



psb Best Practice

Kramer Equestrian

Highly efficient multi-channel distribution



CREATING YOUR
INTRALOGISTICS

Further expansion with new logistics center

High-performance logistics center with hightech intralogistics



Customer

Kramer Equestrian Ltd.,
Hockenheim-Talhaus | GER

System

Logistics center with
10-aisle AKL with AS/RS
sprinter for 110 000 bin
locations and a 6-aisle
high bay warehouse with
AS/RS maxloader for
16 500 pallet locations.

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The care and handling of horses requires a lot of time and patience from the riders. Therefore, it is even more important, that the fans of equestrian sports get the equipment they need for their hobby reliably and fast. This is the reason why Kramer Equestrian, the European leader for equestrian equipment, offering a product range of more than 25 000 different articles, placed an order with psb intralogistics for the implementation of a high-performance logistics center. With this system, the orders of the end customers in more than eight countries can be processed very fast, and the company's stores, which offer the entire product range, can always be supplied effectively and precisely timed, even in peak situations.

»Through the international expansion of our business over the last years, the extension and optimization of our product range at Hockenheim (southwest Germany), which for us is the perfect location, a larger warehouse and a highly automated intralogistics installation became inevitable«, says Walter Stricker, authorized representative and member of the Board of Directors at Kramer Equestrian. »Because with our broad range of articles, this is the only way to avoid time-consuming and inefficient split shipments.«

