

Singapore's first automated warehouse for hazardous materials relies on Boon Software

Having S\$9.5 billion worth of chemicals exported from Singapore annually requires a well-trusted chemical logistics company that manages a warehouse of hazardous chemicals with safety measures that protect staff and avoid risks of fire.

G&U Districenters opened a fully automated S\$38 million chemical logistics centre – a first in Singapore. As a premier provider of logistics services for the chemical industry in Southeast Asia, G&U's warehouse was built to meet American and European safety standards, approved by the Ministry of Environment and the Fire Safety Bureau, Singapore.



Close monitoring of inventory and management in use of warehouse space are of great importance. Movement of stock has to be handled effectively and accurately. G&U Districenters Pte Ltd chose Boon

Software's Warehouse Management System (WMS) Plus version 2 to handle these important tasks.

WMS Plus v.2 has relational database management systems (RDBMS) by Progress Software Corporation that can run on multiple operating systems and can scale from a single user environment to very large symmetric multiprocessing environments.

Features like 'row-level locking', 'roll-back', 'roll-forward' and 'optimistic transaction logging' enable efficient and safe data sharing for on-line transaction processing (OLTP) applications, enable efficient and safe data sharing. High availability, absolute reliability and peak performance are provided by functions such as 'self-tuning' features which adjust their behaviour based on database activity.

"We prefer to use Progress-based solutions to meet our customers' needs, because in addition to peak performance, high reliability and scalability, Progress provides substantial total cost of ownership benefits – approximately four to one – over alternative databases," said Mr Boon Suan Chew, Managing Director from Boon Software.

The result of WMS Plus v.2 is a complete solution providing peace of mind through high performance, scalability, and reliability. Even in times of power failure, ultimate data protection with point-in-time recovery and automatic crash recovery, online full and incremental back-up ensure that there is no operational downtime.

G&U Districenters' logistics operation features an Automated Storage and Retrieval System (ASRS), which provides real-time updating of inventory and stock information that can be inquired on the Internet. WMS Plus v.2 features highly sophisticated level of functionality made by Boon Software.

WMS Plus v.2 also provides a fast and easy way to build Internet Transaction Processing (ITP) applications that deliver over the Web highest levels of database connectivity and transaction management.

To streamline processes and reduce paperwork

Prior to the implementation of WMS Plus v.2, data input and inventory management was done manually, in which many steps in the process which were prone to human error. Upon implementation of the new solution, all incoming stock information are keyed directly into the WMS system.

This is then verified and confirmed by the teleclerk through the radio frequency terminal before the crane places the pallet on the conveyor belt. The crane is then assigned a category, e.g. toxic or flammable. If the pallet reaches the wrong aisle, it will be rejected and not stored in the stipulated aisle. This ensures a safe working environment and also maximises warehouse space usage.

Benefits from Automation

The automated solution by Boon Software has significantly streamlined the process. Intensive use of middle-ware devices such as radio frequency terminals, bar-coding devices and automated equipment such as Automated Storage and Retrieval System have reduced the steps in the delivery process, resulting in substantial benefits:

- ▶ **Automated functions increase productivity**
To achieve automatic stock updates the crane operations were integrated into existing software. This has resulted in higher productivity, time savings and reduced the margin for human error.
- ▶ **Improved real time reporting**
Use of Radio Frequency to scan barcodes on the pallets enables real time updates in the ASRS system about incoming or outgoing goods and stock status, including availability, sell-by-dates and whereabouts.
- ▶ **Increased space utilization**
The optimal usage of warehouse space resulted in more efficient stock turns. Shortened despatch times and selling cycles helped contain costs and maximise revenue opportunities.
- ▶ **Paperless environment**
The creation of a paperless environment removes potential mistakes that come with excess paperwork, and in the amount in the amount of paper utilised.
- ▶ **Improved customer service**
Information on up-to-the-minute levels and locations of inventory help track stock count errors so that clients and suppliers can be alerted and trace any missing cargo immediately.
- ▶ **Improved stock count accuracies**
Physical counting process can be completed more efficiently, not only saving labour and time, also reducing errors like loss inventory accounts.



Investment in WMS Plus v.2 results in operating efficiencies

Since its official opening in November 1999, G&U's chemical warehouse has experienced increased customer satisfaction. The entire process from shipment arrival to advising client of arrival and updating inventory – has been reduced from 5-6 working days to an amazing 1-2 working days.