



PARCEL SORTING IS BECOMING MORE AUTOMATED, WITH INCREASING DEMAND FOR QUICKER AND FASTER SORTING.

**KARL VADASZFFY** LOOKS AT THE INVESTMENT OPPORTUNITIES FOR POSTAL OPERATORS WISHING TO STAY AHEAD OF THE GAME

**Due to rapidly** declining letter volumes and parcel growth resulting from e-commerce, traditional postal companies are downsizing from previously high volumes of an easy-to-automate product to those far more difficult to automate. Many of these operators are investing in new equipment, with manufacturers creating smarter and more cost-effective solutions to meet customers' needs.

Meredith Shennen from PASS, which offers project management specializing in procurement and process efficiency in the postal automation industry, comments, "The main trends are downsizing the large, costly solutions that are used to deal with letters, instead focusing on parcel options and machines that can deal with more than one mailstream, the growing parcels market, and options for last-mile delivery. Many operators are facing challenging economic times, so the focus is on being smart, low cost, efficient and effective."

She highlights that, for letters, "The demand is moving from pure platforms to optimization

of multiple platforms, and multiple functions from the same platform. Future focus will be on multipurpose machines and providing value in the cost and size of machines as well as packets and parcels equipment.

"It'll be necessary to look at whole processes: databases, people, how the sender can assist (such as providing pre-knowledge), optimizing systems and making the most out of existing platforms," she adds.

**Using software** PASS has developed the Midas system, a truthing, address categorization and reject analysis tool that identifies specific OCR improvement areas. It enables operators to drill down to specific areas of failure and target their OCR improvement programs to the areas that will provide the best return. This is particularly important in the parcels space where a far higher volume of product arrives from overseas, containing unfamiliar packaging, labels and non-standard address formats.

# Automatic progress





**Above: Post Danmark has adopted a smart distribution system at its sorting plant in Taulov**  
**Above right: TNT has just opened its largest fully automated parcel sorting system in Perth, Western Australia**



The technology was chosen, according to Vanderlande's area manager Roald de Groot, because "they're able to handle a variety of items in a shorter timeframe" – potentially up to 18,000 items per hour.

Vanderlande's latest crossbelt sorter solutions are also more environmentally friendly. They're 80% more efficient than previous models, offer reduced noise levels, and 90% of the materials used in their construction are sustainable, 99% of which are recyclable at the end of life.

De Groot says, "Previously, TNT used straight conveyor solutions where operators did a manual pick and made sorting decisions. Through our automated solution, the company has been able to plan for future growth and cope with increasing customer demands for efficient handling and innovative services. The new sorting process and delivery stream to and from the site optimize workplace and community safety.

"We implemented our VITAL software, which makes sorting decisions based on barcodes and automatically tells parcels where to go. There's also a real-time SCADA system that monitors how the system is performing, along with our Business Process Intelligence package, which gathers data and evaluates.

"IT systems must generate an optimal flow of products and improve the complete process by interpreting data that's read by a sortation system, making it possible to predict upcoming jams in real time, prevent them and give an operator recommendations about how to increase efficiency."

**Responses to failure** Prime Vision's Ryder believes that it is vital for the first pass through an automation system to result in a high percentage of success, because "the impact of the failure of first-pass automation is considerable. Handling it is costly and has other implications – for instance, whether quality requirements can be met."

Recent developments in what to do with the items that fail automation have, therefore, been vital in advancements. According to Ryder,

Bjarne Johansen, system manager at Crisplant, a Beumer Group company, adds, "Software needs to be used more to improve automated identification, including a high degree of tracking data for items in the logistics chain. One competitive demand is that you want to supply the end customer with a parcel wherever they want it. This will mean having more than one delivery address, which puts great pressure on organizations to be flexible. Full automation is the key."

Mark Ryder, marketing director at Prime Vision, concurs, "Customers want smarter services so that recipients can configure the processing of mail while it's in transit, even changing the delivery address of a parcel already in the system. Higher-level decision-making systems such as MailMatch and ParcelMatch give precisely this functionality."

Johansen believes that posts should consider two plans. The first is short term, whereby they establish how to optimize existing sites and equipment, considering how to extend systems increase throughput. The other, for long term, should be to develop a new logistics network. "Within the next three years, posts will need to invest in new sites with new equipment and the needed local logistic network to handle the demands of parcel services," he adds.

