

WAREHOUSE MANAGEMENT BY E+P



BEST RUNNING
WAREHOUSE

MEYER WERFT

RUNS LFS

EHRHARDT+PARTNER

MEYER WERFT GMBH

CHALLENGE

- Restructuring of the entire logistic warehouse processes
- Different storage locations such as steel warehouse, central warehouse, open spaces and container warehouse
- Exact batch tracking + FIFO principle

SOLUTION

- Warehouse management system LFS
- Control of the forklift fleet using TLS
- Launch of radio frequency
- Management of all centralized and decentralized storage locations with LFS

RESULTS

- Maximum transparency
- Reliable batch tracking of all parts
- Restructuring and optimization of all processes
- Optimal information processing due to economic warehouse modernization

Meyer Werft restructures all warehousing processes

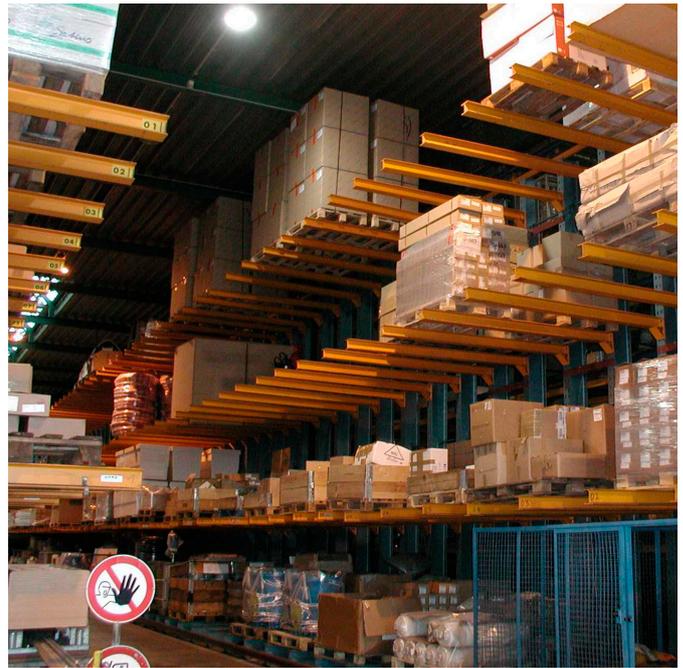
The Meyer Werft in Papenburg is counted among the most modern ship building companies in the world. Along with a complete restructuring of all warehousing processes, the ship builder implements the warehouse management system LFS of the supplier Ehrhardt + Partner. After replacing several systems, the different storage locations – a steel warehouse consisting of a plate, profile and tube warehouse, a central warehouse with integrated high bay, cantilever and cable warehouse, several open spaces as well as a completely automatic container warehouse – will be administered and managed with only one high performing central WMS.

Who does not know the television pictures of gigantic ocean liners which move accurately through the River Ems into the open sea? With almost 300 meters total length, the ocean liners offer space for up to 2,500 passengers. At times, these ships provide up to eleven restaurants and have an own theatre with 1,000 seats. Where ocean liners of this size are manufactured, a lot of material is stored.

20,000 tons of steel are needed for the construction of one luxurious cruiser, not to mention the interior: from a teaspoon to the complete theatre interior; at the Meyer Werft in Papenburg, each construction part has to be at the right time with the right man and, of course, at the right place. This is not an easy task. Especially in the domain of warehouse management, the demands are very high. “So far, the complete warehouse management was realised with a solution of 1984, which was extended and changed within the last years, so that it was not maintainable or only with a high effort”, Erwin Santen, EDP manager of the Meyer Werft, who has worked for the over 200 years old family-managed ship building company in Papenburg for over 40 years, explains. Since 1997 it has been our intention to implement a high performing and future-oriented standard software with which all storage locations of the ship building company can be managed. For this comprehensive project, we have been searching for the right partner who is capable of realising the extremely complex and demanding topic according to our needs.”