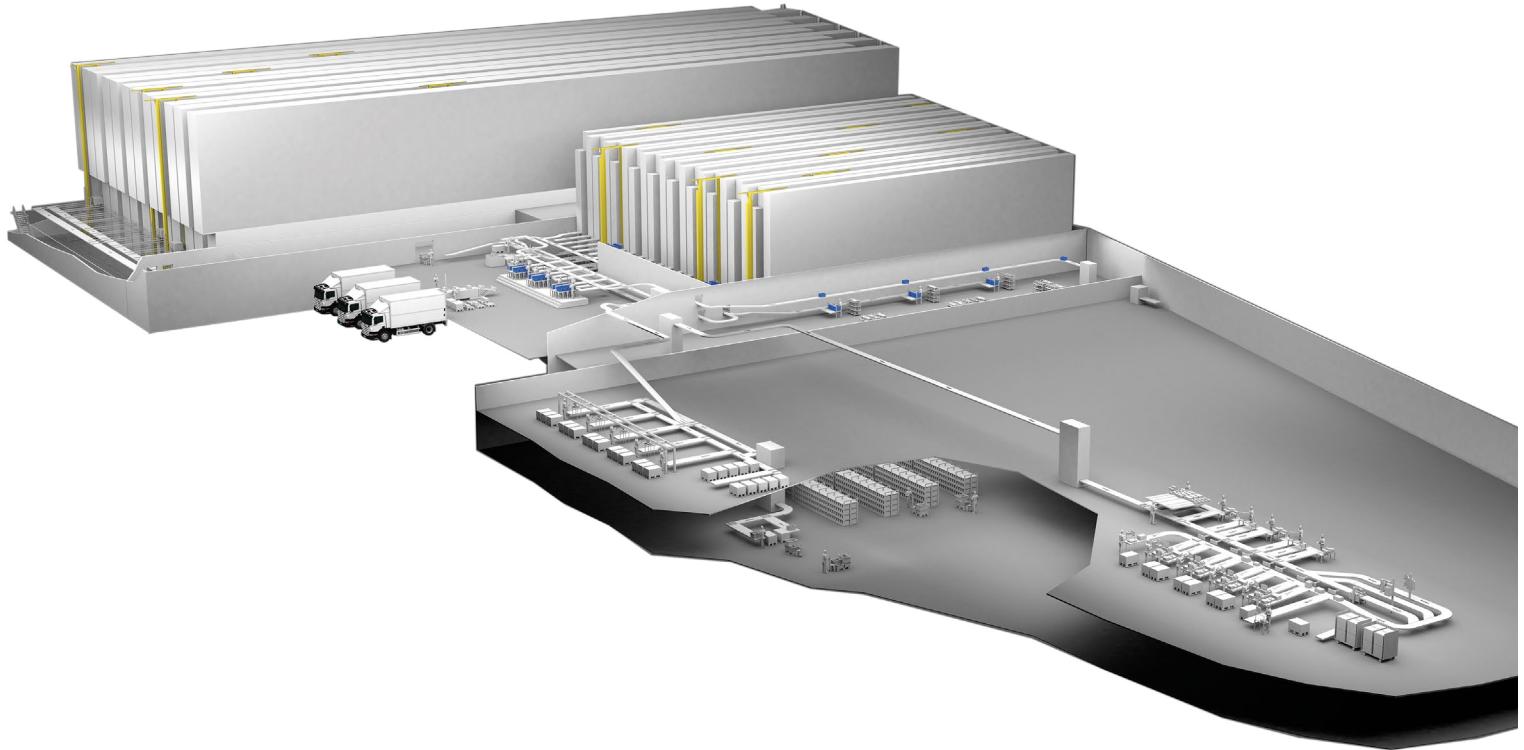


Walter Stricker, authorized representative and member of the Board of Directors at Kramer Equestrian: »We have reached, with psb, our goals we set with respect to delivery speed, delivery time and volume.«

psb – responsible contractor for the intralogistics system

psb »among all potential suppliers had the concept best tailored to our needs, including the optimum solution for the handling of returns. Already in the design phase, psb proposed concrete approaches«, Stricker says. The psb systems technology for Kramer encompasses the entire steel works for the small parts warehouse (AKL) and the high bay warehouse (HRL), including the related AS/RS stacker cranes, storage pre-zones and conveyor technology, the order picking workplaces and stations, the consolidation and packing stations and finally the inbound and outbound storage workstations. Furthermore, the psb delivery volume comprises of the controls, MFC Material Flow Computers, the WMS Warehouse Management System – modules from the psb software suite *selektron* – and finally the interface to the ERP system D&G VS4, used at Kramer.

The entire design and implementation of the new logistics center, incl. the commissioning of an additional, second implementation step, took from 12/2010 until 9/2013, explains Marco Kambeck, the responsible Sales Manager for the project at psb.



Implementation of the intralogistics »from inside out«

Two main contractors had been engaged: a building contractor, for the erection of new buildings and the adaptation of existing facilities, and psb as responsible contractor for the intralogistics installation. »Since the logistics center had been established strictly according to the intralogistics requirements, virtually from inside out, we worked in close co-operation with the building contractor, during the integration of existing buildings into the intralogistics concept, and throughout the entire time of implementation of the new buildings and new building parts«, says Marco Kambeck. It was also important, »that the regular operations in our logistics center remained mostly unaffected by the building activities of both contractors«, says Stricker. »The reorganization from the old to the new system was planned well in advance. All employees were involved, and everything was accomplished in just four days, at a long weekend. Actually, only one working day was invested.«

