Robotics and automation are not for everyone by Gwynne Richards FCILT Apprise Consulting Ltd

My inbox at the moment is full of invites to join webinars discussing robotics, automation and the future of warehousing. Systems from companies such as Locus Robotics, Swisslog, Grey Orange, HikRobot and Eiratech bringing goods to the person and most recently The Squid developed by Bionic Hive whose robots run up and across the racking to pick items – a new addition to the robotics and automation family. Definitely safer than a few years' ago when some warehouse operatives modelled themselves on Edmund Hillary and Tenzing Norgay.

However not all warehouses need sophisticated automation and robotics. Company start-ups may not be able to afford such technology whilst others may feel they are not ready to make that move just yet. I'm currently working with a client who operates a reasonably small warehouse with just under 300 pallet locations.

They are a successful company who manufacture their products in the UK in a production facility adjacent to the warehouse.

Their growth recently has been significant with their e-commerce business taking off and their retail and wholesale volumes seeing a more steady growth.

At present and for the foreseeable future they are unlikely to require any form of robotics and automation however, to keep up with demand, work more efficiently and smarter they do need to introduce some additional tools into the warehouse.

In this article we look at some of the tools these smaller companies can use to improve their warehouse efficiency and productivity.

There are a number of ways in which warehouses can be organised to be efficient by utilising and implementing simple procedures, tools and processes.

The client, as with many other companies, currently operates with an ERP system which has a very basic stock control function. This has necessitated the client storing items by product code rather than by actual location as the system doesn't recognise locations as such and doesn't allow the same product to be stored in multiple locations. Picking is therefore inefficient as pick routes are determined by product codes not locations.

It became obvious early on that there was a requirement for a warehouse management system (WMS). In my experience many manufacturing companies tend to concentrate on production and finance when it comes to IT systems however ensuring that products get to the customers on time and in full is crucial to retaining these customers especially when it comes to e-commerce and the warehouse plays a significant role here.

The introduction of a warehouse management system, whether it is an integrated module within an ERP system or a stand-alone WMS which can fully interface with the ERP system is, in my view, an important tool to have in the warehouse manager's toolkit.

Secondly, space was at a premium in the warehouse and there was anecdotal evidence that a significant number of the locations held very slow-moving and obsolete stock. In this situation a tool I always suggest to clients is an ABC - DE analysis. This is the first principle of 5S methodology – Sort or Seiri.

Firstly, the current stock file needs to be analysed and each product line or stock keeping unit (SKU) needs to be categorised as follows:

A – these items are the most popular items and are constantly being ordered by customers. These are items that we classify as fast movers or runners. It isn't the quantity of items ordered but the number of times they occur on a pick list, necessitating a visit to the pick face.

B – these items are what we term medium movers and are also classified as repeaters

C – these items are our slow movers or strangers.

D - these items are better served by being sent direct from the supplier rather than being held in stock

E – these items are the non-movers and need to be removed or exited from the warehouse. Before the final act of removing the items, you need to ensure that there is no likelihood of future sales. Items can be heavily discounted, returned to suppliers, sold to jobbers, given to charity or to the staff, recycled or finally destroyed.

It is commonly agreed that A items tend to account for 20% of the stock items, producing 80% of the orders. The B items make up 35% of the stock lines producing 15% of the orders whilst the C, D and E items make up 45% of the stock lines and only 5% of the orders. A situation often neglected by companies.

Note that an ABC analysis shows movement over a specific period. An item that has recently been introduced into the stock portfolio and therefore has no stock movement history should not be removed from the warehouse until we build up its stock history.

This ABC – DE analysis should be undertaken on a regular basis, especially if the company has a significant amount of seasonality.

Not only does an ABC analysis assist you in deciding which stock items to keep but it can also assist you in determining the most efficient location for that stock. The fastest moving items being located closest to the despatch bay or packing area.

Although there is a cost in rearranging stock positions within the warehouse this is more than compensated for by the reduction in overall movement whilst picking.

Finally, we looked at the method of picking and noted that because of the limitations of the ERP system, all orders were picked separately including those for e-commerce customers.

The act of picking orders tends to be the most labour-intensive operation within a warehouse. Therefore, it is imperative that we choose the most efficient method of picking for our warehouse operation.

Once the WMS is in place the client will be able to choose the most suitable method of picking for each type of order. These include individual order picks for the large wholesale and retail orders, cluster pick for some of the e-commerce orders and batch pick for those orders received as a result of promotions.

It is expected that the introduction of these tools together with other ideas over time will improve efficiency and accuracy and provide a return on investment for the WMS.

These tools and processes can be found in the following books.

Warehouse Management (now in its fourth edition)

https://www.koganpage.com/product/warehouse-management-9781789668407

The logistics and supply chain toolkit (now in its third edition) https://www.koganpage.com/product/the-logistics-and-supply-chain-toolkit-9780749475574

Key words: Warehouse; Logistics Tools; ABC analysis; 5S; SMART; key performance indicators; Toolkit; warehouse management; Health and safety; Inventory counting; perpetual inventory count; cycle counting; batch pick; cluster pick.