Moving to the fore

Thomas Cutler, President&CEO, TR Cutler, Inc explains how a warehouse management system (WMS) aims to control the movement and storage of materials within a warehouse

Warehouse management systems utilise Auto ID data capture technology to efficiently monitor the flow of products. Once the data has been collected, there is either batch synchronisation with, or a real-time wireless transmission to a central database. The database can then provide useful reports about the status of goods in the warehouse.

Warehouse Management Systems (WMS) are a key part of the supply chain, these systems primarily aim to control the movement and storage of materials within a warehouse and process the associated transactions. The systems also direct and optimise stock putaway based on real-time information about the status of bin utilisation. Traditionally, a WCS (warehouse control system) executes instructions provided by an upper-level host system, such as an enterprise resource planning (ERP) system or a WMS system.

True tier-one WCS software provides advanced management capabilities. The best-of-breed WCS systems are modular in nature. Unlike a typical WMS software solution, WCS directs real-time data management and interface responsibilities of the material handling system as well as provides common user interface screens for monitoring, control and diagnostics. WCS systems must be entirely flexible and scalable. Beyond software selection and implementation, there are mechanisms, tools for handling specific and measured process improvement.

Experienced WCS experts must play the following roles efficiently

- Operations audits
- Supply chain strategy development and master planning
- Process analysis and optimisation
- Location modeling, transportation, logistics, and distribution network analysis
- Inventory analysis and control

WCS vendors must develop a strategic partnership with a manufacturing and distribution firm. A WCS must address the following challenges from multiple angles and perspectives

- Greater return on assets
- Increased operational capacity
- Reduced labour costs

According to Jerry List, VP, QC Software, said, "Implementation of a WCS system, requires an experienced supplier who should be able to provide streamlined project cycle, single-point of accountability and have a deep knowledge of distribution operations which can only be achieved through experience gained from a history of successful projects.

It is only with this experience that the powerful impact of a WCS will allow for the tight integration between hardware and personnel and also maximise materials flow and use of space while also providing a flexible platform for future growth and change. All this experience yields measurable results faster."

Integration activities must be streamlined to deliver beneficial use as quickly as possible including

- Operation assessment
- Strategic planning / Operation design
- Material handling design / implementation
- WMS specification / selection

Large companies with many distribution centres tend to have a dedicated WCS. Although wide area networks have become more efficient, the problem still remains that networks do get dropped. When the network is not available to 'talk' to the host system, no picking gets done. With a WCS, on site, the order fulfilment process are maintained. Modifications to the shipping process are often put into place. Further streamlining of the process regularly involves installing 'print and apply' technology which automates the printing of shipping labels and applying them directly to the shipping carton. This eliminates the need for manual shipping stations.

QC Software 's, Mr List summed it up by noting, "Managing and controlling the warehouse has become the focal point of many businesses; WCS allows an enterprise the ability to devise an operational advantage. With good visibility of all warehouse activities, proper business decisions can be made to increase the profitability."