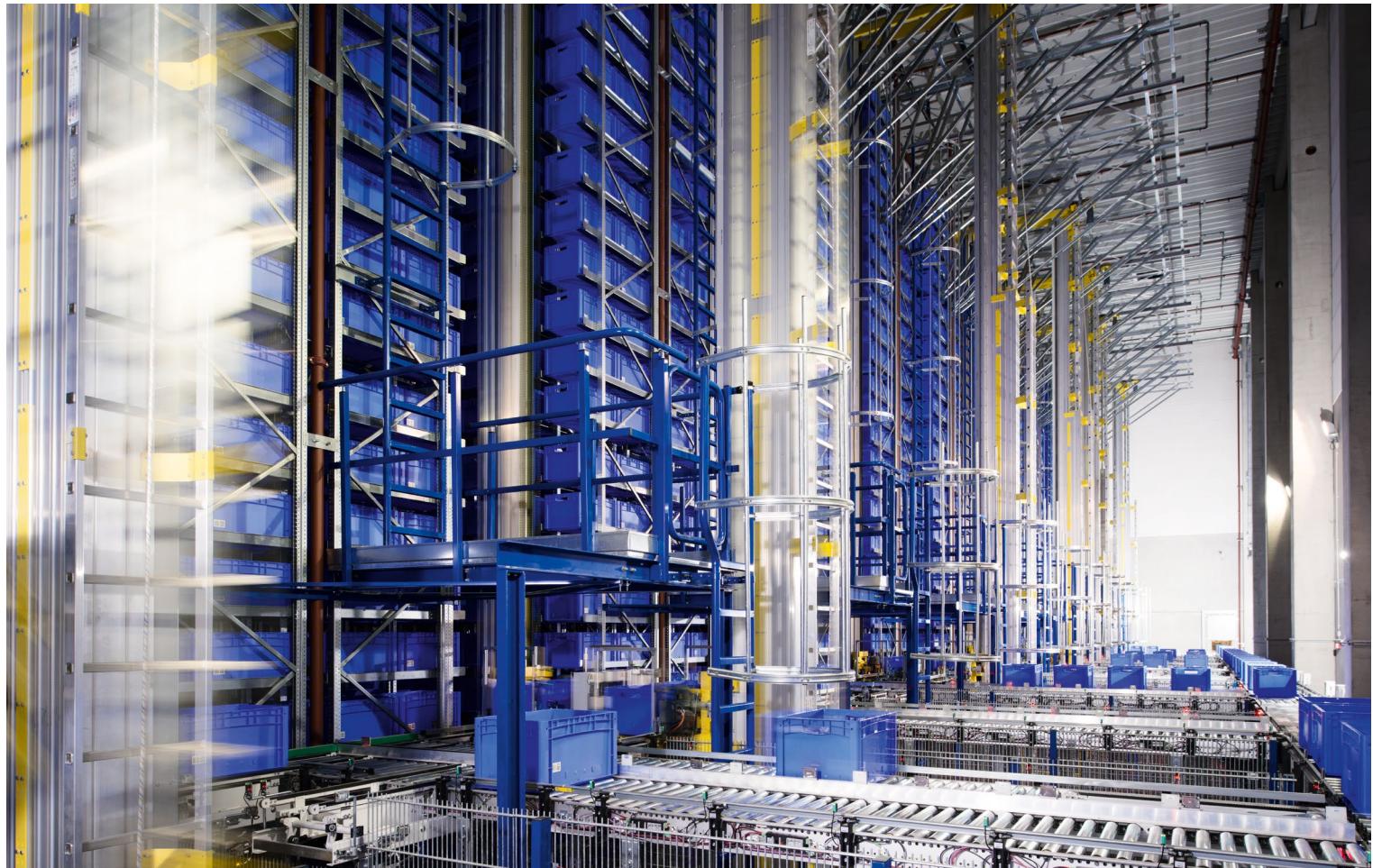
Decision in favor of an AKL

The 10-aisle AKL with 110,000 bin locations is operated by 10 psb AS/RS stacker cranes type

sprinter, with a speed of up to 6 m/sec. They are equipped with double load handling devices for transporting 4 bins at the same time. The system installation, which is designed for 1 600 bin double cycles/h, is connected with 6 picking workstations for the AKL with a performance of up to 1 200 positions/h. The system is complemented by 4 picking stations for up to 5 000 items/h, 6 packing workstations for up to 600 parcels/h, and 2 outbound stations for the supply to the stores and to the end customers.

Walter Stricker about the dimension of the AKL: »In order to be able to satisfy our demanding customers, we offer a very broad range of products, in a variety of different colors and sizes. Thus, we have several thousands of slow moving items of the categories C and D, and the AKL is ideal for their efficient storage and administration.« And, as Kambeck adds: »a more efficient solution, because in this case, a shuttle system would have meant to have available 10 to 15 percent less bin locations, and the implementation of the requested performance would have been much more expensive.«

3D graphics of the overall psb intralogistics system installation at Kramer Equestrian



In the 10-aisle small parts warehouse with 110 000 bin locations, the very large and broad range of C and D articles is stored; the warehouse is also used for the storage of returns.

Integration of the returns into the order processing procedure

In addition, the capacity of the AKL is needed for the returns management, an important factor for Kramer. »psb presented a new concept for the returns handling and storage the best suited for our processes«, Stricker points out. »After an inbound goods process and quality check, all returned articles are stored in the AKL, if they are suitable with respect to size, weight and condition.«

Seasonal re-categorization of articles

An important criterion for the logistics performance of Kramer Equestrian is the permanently ongoing process of the article classification, triggered by the ERP. For example insect repellent: a typical A article in the summer, quickly becomes a C or D article in winter. Warm jackets, on the other hand, change from their A status in winter

time to C and D in summer time. This way, large quantities of articles are seasonally relocated in the warehouse.

»Already during the commissioning phase of the AKL, we decided on establishing a warehousing system, which can fulfill economically and reliably the requirements of our broad product range, according to our delivery and customer service philosophy«, Stricker points out. »Because at that time, we still maintained three outside warehouses in Hockenheim. The articles had to be brought from these facilities to order picking – a time critical procedure, especially if short-term requests had to be fulfilled. Therefore, we decided in favor of an automated high bay warehouse for pallets, with 16 500 pallet locations.«

Fully-automated high bay warehouse with 16 500 locations

The 6-aisle HRL, 110 m long and about 50 m wide, has a clear height of 21 m. Approximately 4 m lie below street level. The warehouse, designed for double-deep storage, is operated by 6 AS/RS stacker cranes type *maxloader*, each with a speed of up to 6 m/sec and 150 double cycles/h. Furthermore, the psb systems solution includes a laterally arranged inbound workstation with runners, contour and weight check for the pallets, as well as a laterally arranged outbound station and about 400 m² stage construction.

