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Case Study

RACCO

Curitiba, Brazil

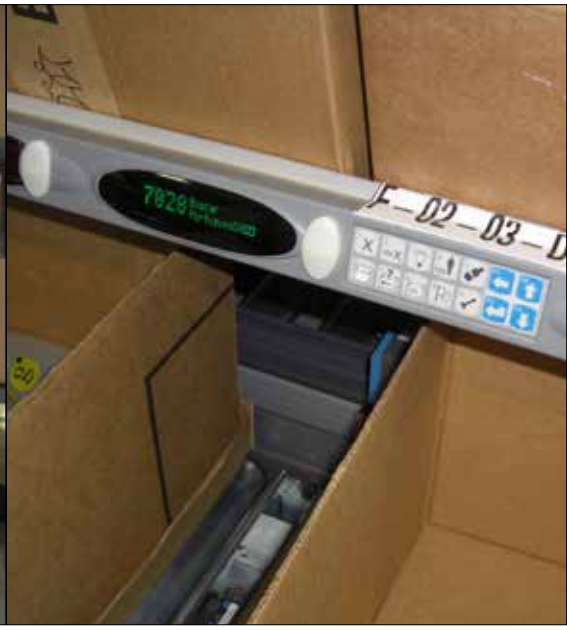
RACCO, one of the largest producers of cosmetic products in Brazil has yearly shown double-digit growth figures. The company was founded in 1987 and now has subsidiaries in North- and Latin America, Europe and Africa. The company relies on an innovative sales and marketing concept: 350,000 sales representatives sell the cosmetics door-to-door. The sales people are supplied through aboout 1,000 distributors, supplied by RACCO. To keep up with the rapid business development, RACCO commissioned KNAPP with a automation solution for the 10,000 m² central warehouse in Curitiba.

„We wanted to work with a strategic partner who would offer and realize a top solution that would provide us with a lasting increase in performance, keeping up with our growth over the long-term. KNAPP proved that they could offer various technologies – in the foreground is the solution that is adapted to the individual requirements of the customer."

Edison Miranda, Management, Supply Chain RACCO

Key data		Solutions	Integrated solutions
Sector	Cosmetics	KiSoft WCS	Tare weight scale
Location	Curitiba, Brazil	PLC	Pallet stacker crane
Dimensions	10,000 m²	KiSoft Pick-to-Light	
No. of articles	350–700	Storage and picking using flow racks	
		Carton and pallet conveyor systems	

