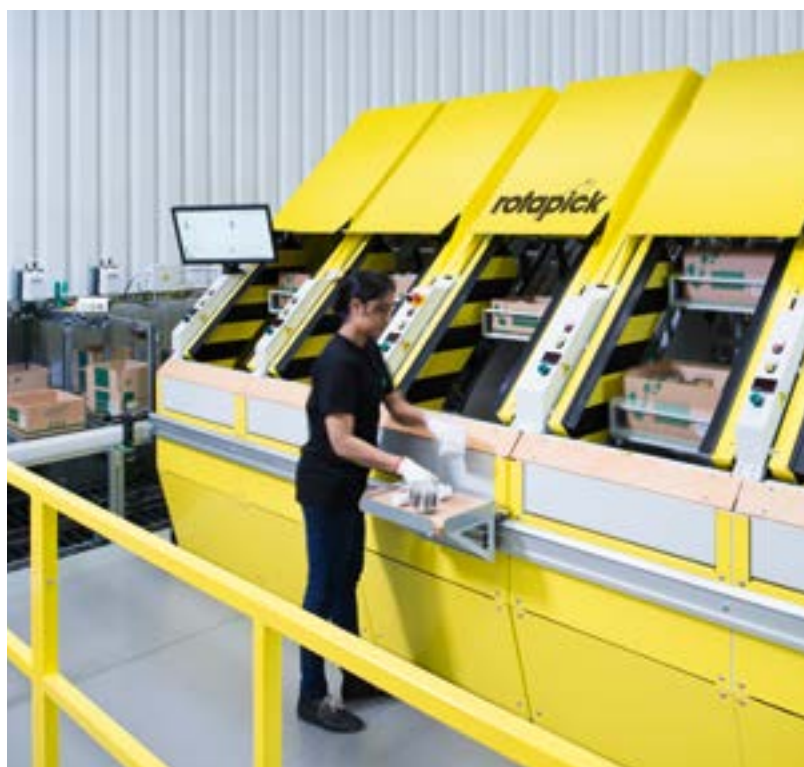
Multi Access Warehouse with 20 dedicated *vario.sprinter* shuttles; three *rotapick* high-performance picking systems; automated miniload warehouse with two *sprinter* AS/RS stacker cranes; 800 dynamic flow racks; 16 order picking stations; 20 packing stations