The cartons, which are delivered on euro pallets, are transferred onto Kramer's own system pallets. Kambeck: »With the smooth movement and handling properties of these pallets, the availability in the system is significantly increased.«

Different order picking procedures for stores and end customers

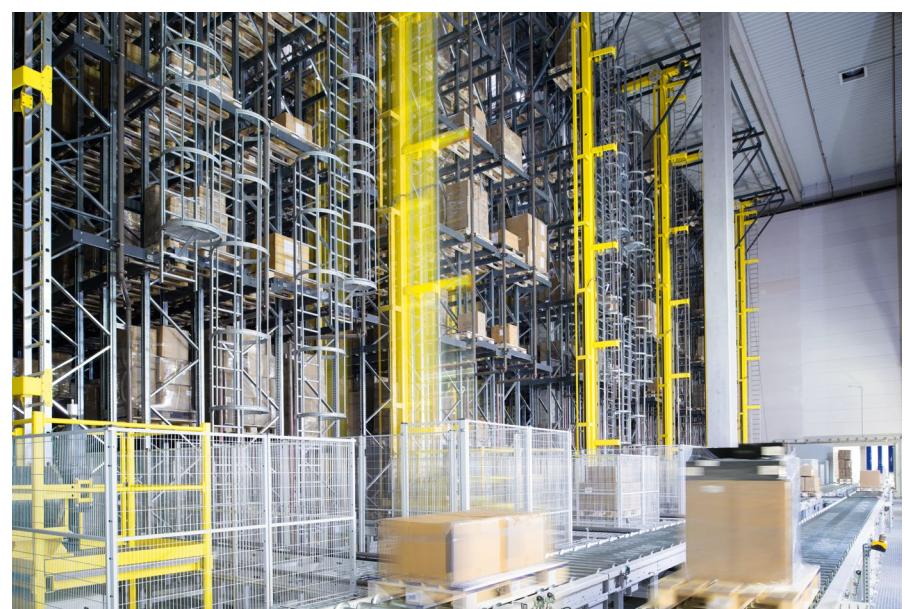
The mode of operation of both warehousing systems is related to the two separate processes for the supply of the stores, and the processing of the customer orders, which in the meantime are mainly placed online. Accordingly, two order picking procedures have been implemented. In the picking area for the C and D articles, the items for both the Megastores and the end customers are picked. Depending on the volume, the store supplies are placed on pallets and into collecting bins, so that a one-step picking operation is achieved. However, for the end-customer orders, a two-step picking procedure is necessary: The articles are called out of the AKL and/or collected, in a »pick tour«, in the manual picking area for the A and B fast movers. This tour is routed and optimized by MDE Manual Data Entry. In the packing area, the items are then consolidated and packed automatically into cartons, for being shipped

by DHL. For the supply of the stores, however, Kramer's own bins and company-owned vehicles are used.

Errors avoided by multiple scanning

»The order picking processes start by picking C and D articles out of the AKL«, explains Walter Stricker. »Conveyors transport the relevant bins to the order picking stations, where they are booked onto picking dollies. The operators add to these dollies the ordered A and B articles and bring the dollies back to the station. Via a sorting rack, the article-wise picking is resorted to order-related picking.« The completed order stays in a picking compartment. The so-called »carton start« then triggers a suitably sized carton. The carton is conveyed to the sorting rack; there, a light signal indicates to the »putter« the compartment, from which the items have to be taken and put into the dispatch carton. Eight different carton sizes are used at Kramer Equestrian, with the largest one being 25 times the volume of the smallest. This provides for the adequate packaging of all articles, like hoof picks and western saddles, just to illustrate the extreme difference in sizes.

The 6-aisle high bay warehouse (110 m long, 50 m wide), designed for double-deep storage, is operated by 6 AS/RS stacker cranes type *maxloader*, each with 150 double cycles per hour. In the high bay warehouse, mainly the replenishments for the manual picking of fast movers are stored.