■ Project requirements

Part of the demanding tasks of the warehouse project was surely the implementation of the steel warehouse storing several thousand tons of plates, profiles and tubes of different batches. Out of each raw material, n parts are produced. For each of those production parts, the Meyer Werft has to prove the original batch of the specific item. Furthermore, espe-



cially in the steel warehouse, the realisation of the FIFO principle was just as important as the permanent inventory security and material availability. According to Andreas Leffers, responsible for the warehouse project of the Meyer Werft, “the steel warehouse is one of the most difficult storage locations. In the past years we have been trying to organise this warehouse. The concept, however, has never been completely realised. Our intention was also to replace the existing patchwork solutions, implement radio frequency and integrate a functioning transport control system for all material movements of the dock yard.” When selecting the warehouse management system, the ship builder considered three German suppliers of warehouse management software. Decisive for choosing LFS of the logistics specialist Ehrhardt + Partner were above all the high range of functions in the standard version of the market leading warehouse management system, the high degree of parameterization and the high trust in the supplier, which is essential for the realisation of such a complex project.

■ Storage locations

The Meyer Werft has several decentralised storage locations, which in future will be managed by LFS: next to the steel warehouse, consisting of a plate, profile and tube warehouse, the famous dockyard disposes of a central warehouse with integrated automated high bay warehouse, a



Warehouse Management by E+P

cantilever and a cable warehouse as well as several open spaces. A completely automated container warehouse completes the spectre of the different storage locations.

■ Steel warehouse – first project phase

In the first stage of the project in July 2003, the steel warehouse of the Meyer Werft was modernised by the application of LFS. The warehouse is divided into three different zones: in the plate warehouse, plates with a maximum length of twelve meters and a width of up to 3.2 meters are stored. The material thickness stored here reached from five to 200 millimetres before modernisation. After the introduction of LFS, the Meyer Werft restricted the number of qualities to approx. 40 different material dimensions. The standard thicknesses – for instance for the body shell of the ocean liners – are between ten and 25 millimetres. Currently, there are 1,500 tons of material stored in the warehouse which is one kilometre away from the dockyard.

Through the implementation of LFS, the Meyer Werft guarantees the realisation of the FIFO principle: for all plate dimensions, two bin locations are recorded – one for putaway and one for retrieval. When all plates have been retrieved, putaway is automatically effected on this bin and the neighbouring bin is the new retrieval bin. Through the accompanying introduction of fixedly installed radio frequency terminals in the cranes, it is also possible to realise retrievals and put-aways promptly without loss of time. LFS also guarantees the 100 per cent management and administration of batch



numbers in the plate warehouse from goods receiving to goods dispatch. In the profile warehouse, 1,200 tons of profiles are currently stored. The length of the standard profiles can reach up to ten meters. The approx. 4,300 tons of tubes with a single length of up to twelve meters are stored in the tube warehouse. Both in the tube and the profile area, the goods are labelled with barcodes, which are read by the radio frequency terminals during retrieval.

■ Container warehouse – second project phase

With its three levels, the completely automated container warehouse has a total of 350 bin locations. Here, among others, furniture, walls, carpets and sometimes even entire passenger cabins are stored. After goods receiving, LFS records the data of the container content and matches them with the according container. The single items may be placed on separate pallets and can be picked into different containers, but the big advantage of this storage is the perfect work preparation: according to the processing status of the ship, accordingly equipped containers are retrieved by LFS and transported to the construction dock via the attached transport control system.



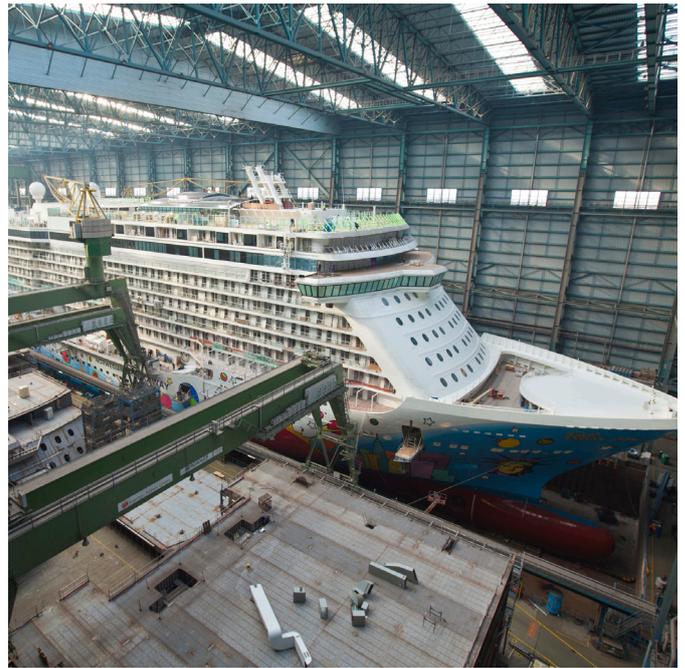
Meyer Werft GmbH

- Family company with headquarter in Papenburg, Germany
- Founded in 1795
- 3,100 employees

Pre-assembled elements like complete passenger cabins are not taken there one by one; the suppliers already prepare them for the final assembly. They are delivered in containers and can quickly be built in the luxurious cruisers on site.