**Automation investment** TNT's recent investment in its largest fully automated parcel sorting system in Perth, Western Australia, a 215,000ft<sup>2</sup> depot, uses crossbelt sorter technology to sort 9,000 items per hour.

**Below: Postal operators need to invest in new equipment to deal with the rise in e-commerce parcels**



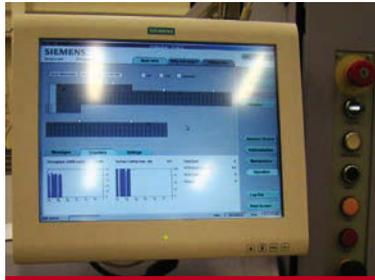


posts have responded in one of two ways: building a fallback scenario into initial system design, where new technologies are implemented, or retrofitting existing systems to include redundancy. “It’s not as simple as buying two sorters instead of one, or having duplicate mail centers,” he comments. “It comes down to smart system design that doesn’t rely on a lot of people. Some posts need more than one sorter as they have more than one center, so they have automatic fallback because of duplicated hardware. In some cases you just have a single sorter, so reliability is vital.”

Developed in response to customers who wanted solutions for what they were unable to put on a sorter, and to deal with potential catastrophic failure, Prime Vision’s PROCESS-IT data capture workstations are essentially computer workstations that repeat the role of a sorter and contain the technology to look at each mailpiece and capture information from it (typically dimensions, weight and an image). The workstations can be mobile within a sorting center to enable ease of use, and were recently introduced to Post Danmark as part of an upgrade that saw the post achieve 100% parcel automation across three regional centers and three smaller hubs, where the need for deeper-level information was also fulfilled by introducing multiple recognition engines including OCR and video coding.

In terms of software platforms, Ryder claims these are easier to handle as fallback: “We’re increasingly relying on data links – systems in centers are interconnected and share information. Or data comes through from a major shipper containing information of large shipments. So in case there is a failure, you need multiple data links and server hardware must be duplicated. This can be done from a system design viewpoint and is relatively easy and cheap.” A typical parcel automation hub may require three or four extra servers, he claims, resulting in a cost of less than US\$25,500 to guarantee uptime.

**Future improvements** Automated systems currently have impressive capabilities, but Johansen believes improvements will continue



**Above left: Operators are focusing on machines that can deal with more than one mailstream**  
**Above: Software can be used to improve automated identification**

**Below: TNT Perth uses crossbelt sorter technology to sort 9,000 items per hour**



**Above: Post Danmark sorts 98% of its parcel volumes automatically at its center in Brøndby, near Copenhagen**

over the next three years. “Identification is carried out using camera technology,” he says. “Now systems can identify and capture images from all six sides of a parcel on the fly – potentially moving faster than 2.5m/sec (8ft/sec). The images are used in the sorting algorithm. In future, the speed of data capture will increase and we’ll see the introduction of better-quality color images and 3D imaging.”

Postal and Logistics Consulting Worldwide chief executive Steve Hannon explains that, while automation can support improvement in the customer offering and increase efficiency, it fundamentally results in cost savings.

In addition, as automated systems become more complex but simpler to use and smaller in size, “machines are being produced with lower footprint and for economical sorting of lower volumes of mail. This makes the technology cheaper, so smaller posts now have the opportunity to achieve higher levels of automation where in the past it perhaps wouldn’t have been economically viable.”

Also looking ahead, Ryder argues that, thanks to the greater range of products resulting from the e-commerce boom, the focus will be on “systems that can handle larger mailpieces. In addition, we’ll need to tackle what’s always been a gray area – rest mail, maxi letters and small packets. It’s an area of growth that doesn’t have a specific machine to handle it in most mail centers.”

It’s clear that developments in addressing can have a positive impact on automation rates. First, governments and posts can work together to ensure stronger databases are created and that data is shared from country to country within continents. Ireland is, for example, working on introducing postcodes because the benefits are recognized.

Meredith Shennen concludes, “It will be interesting to see what happens to the need for sequencing machines. As letter volumes drop, the point will come when delivery rounds will have to change – the cost of automated sequencing will outweigh the benefits and postal staff will once again be expected to manually work out the sequencing as part of their delivery responsibility.” ■