Next-gen IT to improve intralogistics

Through a combination of its Compact Slide Tray (CST) sorter for e-commerce packages and Soly intelligent mobile robots – for applications including sorting trays, rolling cages, bags, and bulky and non-conveyable parcels – as well as in-house software, Solystic has developed a new-generation Sorting Factory concept.

To meet the continued growth of e-commerce products, many industry players have decided to gather and sort parcels with dedicated systems. This often involves systems capable of sorting parcels into thousands of route bags that will be directly loaded into vans for distribution, freeing sort capacity on local depots.

Designed by Solystic, the Sorting Factory is a single plant capable of sorting parcels that need to be processed in both hubs and local distribution centers. This system takes into account truck departure time, is capable of sorting 300,000 packets every day for 8,000 destinations, and covers a floorspace of less than 10,000m².

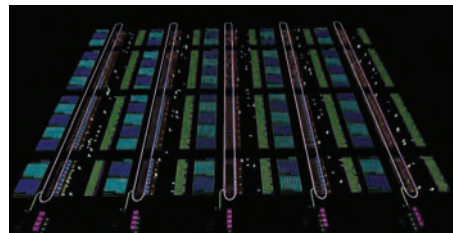With no classic solution currently on the market to meet these demands, Solystic utilized its considerable experience in multi-pass sorting to make it possible to multiply the number of final destinations in relation to the number of physical outputs of the machines.

To ensure the recirculation of the containers between the first and second pass, the company uses Soly mobile robots to extract, store and re-inject the packages with real-time tracking.

An automatic buffer mechanism allows the full container to be immediately replaced by an empty one. At the end of the second pass, the bags that make up the distribution rounds are automatically extracted to be loaded into trucks.

At the infeed area, a robotic induction system – which can also be installed on third-party machines – ensures automatic feeding of 80% of the products, the rest being handled by a single operator.

The development of this system was made possible by two essential IT components – the Solystic SOSi simulation platform to size the system, check its performance and ensure the integration; and the company's Information System, to synchronize the CST sorters and a fleet of nearly 200 Soly robots to carry out the sorting process in time and guarantee the optimal filling of the trucks for delivery.

With its Sorting Factory, Solystic applies the concepts of Industry 4.0 to intralogistics – simulation, robotization, flow control and eco-responsibility.