Manual picking area



Pick-to-Light display with LED technology

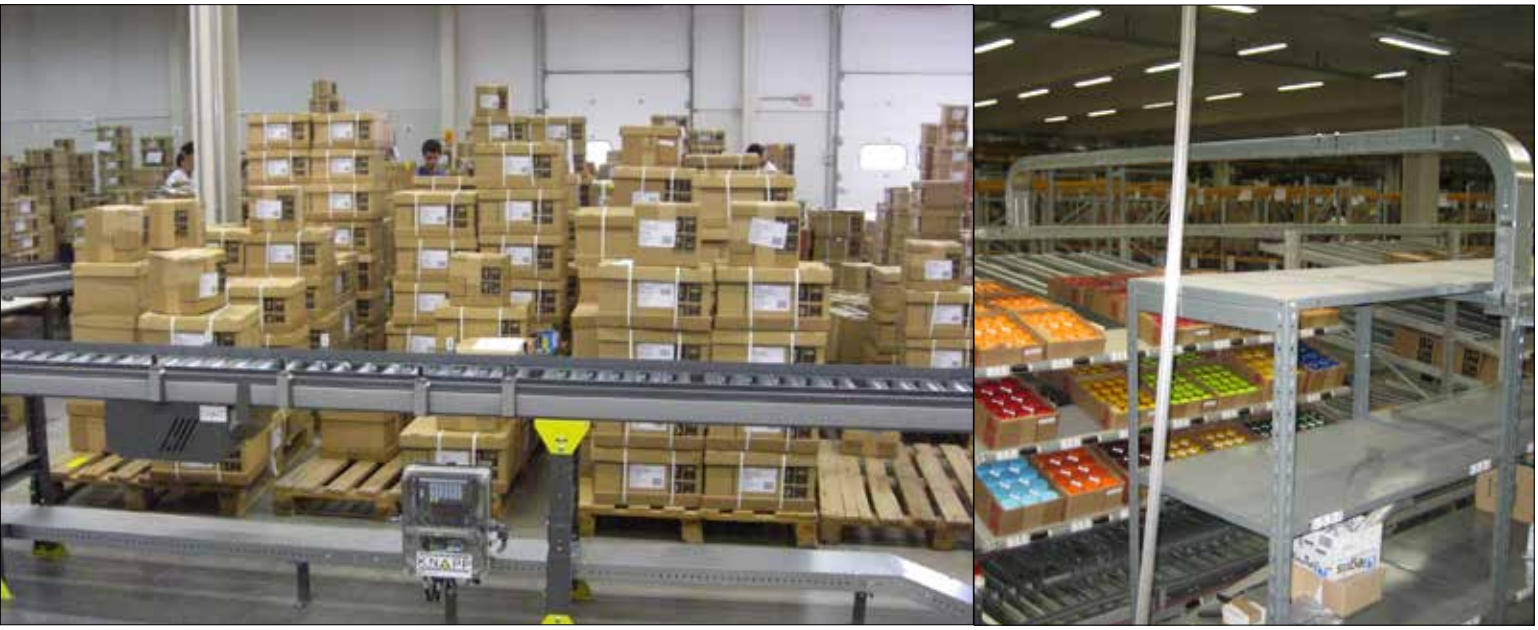
The challenge

To meet the demands of the growing sales figures and to keep up with the expansion in the product range, RACCO decided on a comprehensive restructuring of order processing and the warehouse processes. The original all-manual processing of orders using pick lists was not very productive, was inflexible and prone to errors. Furthermore seasonal fluctuations could not be handled as well as should be, because items were always stored in the same position regardless of the demand. This method of operation required that RACCO invest in additional workforce to cover the increasing orders. With the help of the KNAPP solution, the goal was to design order processing to be faster and more flexible, to reduce manual activities and to improve delivery quality.

The solution

In the first step, KNAPP ran a detailed data analysis to determine the most optimal mix of technologies and the most efficient processes for the customer requirements. When the project was realized, the RACCO product range included about 350 items. To support RACCO's dynamic growth the warehouse was designed so that up to 700 items could be efficiently stored and processed.

The KNAPP solution offers RACCO the ability to react quickly to seasonal fluctuations and to flexibly design the processing of orders. Delivery bottlenecks are avoided and the level of service for the customer raised. Using system-guided picking and check stations greatly improved the throughput times and delivery quality.
The solution for the new distribution centre in Curitiba was completed and handed over to the customer 9 months after the signing of the contract.



Dispatch area

Overview of the Curitiba DC

“The automation solution by KNAPP opened new horizons for us and made a substantial improvement in our warehouse processes – and also guarantees quality for our deliveries,” Edison Miranda, Management, Supply Chain, RACCO.

Order start

In the warehouse, two sizes of cartons are used and the system selects the right size depending on the volume of the order. The order data is transmitted from the HOST system to the warehouse control system KiSoft WCS and the order is allocated to a suitable carton. At the order start station the shipping label for the order is automatically printed and applied to the carton.

