



# The Man-Less Warehouse

## *The Next Advancement in the Warehouse Evolution*

*Warehousing has come a long way from man carrying every load from point A to point B on his back. Storage used to be no more than stacking one package on top of another. Picking means search through a pile of goods, looking for the required item. It is still a common sight in some primitive warehouses.*

*On the other hand, technologies have developed to the level that man-less warehouse is a reality rather than just a warehousing utopia in developed countries.*

Ask any warehouse manager about the main cause of inventory inaccuracies, the common answer is human error.

Most, if not all, organisations have at one time or another made a serious attempt to improve their inventory accuracy. This effort can be grouped into operational procedure improvement and development/application of automation. Some would believe in training, training and training - in the hope of developing the perfect storekeeper.

Yet today, there are few, if any, organisations that would claim to have 100% inventory accuracy. There is always an odd decimal point of a percent of accuracy that is just out of reach. The inaccuracy that is seemingly impossible to eliminate has always been attributed to human error.

Some organisations tried and managed to **almost** eliminate the odd decimal point percentage through check and counter check. This requires constant effort.

The alternative is the "elimination" of man from the warehouse. The technology to do it is available today. Yet few organisations have realised or aware of its possibility and potential - and cost. Some has tried. Many have given up. The few that succeed reap the benefits.

Of course, the cost is high. However, it is a one-time investment and does not require constant effort of monitoring to ensure that due diligence is practised in check and counter check.

The concept of man-less warehouse can get pretty complex as it involves both hardware and software applications with key decisions being made by experienced managers, while repetitive operations are operated and managed by well-integrated systems. To the unenlightened, the risk is high.

The hardware required for man-less warehouses are:

- Automated material handling equipment
  - ASRS - automated storage retrieval system
  - Conveyor system
  - AGV - automatic guide vehicle
  - Auto-sorter
- Automated Identification System
  - Barcode

- Radio frequency ID Tag
- RF terminals

However, similar to a PC that needs an operating system to work, software is needed to drive and control the hardware.

### **Limitation**

Given the need of a computer software, with its limitation of being able to handle fixed routine requirements, to drive the man-less warehouse, it is inevitable that humans are still needed - particularly in operation that requires a high degree of flexibility and discretion, such in packing and re-packing operation.

An operation that receives and issues based on standard packaging would be an ideal candidate for man-less warehouse.

However, as in a "paperless" operation does not mean a total absence of paper, a man-less warehouse does need some manpower to operate it. Goods on receipt need to be inspected and loaded onto a conveyor. Similarly, goods for despatch need to be loaded onto trucks or stuffed into containers. Thus, it is the operations between the receiving and despatch that is most likely to operate without human intervention.

### **Benefits**

With a reduction in human handling of goods, the level of damages and misplacement is also reduced. A good and stable warehouse management system would be required to ensure all stock is accurately putaway to location, tracked and picked as required.

Manpower required would also be reduced in the related department. Through EDI, purchase order is input into the system only once, by the purchase department or even by the end-user. Similarly, sales orders need to be entered only once by the sales department or the customers. These reduce input error that would help organisation to manage their inventory better and enable it to hold a lower safety stock.

The benefits and savings derived from a man-less warehouse are tremendous justifying its initial investment. Caldor of USA, British Homestore/Mothercare of UK and Target of Melbourne, Australia are some of the companies that take the step and reap the benefits and savings.

However, serious study of the organisation modus operandi is needed. Looking at the potential return without studying the impact on the business can be suicidal.