■ Central warehouse – third project phase

The biggest part of the up to 120,000 different items used for the construction of an ocean liner is stored in the central warehouse. Starting with the drive unit and the fresh water recycling installation across the entire theatre equipment to the different tissue napkins of the restaurants and the free climbing wall which is later attached to the chimney of the ship – as the interior of each ocean liner is different, there are hardly any repetition items stored. Accordingly high are the requirements to the warehouse management system LFS. In the completely automated high bay warehouse with 2,400 bin locations, everything between consumption materials like for instance pipe clips up to the interior decoration like high-value tabs or uniquely designed carpets are stored. Put-away and retrieval are hardly realised over the item number; the stored goods are mainly administered in LFS over the order numbers. Bigger parts and pallet goods with oversize, which are too big for Euro pallets or grid boxes, are intermediately stored on the cantilever warehouse with 1,344 bin locations. Weather resistant goods like for instance parts of the air conditioning system, whose serial and batch numbers are completely recorded and administered in LFS, can also be stored on the big open space warehouses of the dockyard. Both the goods and the bin locations are equipped with barcodes so that the goods can be booked and stored in a fixedly assigned bin location. In the cable warehouse of the central warehouse, there are currently about 200 cable rollers with approx. one hundred different items. Like in the steel warehouse, LFS guarantees a detailed remaining quantity control of the cables. If an item draws to a close, the warehouse management system will generate a replenishment order from the outside warehouses. Besides this, the warehouse management system LFS also administers the cable roller numbers of the picked cables. Big parts, which are delivered to the Meyer Werft per ship, are stored in the mobile rack warehouse with 336 bin locations, which is also managed by LFS. With the help of a crane, the parts are placed in the middle of the opened hall parts. Afterwards, the railed hall parts are pushed together to form a weather-proof hall.



■ Results of the LFS application

“The most important result of the warehouse modernisation is the replacement of our old, out-dated software from 1984”, Erwin Santen comments on the current Meyer Werft project. “All part warehouses with their different requirements are now managed and administered by the modularly designed warehouse management system LFS.” Marco Ehrhardt, president of the Ehrhardt + Partner company group, adds: “In contrary to individually programmed warehouse management systems, LFS is standard software whose new developments can be easily integrated for existing customers. The Meyer Werft has decided in favour of an extremely future-proof system. The Meyer Werft may be really individual in terms of specific requirements. However, with the high range of functions of our software product, we can cover all requirements of a unique company like the Papenburg dockyard with our standard software.”



AT A GLANCE

- The user-friendly system LFS guarantees maximum transparency.
- All processes from goods receiving to goods dispatch were restructured and optimised by the software implementation.
- The system LFS, leading in innovations and on the market, guarantees reliable batch tracking for all parts.
- Optimal information processing due to economic warehouse modernization.
- By applying radio frequency all bookings can be realised with LFS in real-time.

■ Ehrhardt + Partner

With its LFS Software Suite, Ehrhardt + Partner (E+P) offers an industry-independent total solution and is one of the world's leading logistics experts. As a Supply Chain Execution System, LFS is currently successfully deployed on five continents and enables a control of all logistics processes across all industries. The internationally active company group was founded in 1987 and currently employs more than 500 people at 14 locations. More than 60,000 users worldwide use the system for their supply chain management.

The range of services offered by the LFS software suite includes everything necessary for an integrated logistics control system: the warehouse management system LFS.wms for controlling intralogistics, the material flow controller LFS.mfc, and the transportation management solutions LFS.tms for efficient tour planning and processing. Data solutions, logistics planning and consulting, private cloud and hosting services as well as warehouse seminars at the LFS.academy complement the company's range of solutions.

In combination with in-depth warehousing advice, comprehensive expert knowledge in warehouse logistics and reliable support, E+P offers everything from one source. Currently, more than 1,000 customers from all industries are on the list of references.

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