CONTACT

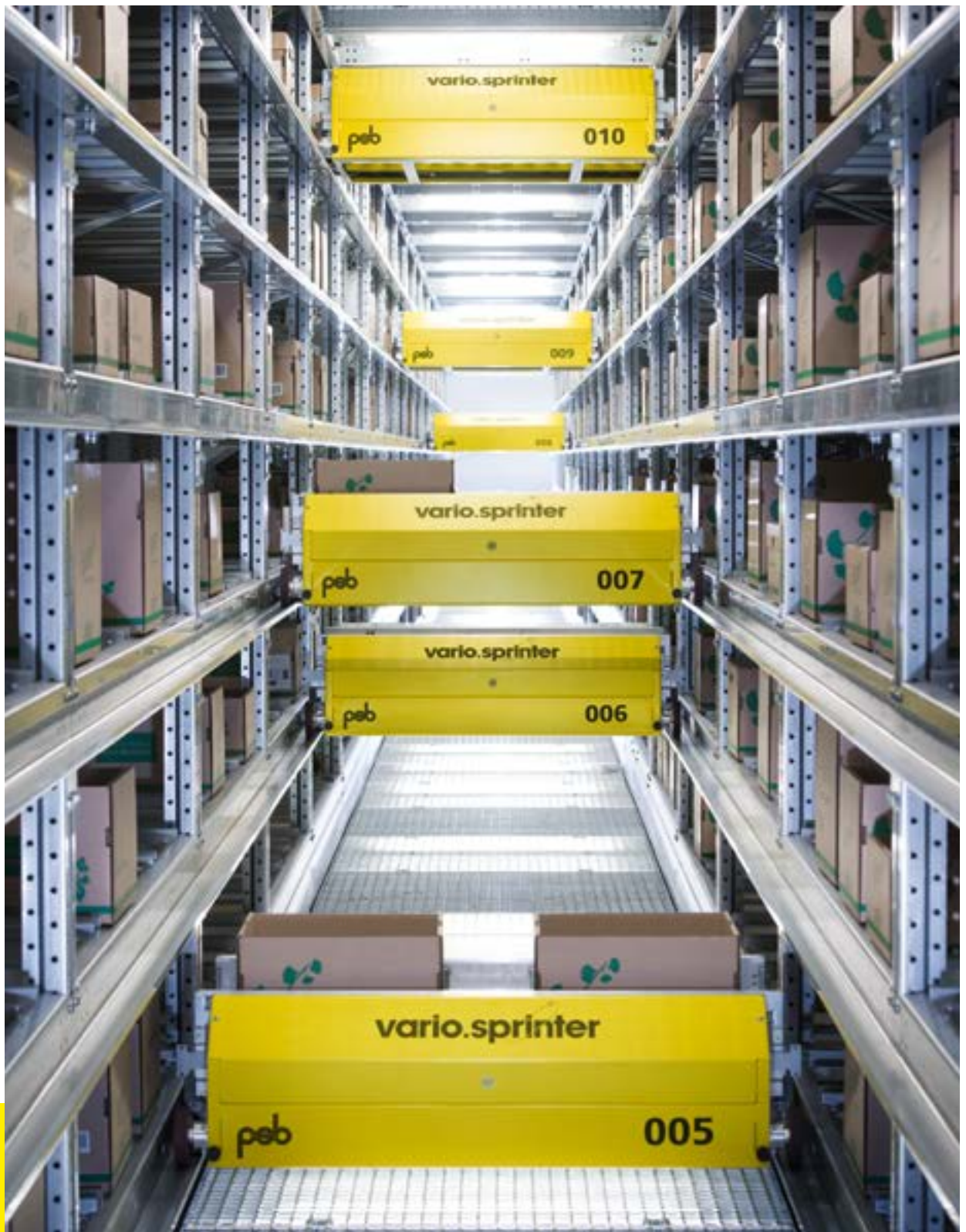
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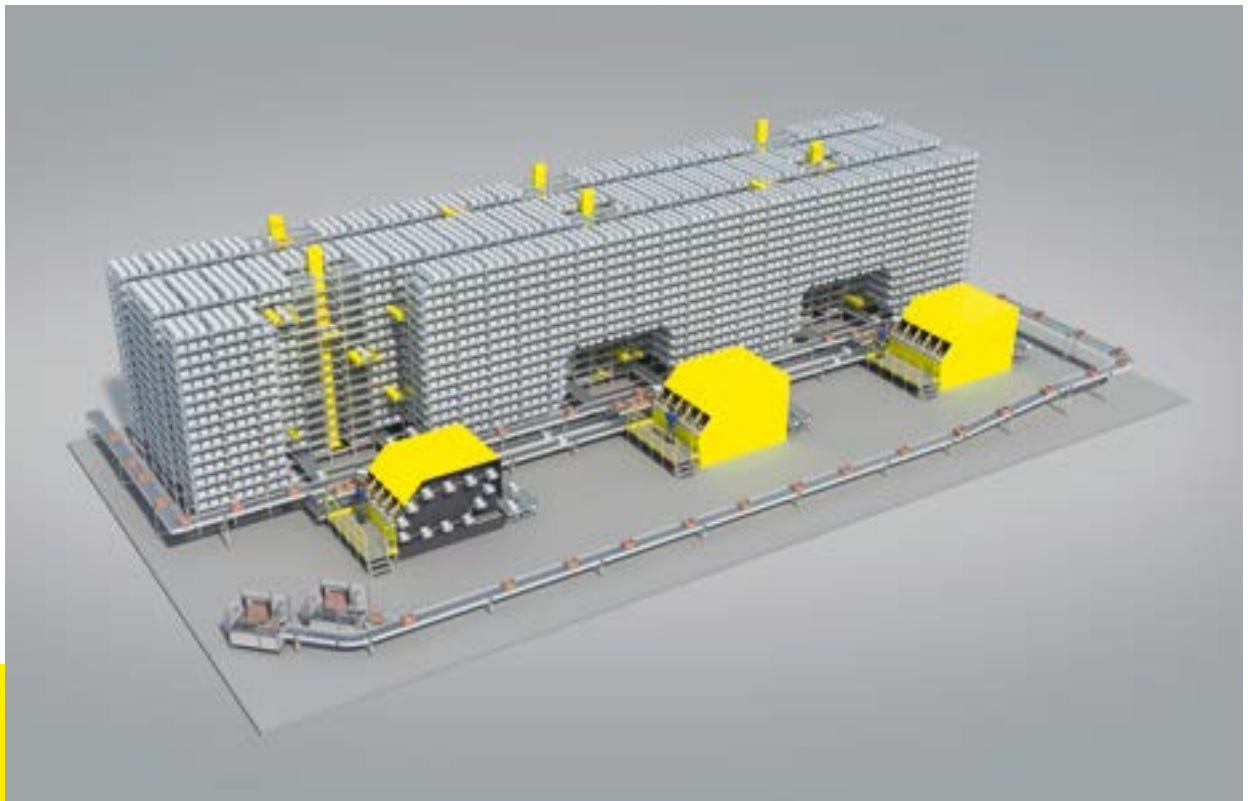
Text:
Jürgen Warmbold,
Freelance journalist
Images:
psb intralogistics GmbH