Tare weight scale

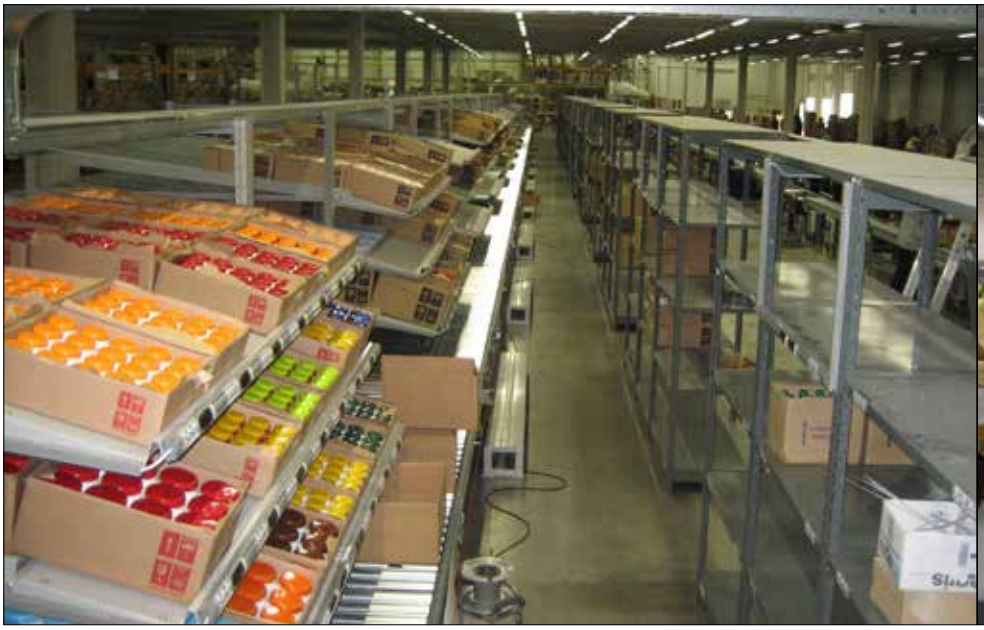
After order start, the empty cartons are weighed to determine the tare weight. The tare weight is used for checking whether the picking order has been fully picked. The weight of each item is included in a data base, which determines the expected weight for each order. Once the picking is completed, the carton is weighed again. If the actual weight deviates from the expected weight, an error in order processing has occurred. The carton is then checked and the order is properly completed if necessary. This contributes to the improvement in delivery quality.

System-guided picking

The assortment includes over 350 cosmetic and health items: The items are stored near the manual picking stations in flow racks. The advantage to storing in flow racks is the ability to react easily and quickly to seasonal fluctuations. The items are picked using KiSoft Pick-to-Light with dynamic zone controllers. The user is guided by the lighted Pick-to-Light displays mounted on the flow racks. The Pick-to-Light displays with LED technology show which item should be picked and in what amount. The pick is confirmed by the operator on the zone controller, by which process security is ensured.

Picking of master cartons

The picking of full cases is carried out in a separate picking area according to the Pick-to-Belt principle. A shipping label is automatically printed, then an operator applies the label to the corresponding carton and places the carton on the take-away conveyor. The expected weight of the order is in the data base and the full cases are diverted to the check station if there is a weight deviation.



Flow racks and conveyor system

Automated printing of documents

Conveyor system

The powerful KNAPP conveyor system is responsible for the transport through the individual stations in the warehouse. To keep the transit time short, cartons are only diverted to stations from which items are required.

Order check

A check scale is located upstream of the order check station, which weighs every carton. The actual weight is compared with the expected weight from the data base: Possible deviations are reported to the warehouse control system KiSoft WCS. For quality assurance, all cartons are normally diverted to the order check station; only if error-free processing is reported in all the previous stations is the carton immediately transported to dispatch preparation. Order check is dynamic and sure: KNAPP software allows a series of customizations to increase the level of service. Different quality criteria can be used in the KiSoft WCS such as random checks, checks of expensive items or checks for new picking zone assignments. The orders are manually checked by an operator and missing items are rounded up or the missing quantity registered.

Dispatch preparation

Various documents are placed in the cartons before they are glued and strapped. Invoices and delivery notes are printed according to the order, but advertisements and catalogues can also be added. Fill material is then added to protect the shipment. The cartons are then automatically closed, glued and strapped.

Dispatch

The warehouse has 6 dispatch ramps; the warehouse control system assigns cartons to the ramps according to the delivery route. The cartons are placed in vehicles and delivered.

Pallet storage area and software upgrade

RACCO is a dynamic, growing company and is always motivated to optimize existing processes and to implement new technologies to raise the level of service for its customers. Therefore, in 2012, RACCO decided to automate the pallet storage area. The pallet stacker crane with 8,000 storage locations ensures the efficient supply of pallets and optimizes the storage capacity. The powerful pallet conveyor system of the Scandinavian KNAPP AB is responsible for the onward transport of the pallets. The existing warehouse control system was also updated.

Training and support

KNAPP supported RACCO during the startup phase and also conducted the employee training in the areas of software, hardware, maintenance and repair.

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