

Case Study



Warehouse Management

SmartStock.WMS Implementation in Company Nohel Garden

Solution Technology

Mobile Data
Terminals Datalogic
Falcon 4423



Barcode Label
Printers
Argox G-6000



Wireless Network
Colubris Networks
MAP-320R



Warehouse Management System
SmartStock.WMS controls a modern multi-purpose warehouse of Nohel GARDEN. Deployment of WMS system in Nohel Garden brought significant errors reduction, detailed goods visibility and warehouse operations control throughout its entire warehouse.

Customer

Nohel GARDEN is one of the largest suppliers and distributors of gardening tools and supplies in the Czech Republic and Slovakia. The entire product assortment amounts about 10 000 SKUs. The company delivers the goods both for large customers, retail chains, as well as to end customers and small independent stores.

initial Situation

Warehousing logistics of Nohel Garden is characterized by a large number of items and large quantities of goods which passes through the warehouse. For the handling of orders is typical size of orders with the extreme number of items. Picking takes place by pallets as well as by individual pieces. A large part of the product range is sold during major part of the year. In case of some product range the impact of seasonality plays an important role, as in each season during the year the different types of goods are sold.

Thanks to the rapid growth the company faced a shortage of sufficient storage capacity. This issue had been addressed step by step by construction of additional warehouse buildings. Yet, put-away often was performed in a "chaotic" way, where was the empty location, and it was necessary to address the



issue of additional storage space. For this purpose construction of a modern multi-purpose warehouse building complex was completed. The warehouse complex is located in Budínek near Dobříš. At present consists of 8 warehouse halls of the total area of 9000 m².

At such a flow of goods and the quantity of items any longer it was not possible to maintain an order, control and overview of all items in the warehouse. Often there were mistakes executed and difficulties incurred in tracing the goods in the warehouse. Other errors arose as a result of a paper manual rewriting of the warehouse data into original IS.

The system of business and logistics processes in Nohel Garden places heavy demands on the storage logic and perfect knowledge of the assortment range and the warehouse. Therefore, in the very beginning it was clear that at such conditions would work in the warehouse put unbearable demands on the warehouse staff, their knowledge of the assortment range and the warehouse, and without the help of a specialized WMS system causing frequent errors. Any mistake in picking can be reflected in the penalty



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Project Highlights:

Customer:

- Nohel Garden

Project:

- Implementation SmartStock.WMS

Project Objectives:

- Detailed overview over the goods in stock
- Increase in efficiency of storage operations and goods flow within the warehouse
- Improved accuracy of the work of warehouse operators
- Minimize errors in goods picking
- Compliance with trade rules necessary for precise and accurate fulfillment of customer orders

The benefits of the project:

- A significant error reduction from the original error rate of 3% to 0.1%
- Traceability of workers responsibility for each operation
- Compliance with trade rules and requirements of retail chains
- Process Automation, system directed replenishment and allocations with regard to customer orders with high priority
- Increased picking accuracy
- A system independent on human factor

Technology:

- Warehouse Management System SmartStock.WMS
- Mobile Data Terminals Datalogic Falcon 4423
- Wireless Network - Colubris Networks MAP-320R

from supermarket chains, which further increases the cost of logistics.

The Selection of Suppliers

In order to achieve error-free operation, the company decided to implement the WMS system, to register all goods in-stock, to check and correct warehouse operations and navigate pickers to picking locations. As a suitable system meeting the requirements and criteria of Nohel Garden was selected Warehouse Management System SmartStock.WMS from Barco.

It is interesting that in the course of the project due to further company expansion additional two new warehouse halls were completed. Of course, even in these new halls, it was necessary to deploy WMS system immediately.

From the WMS system deployment the customer expected to obtain a perfect overview of the goods in the warehouse, to improve the efficiency of storage processes and flow of goods in the warehouse, a significant shift in the accuracy of the work of warehouse operators, to minimize errors in the picking of goods, to comply with customer trade rules necessary for precise and accurate fulfillment of the orders and maximize customer satisfaction.

Implementation of the System

The project implementation took place in four phases.