Flexible priority control

The software performance plays a key role for flexible structuring of the logistics processes. »For us, it is very important to be able to permanently change the priorities between individual shipment and store supply, and for individual stores, depending on the respective demand.« So, psb has designed its »software specifically for the different processes at Kramer, because the end customer business and the store supply need different flows of materials and different warehouse access«, says Kambeck. »With the WMS Warehouse Management System and the MFC Material Flow Computers we are in a position to react quickly and flexibly to different utilization levels as well as peaks and bottlenecks. New categorizations of articles assigned by the ERP can be implemented just as quickly.« The system areas can be adapted to the respective demands promptly and flexibly. For example: 3 employees can operate the 6 AKL picking workstations; if there is a higher order volume, however, 4, 5 or 6 pickers can be allocated to handle the demand. Furthermore, it can be shown that »it is

much more economical to operate one station with maximum capacity utilization, than to operate 2 or 3 stations under partial load; this, however, always depends on the order volume.«

Flexible allocation of staff

The flexible working hours of our staff are a significant aspect in favor of the economic efficiency of the logistics center. Stricker: »One group starts at 7:00 a.m., the second group works until 7:00 p.m. On Mondays and Tuesdays, they work a little longer; on Fridays, however, their working time is much shorter, and finally, each employee works every other Saturday. Most of the people are able to work in each intralogistics section.«

This kind of system flexibility and the flexible working times are interacting with each other. This is very important because many orders come in on weekends, and so, at the beginning of the week, especially on Mondays, a significantly higher number of picks has to be performed for both, the stores, which are supplied twice a week, and the end customers. Nevertheless,

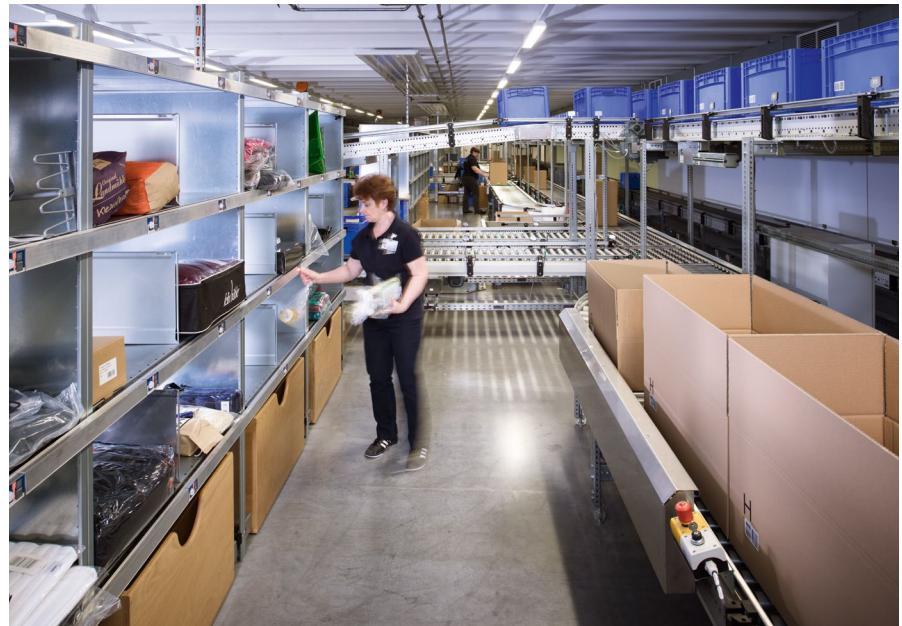
Picture left:

At the picking station, the bins with the C and D articles from the small parts warehouse are transferred to picking trolleys and ...

Picture right:

... supported by MDA, the employees add the category A and B fast mover articles from the shelf rack.





customer orders coming in by noon, from inside Germany, are shipped the very same day.

Numerous benefits through the new system installation

»We have reached, with psb, our goals we set with respect to delivery speed, delivery time and volume«, says Stricker. »A major request we posed to the main logistics system contractor was, that we wanted to further expand our business. We wanted to grow faster than we did before we started our co-operation with psb, and we could achieve these targets. The performance of the new logistics center allows us to open several new Megastores per year. Each new opening poses extremely high demands to the intralogistics, because the supply of goods with the first delivery, and the provision of the stores with the entire product range of more than 25,000 items, is an exceptional challenge for the picking procedures and all related intralogistics processes.«

Overnight replenishment for new Megastores

Stricker emphasizes, that upon the opening of a new store, Kramer Equestrian takes care that on the second day, the customers are offered the same range of products as

the premiere customers. »With the new intralogistics system, we can supply all items sold by 6:00 p.m. in the store the following day, and this even in the store in Hamburg, which is 700 km away.« That is only possible by »the automation and the IT: The cash registers at the stores are connected online with our ERP. At regular intervals, the goods requested are transferred to the *selektron* system; these requests are always handled with the highest priority.«

Picture left:
At the picking station, the collective picking is resorted, via a sorting rack, to order-related picking. The completed order stays in the bin compartment and triggers the suitable ...

Picture right:
... carton, which is transported to the sorting rack. There, the putter is displayed by light signal the compartment with the articles to be packed into the carton first in line.



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