Three *rotapick* high-performance picking systems achieve up to 1 000 picks per hour; with these units, the warehouse movements are significantly reduced.



In the highly dynamic Multi Access Warehouse with 20 dedicated shuttles, the cartons can be stored up to three deep.



Multi Access Warehouse:
The patented high-performance and flexible intra-
logistics system solution: shuttle-warehouse with
more than 10 000 carton locations and directly
connected high performance picking stations

Forward-looking concept

Prior to the extension of the system, psb had created various scenarios, like, for instance, erect a new building or, as small-scale alternative, a third aisle in the miniload warehouse. In the planning phase, the status quo was thoroughly analysed. It became evident that the dynamic usage of further channels, with a related frequent change of articles, would have caused a bottleneck at the AS/RS stacker cranes – an inefficient situation. Apart from that, the continued positive business trend could not be accommodated with a third aisle.

Based on this knowledge, psb worked out the forward-looking concept: downsize the pallet warehouse from four aisles to one aisle and install on the attained space a one-aisle, 13 m tall Multi Access Warehouse, plus three *rotapick* order picking stations. Furthermore,

psb suggested to move the order start to that area as well, and to use two automatic carton erectors instead of one, as it was done up to that point. The feasibility of the new integrated and scalable technical solution, controlled by the psb *selektron* software, had been validated by an extensive simulation, carried out by psb, and finally been implemented. A particular challenge was to integrate the shuttle warehouse and the order picking systems on a very confined space.