1st Phase - Pre-Implementation Analysis

The main goal of the pre-implementation analysis was to map the warehousing processes of the company thoroughly, to establish requirements for their support from the WMS system and the way of WMS integration with ERP system. The result of the analysis was the exact form of working practices in connection with the particular warehouse operations, system configuration for each operation and the

exact form of data exchange between both systems. As later appeared along with the system change also the working procedures had to be changed and the system had to be further optimized.

2nd Phase - Deployment of Sales Force Automation Module and Implementation of Basic WMS Functions

The second phase coincided with the implementation of SFA module of the new ERP system BYZNYS Win® delivered by company JKR. ERP addresses the overall stock records, the issue of purchasing and selling prices and other matters relating to the business process itself, but without accurate stock records on warehouse locations and without tracking and reporting of particular warehouse operations. On the other hand, WMS at this stage only registered receiving of goods to the warehouse and shipping of goods from the warehouse without goods tracking on warehouse locations. At this stage, it was solved the system integration and its detail testing at different circumstances that may arise in the warehouse.

3rd Phase - Goods Tracking on Accountable Warehouse Locations

In order to start work with accountable locations and stock records in the warehouse, first it was necessary to make inventory cycle counting on particular warehouse locations and gradually define picking locations and rules for their replenishment. At the same time also other adjustments of the WMS system were realized with regard to the specific customer requirements on replenishment of fast picking locations.

This phase in terms of requirements on users of the WMS system was the most demanding. Fast and smooth implementation required very good knowledge of the mobile terminals control,



SmartStock.WMS Implementation in Company Nohel Garden

“WMS se ukazuje jako velmi pružný systém, který lze do značné míry přizpůsobit požadavkům zákazníka. Posunuje celou logistiku skladování a řízených procesů do roviny současných nejmodernějších trendů s perspektivou dalšího rozvoje. Zároveň i díky zavedení WMS spolu s novým informačním systémem došlo ke kompletnímu zpřehlednění veškerých operací, a to nejen skladových. V současné době, kdy již došlo ke zvládnutí obou systémů, tak se začíná připravovat reorganizace některých oddělení a vznikají či se mění nové pracovní procesy v rámci celé firmy.”

Petr Laipold
IT Manager
Nohel Garden

understanding of the WMS system logic and in particular staff discipline when working with data terminal.

For many of the warehouse operators the work with the terminal meant adoption of completely new procedures. Therefore, despite the completion of the necessary training, the performance of the operations was initially slower. Once the staff learned how to work with the terminals, the speed of the operations executed got back to a standard level.

The deployment of WMS system puts entirely new demands on workers in terms of WMS logic understanding and adoption of warehouse operations procedures. It's evident that it's not difficult from day to day to change the system hardware or software, but to change mindsets and habits of people may take several weeks or even months. Thus the workers often in many cases carried out the operations as they were used to do or simply against the rules of the WMS system e.g. picked the goods from another location than where directed by system. This of course resulted in a mismatch of real data with data in the system.

4th Phase - System Optimization

After completion of the definition of the warehouse locations was the system handed over in routine operation. Whereas during the implementation, there was a substantial expansion of storage capacity, there was also a significant expansion of the system from the original number of 50 users up to 80 concurrent users. It was necessary to carry out post-optimization and tuning system based on the annual operation. Optimizing the system was in the form of completing the supporting processes such as the rules adjustments for directed put-away or interface extension and even more accurate interconnection between the two systems. The project is currently in full operation, ongoing optimization and tuning of the



solution in the context of new working practices.

Connection to the ERP

Thanks to interconnection with the ERP BYZNYS Win® was achieved a unique solution that has a solid position also in such a large company. Both systems are fully synchronized both in the normal course of daily routine activities and in the night operation when comparing the warehouse balance between the two systems automatically. BARCO provided fully functional WMS solution that brings together high-quality warehouse management solutions as well as support of logistical operations. Thanks to the interconnection of the systems, it can be easily and clearly tracked the process units, evaluate their effectiveness and prepare proposals for the warehouse process optimizations in the future. Thus would not be possible without significant support of sophisticated IT solutions.

