

Georg Fischer Piping Systems



Georg Fischer was established in 1802 in Schaffhausen and is today a global industrial concern. The company now employs a staff of 15,000 and is divided into three business divisions: automotive engineering, manufacturing technology and piping systems.

The facilities for dispatching piping components around the world are based at a purpose-built distribution centre in Schaffhausen that was constructed in 1990.

Orders are entered electronically twenty-four hours a day at the local sales offices around the world and are sent to the order management system at the distribution centre.

The automatic high-bay warehouse comprises 20,000 storing positions and is used to stock large and heavy articles. Smaller and medium-sized items are stocked in the automatic small-parts store that holds 34,500 storage bins, and long items such as pipes are kept in a special warehouse for long goods. Furthermore,

there are special manual warehouse areas for C articles and hazardous goods as well as outdoor warehouses that are managed using a warehouse management system and SAP.

Requirements

In order to meet the growing demands of the market, the company decided in 1999 to modernise the distribution centre. PSI Logistics won the contract to replace the warehouse management software that was in use at the time. The host systems and the existing control systems for the various warehouse and conveyor system components had to be integrated and tested without interfering with the running of the warehouse. During the development phase in Dortmund, a simulator was used to portray the behaviour of the underlying control systems.

The project was implemented successfully in close cooperation with the

Dispatch of piping components to destinations around the world

client within 18 months. The complexity of the processes and the large number of interfaces placed great demands on the client's and PSI Logistics' project team.

Tasks and implementation

Besides software modernisation, one of the project's primary objectives was optimisation of the operating procedures. A wide variety of strategies for a modern distribution centre were put to the test and adapted to the special needs of the client:

- Receipt of goods from external suppliers
- Testing of received goods (QA) and processing of returned goods
- Depositing articles from the manufacturing facilities with the aid of automatically guided vehicles
- Person-to-article / article-to-person picking with pick to light
- Order consolidation
- Replenishment
- Tour management
- Fast assembly
- Control centre functions
- Archive server for long-run analyses
- Management of outdoor warehouses
- Multi-client capability with different processes and paperwork for each client
- Interfaces to the various control systems
- Interfaces to the overlying ERP system (SAP) and shipping system (TM/3)
- Connection to an external utilisation and performance analysis tool

- Generation of multilingual shipping documents and dispatch paperwork for various freight forwarders
- Lead time of less than 24 hours for 70% of orders; express orders with same-day dispatch
- Connection of SAP WM as the underlying inventory management system for one warehouse area
- GUI with special colour concept

Configuration

A high-availability system from Hewlett Packard – comprising two HP 9000 L2000 nodes with two CPUs in each – ensures smooth operation 5 days a week in two-shift operation. Graphical radio data terminals from ads-tec with a java user interface are used on the forklifts, and a Teklogix handheld terminal is used for order consolidation. The processes at various workstations are supported by java user interfaces. Oracle 8.1.7 provides the basis for secure data storage in the system.

High-availability for smooth multi-shift operation

Complex processes in a modern distribution centre

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