

Automated tray handling secures cost savings and improved transparency

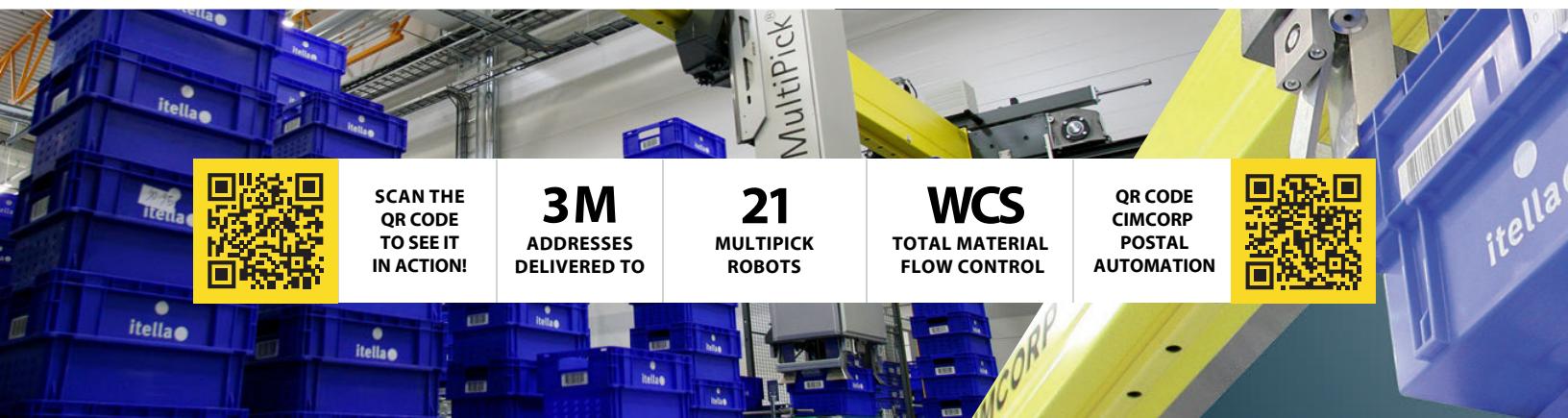
Robotic handling and sequencing of mail trays allowed Posti to optimize its process flows at four sorting centers in Finland.

THE CHALLENGE

Two key factors led the Finnish postal service, Posti (formerly Itella), to introduce automation at its sorting centers. The first was the 2011 EU postal directive, which swept away the requirement in Finnish law that postal operators deliver mail in Finland on all five weekdays, thus opening the market to competition. The second was the decline in letter volumes resulting from the rise of electronic communication. These trends of liberalization and digitalization forced posts across Europe to rethink their operations to reduce costs – a response that was all the more vital in the sparsely populated country of Finland. In addition, after a decade of intensive use, Posti's incumbent mail-sorting systems were nearing the end of their life cycle and space at its sorting centers had become extremely tight.

THE SOLUTION

To address these issues – as well as the need for equipment to deal with the growing volume of parcels resulting from e-commerce growth – Posti implemented a major investment program. This included not only the expansion and refurbishment of its sorting centers in Helsinki and Tampere but also the construction of two brand-new facilities at Kuopio and Oulu. In each of the four locations, Posti invested in the latest systems for letter sorting, tray handling and parcel sortation. After a competitive tendering process, Posti chose a robotic solution from Cimcorp to automate the tray handling at the four sites. Cimcorp supplied a total of 21 of its MultiPick robots, as well as high-speed conveyor loops and software to control the automated handling systems.



CIMCORP

Passion for optimized material flow

Known as Itella from 2007 to 2015, Posti is the leading postal and logistics service company in Finland, delivering to some three million households and companies every weekday. Employing 20,000 staff, the state-owned organisation was the first postal operator in the world to offer entirely carbon-neutral delivery services.

CIMCORP'S MULTIPICK SOLUTION for tray handling and sorting features robots that operate on overhead gantries to store and sort trays of mail in stacks placed directly on the floor. Modular in design, the system can operate over large floor areas.

THIS BUFFER STORAGE area at the heart of the system is connected to the mail acceptance, inward sorting, outward sorting and dispatch areas via a high-speed conveyor loop. The robotic handling is both rapid and accurate, with the robots also taking care of tray sequencing for the sorting machines.

AS THE HIGHEST LEVELS of reliability and availability are paramount in order to meet Posti's service commitment, the organization also contracted Cimcorp to supply 24/7 support for the handling solution.

BENEFITS & RESULTS

Posti's automation of tray handling and sequencing at the four sorting centers has secured a number of advantages:

BETTER THROUGHPUT TIMES have been achieved by automating tasks that were previously manual and through enhanced control of the process flow. This more efficient processing results in tangible reductions in costs.

HIGHER SYSTEM CAPACITY is possible, due to the enhanced efficiency and high-speed robotic operation. The robots are also able to organize trays of mail into larger batches for the sorting machines than a manual solution, allowing them to run for longer periods with the same set-up and thereby increasing overall processing capacity.



The Cimcorp robot system has allowed us to improve our cost efficiency and respond to changes in volumes better... significant improvements have now been achieved with an eye to the future.

Reijo Mononen
Development Manager for Posti

COST SAVINGS were realized by Posti through shorter handling times, higher system throughput and minimized idle time for the sorting machines.

RAPID FINAL SWEEPING of the sorting machines results from the extremely fast robotic handling, optimized process flow and the ability to sort mail in larger batches.

NO BOTTLENECKS form in the system – even in peak periods – because the robots can store trays in mixed stacks during busy times, only returning to the task of sorting them once the peaks have cleared.

IMPROVED TRANSPARENCY resulted from the use of Cimcorp's software, enhancing Posti's ability to control its processes and track deliveries through the sorting centers.

HIGH SYSTEM AVAILABILITY is a result of using proven technology and the modularity of the MultiPick solution. During maintenance, while a single robot is out of action, the working area of another robot can be extended so that operation can continue without the loss of even a single storage space. The modular design also means that the system can be extended easily to meet future needs.

IMPROVED ERGONOMICS and working conditions are a natural benefit of allowing gantry robots to take care of the lifting and transport of heavy crates of mail.

ENHANCED SPACE UTILIZATION results from the gantry robot concept, which – as trays are accessed from above – means that space-wasting aisles and large conveyor sequencers can be dispensed with.



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