Benefits and Project Results

Deployment of WMS system in Nohel Garden brought significant errors reduction, detailed goods visibility and warehouse operations control throughout its entire warehouse. At present, there are still numerical differences, which are recorded during the output check.



SmartStock.WMS Implementation in Company Nohel Garden

After the WMS deployment a error rate dropped from the original 3% to 0.1% from the rows of picking orders. Thanks to full inventory visibility within the warehouse the picking and the orders are precise and accurate. Now there is no need for complicated seeking for goods, the customer orders do not contain error items and are picked correctly and in-time.

Implementation of WMS system SmartStock.WMS meant a significant shift in the customer process automation. The system automatically controls the replenishment process of fast-picking locations. Goods allocations processes into customer orders during receiving or put-away take place automatically with regard to the customer importance and priority. There is also an automatic processing of documents. Specially prepared packing slips are created and printed by the WMS and subsequently in ERP, bills of delivery and invoices are created and specially adapted to the requirements of individual customers.

Important contribution to the routine operation of the warehouse is that the warehousing is completely independent on the human factor. Warehouse performance is not any more dependent on any knowledge of warehouse staff

and their overview over the warehouse. Ability to pick properly and timely does not depend on any missing workers who just got sick or took the leave. At this time, operators may no longer wonder where to find the goods. The WMS system itself navigates them to the correct location. This is of great importance also for the training of new warehouse staff. As soon as new warehouse operators pass training with a data terminal they are able to carry out warehouse operations and there is no need to wait a longer time until the operator gains an overview over the warehouse and the assortment range. Despite this fact the new workers will not perform the same as already experienced colleagues. It is obvious that the WMS system will never hand over the experience with goods and pallet handling etc.

Specificities of the Project

Thanks to its scale of up to 80 concurrent users, the WMS project in Nohel Garden belongs to one of the most unique projects of its kind in the Czech Republic. However, WMS project Nohel Garden is unique not only thanks to its scale. It is obvious that in the initial analysis it was not possible to assess any changes that had occurred in the course of the project and compared the results of the analysis,

About SmartStock.WMS

Warehouse Management System SmartStock.WMS is a complete paperless solution for on-line warehouse management. System is based on the unique identification of goods, handling units and warehouse locations by means of barcodes. Application has been developed for utilization of mobile data terminals along with barcode scanner operating in wireless WiFi network. SmartStock.WMS optimizes all operations; movement of workers and at the same time controls the correctness of all operations by means of reading of corresponding barcodes. WMS system operates as the extension of inventory control in ERP systems. SmartStock.WMS has been built on the state-of-the-art Microsoft .NET platform that is along with the unique system architecture assurance of outstanding system flexibility and fast implementation into existing ERP system.

www.smartstock.biz

About Barco

Barco is an IT solution provider in the field of barcode applications, RFID and wireless technologies in business processes. We specialize on solutions for online warehouse management based on utilization of mobile terminals and wireless infrastructure. Our leading product is online Warehouse Management System SmartStock.WMS. The corporation was established in 1993. Its stock capital is 2 000 000 CZK. Barco is a holder of certificate ISO 9001:2001.

www.barco.cz

About NOHEL GARDEN

NOHEL GARDEN is the largest supplier of garden supplies in the Czech Republic and Slovakia. It was established in 1991 and is headquartered in Budinek, close to the town of Dobris, Czech Republic. The company's operation is based on a modern multi-purpose indoor warehouse covering 9,000 m², including a showroom and technical background facilities, and having further upgrade potential. The company works with both domestic and foreign suppliers. There is a branch of NOHEL GARDEN in Slovakia, too.

www.nohelgarden.cz



Barco, s.r.o.
Okružní 741
686 05 Uherské Hradiště
Czech Republic
Tel.: +420-572 52 00 52
Fax: +420-572 52 00 32
Email: sales@barco.cz
www.barco.cz



Ing. Petr Nohel NOHEL GARDEN
Budinek 80
263 01 Dobříš
Czech Republic
Tel.: +420-318 533 511
Fax: +420-318 533 538
Email: office@nohelgarden.cz
www.nohelgarden.cz