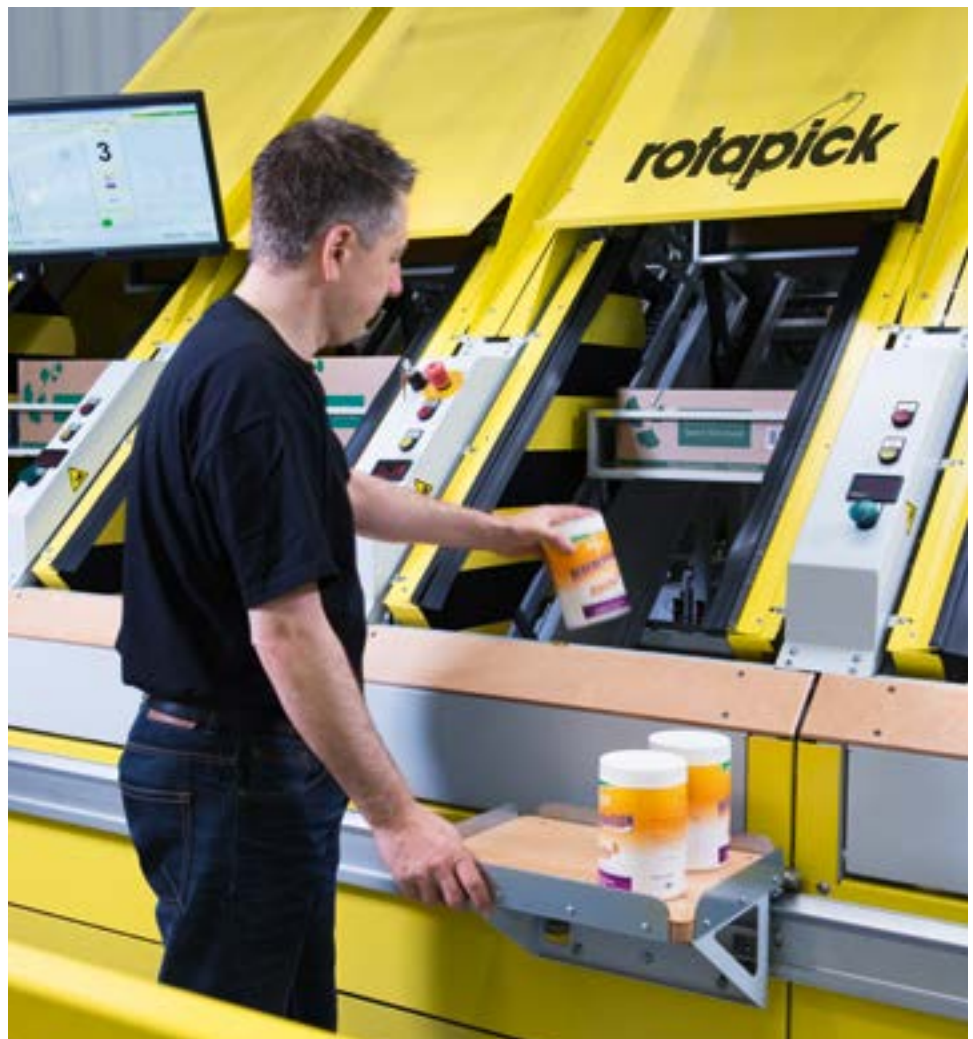
Close connection

The Multi Access Warehouse, which can handle up to 750 double cycles in an hour, provides 10 140 locations for cartons. 20 *vario.sprinter* shuttles (dedicated to each level) store and retrieve the storage cartons (400 x 300 mm) lengthways up to three items deep. Highlight of the patented intralogistics solution are the three tote lifts in the system: laterally integrated high-performance lifts, by which the warehouse supplies the *rotapick* with source totes, and takes them back again within very short time. Each lift has been designed for 250 double cycles per hour; separate transfer stations are established on each level. Through the lateral integration of the lifts and the associated short conveyor loops, the warehouse is closely connected with the picking stations. This patented solution, with short distances, could only be implemented by a shuttle system. Another key asset of this concept is the redundancy (system resilience) that could be achieved.

High picking performance

At Kräuterhaus the three *rotapick* high performance picking systems are used to buffer source cartons. Each *rotapick* holds up to 60 cartons and provides these cartons to the employee to take out the goods. Although these stations are designed for the handling of A and B+ articles, the customer uses them also for picking heavy and large items, which should actually sit in the flow racks. Nevertheless, these items are supplied from the shuttle warehouse to the *rotapick*, because due to their dimensions and weight, they shall be picked first and put on the bottom of the shipping carton.

In every *rotapick* unit, up to 60 source totes are stored and provided in the required sequence.



This configuration enables Kräuterhaus to pick up to 40 percent of the orders completely at the *rotapick* and forward them directly to the packaging area (20 packing stations). Orders, which have to be completed by other items, or which consist of C articles only, are picked at the stations of the original facility. At that point, these items are provided from the mini-load warehouse in the flow racks and then transported to the packaging area as well.

Time-saving replenishment concept

Another key aspect of this solution is the ongoing sequence optimisation of all order picking jobs to be assigned to the *rotapick* devices, a task that is coordinated by the *psb selektron* system, which has been implemented in the course of the modernisation. Since the software knows which items are sitting in the *rotapick*, the order picking jobs are initiat-

ed in a time-saving manner, because re-storage and renewed retrieval of fast movers are mostly not necessary anymore. If articles still have to be exchanged, *selektron* first initiates those orders, which include the least involved items.

psb selektron controls the whole plant, including all original functionalities, complemented by *selektron SCADA*, which is in charge of system diagnosis, visualization and maintenance support as well as the operational control of the system.

The expansion volume also includes a special-purpose workstation for catalogs, sample sets and special supplements which is established right after the order start, plus return of empty cartons to order start, eight additional packing stations including their connection

800 Static and dynamic flow racks are connected by 16 order picking stations





At 20 packing stations, the orders are prepared for shipment.

to the outbound goods area, and finally the conveyor systems between the shuttle warehouse and the miniload warehouse.

Substantial increase in performance

Through the integration of the dynamic Multi Access Warehouse and the three *rotapick* high performance order picking stations, the economic efficiency was significantly increased. In view of the continuing positive business trend, for Kräuterhaus it is essential, that further expansion can still be accomplished. This is even more important since the company mainly sells its products in the e-commerce market, so that each order has to be shipped at the day of order intake. Therefore the system configuration was chosen in a way, that in the shuttle warehouse a second aisle can be established and that two more *rotapick* units can be installed during operation. This would allow to increase the transaction rate from currently 1,800 to 3,000 picks per hour and, accordingly, the

shipping capacity from 600 to 1,000 cartons. Through the sophisticated psb solution, consisting of *vario.sprinter* shuttles and *rotapick* high performance picking stations, a cost-intensive new building, as it was already planned, could be avoided.

CREATING YOUR
INTRALOGISTICS.

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