

Robots doing your shopping in new e-commerce warehouses for faster delivery

As consumer demand grows for ever-faster delivery of online purchases, retailers are scrambling to find more efficient ways to speed up operations and fulfil deliveries in real-time. Small micro-fulfilment centres, where products are stored in spaces that only robots, not humans, can reach, and where orders get picked and packed in five minutes or less, may sound futuristic, but these are already being trialled by retailers overseas.

Robotic warehouses are turning small urban spaces into 'micro fulfilment' spaces, says Inospace CEO Rael Levitt, who owns and manages 26 business parks in South Africa and abroad.

The demand for fast order fulfilment and delivery services skyrocketed in the context of the global lockdowns, ushering in a new era of challenges and opportunities for the beleaguered real estate sector. Robotic micro-fulfilment warehouses are now rolling out globally, and providing efficient automated selection of items to enable faster delivery to consumers.

Micro-fulfilment centres are much smaller than warehouses, which typically need to be on the outskirts of cities. Instead, micro-fulfilment centres



are compact and can be set up within cities, ensuring quicker service to a large segment of customers.

In addition to the low cost per square metre, these types of robotic fulfilment centres



significantly boost operational efficiency. They also need only a handful of employees at a time. An operator at a counter – one of just four 'touchpoints' – assembles incoming orders from arriving bins, picks the items from them, then scans and bags them. Bags are lowered and robotically ferried to a second touchpoint, an outbound terminal.

Micro-fulfilment centres, operated by robots and usually smaller than 1 000 square metres, are emerging as the future of last-mile delivery logistics. The strategy, operated through software and executed via automation, powers the strategy known as micro fulfilment. It is aimed at speeding up the delivery of goods to consumers in cities through operations that pack large numbers of products into tight, urban spaces.

Far smaller than the typical big-box distribution centres found in most industrial parks, the sites are becoming increasingly attractive to retailers adjusting to the dizzying changes in consumer markets. Some have been testing these types of small fulfilment sites in recent years, but the rush to online shopping thanks to Covid-19 pandemic has accelerated moves to space-saving, automation-powered warehouses.

By squeezing those operations into small urban warehouses, businesses hope to pare down delivery times so online orders reach their destination in hours, not days. Companies storing goods at micro-fulfilment sites should be able to get orders picked and packed in five minutes or less, with only a handful of workers.



Most micro-fulfilment operations are still being tested, but the strategy is good news for grocery chains and other retailers scrambling to meet rising e-commerce demand during the pandemic. The future market for automated grocery micro-fulfilment centres is estimated to be worth \$1.2 billion by 2024, according to market research firm Interact Analysis.

The key is to store products in spaces that only robots, not humans, can reach. There is no vertical airspace between bins and only about 20cm of space between stacks. Grocery installations typically include three different sections: one for room-temperature products, another for cooler items, and a manual picking area for fast-moving goods.

Grocery chain and retailer Walmart is among the companies testing various automated systems, but non-grocery retailers have been slower to

embrace the concept. This is in spite of the fact that the automated alternative requires less space than traditional distribution, and reduces the number of steps for human workers.

For retailers working hard to meet the accelerated online demand, the technology offers a faster return on investment than larger robotics-equipped warehouses, while allowing retailers to fill orders more quickly than they could with human workers walking store aisles.

The market change brought on by the pandemic has not only escalated the necessity to fulfil orders in real-time. Automation is already replacing some of the labour-intensive processes either fully, or in part. For example, automated loading and unloading, package delivery, and even automated vehicles are already being tested and implemented in some cases.

We're still pretty far off from seeing some of these things happen in South Africa, but distributors have to start looking at the big picture in respect of how they service their customers most efficiently in the next three to five years. **SR**

Inospace is an owner and operator of serviced business parks that provide a wide range of industrial, logistics, storage and work spaces in one location, enhanced with a suite of innovative business benefits. It owns and manages a growing portfolio of 26 branded business parks in South Africa and the United Kingdom, and is home to a diverse base of 1 200 clients. Visit <https://www.inospace.com>