

Mixed-Mail Sorting Center in Zurich Mülligen

Customer: Swiss Post



The e-commerce boom continues to drive the global growth of parcel volumes, presenting new challenges for the Swiss Post. An increasing number of smaller parcels in various shapes, sometimes poorly packaged and in polybags, need to be processed. These mixed items (mixed-mail) fall into a category that is neither mail nor normed parcels. Since they are difficult to process automatically using traditional parcel sorting systems, they have often been sorted manually. Swiss Post was looking for a suitable automation solution to address this challenge. In close collaboration with Swiss Post, Körber developed a tailored solution within six months through intensive workshops, using 3D simulations to create the foundation for optimal project execution.

The customer

Swiss Post AG is an independent legal entity of public law, fully owned by the Swiss government. Within the framework of postal regulations, it fulfils requirements for universal service in the delivery of addressed mails, parcels, newspapers and magazines as well as payment transaction services.

With its 60,000 employees, startups and partners, Swiss Post fosters and develops forward-looking solutions, actively driving innovative business models.

The project

Objectives

The project aimed to develop an efficient, automated sorting solution with the highest possible sorting depth for unstable and lightweight import items that are unsuitable for parcel or mail sorting machines. Sorting should handle the entire process, from goods receipt or customs to final delivery, without manual intervention. The main goal was to reduce costs per item using latest technologies while ensuring reliable mixed-mail handling in the face of growing volumes.

Challenges

Several new developments and enhancements in the sector of parcel automation needed to be developed to meet the project requirements. Another challenge was the integration of data for mail and parcel processing. Additionally, the COVID-19 pandemic created disruptions in project execution.



Solutions

The technology for sorting mixed mail is based on standard parcel sorting solutions, adapted to specific characteristics. Mixed-mail requires a range of sorting equipment for the different processing stages - such as singulation; dimensioning and scanning; reading and coding - tailored for automated mixed-mail sorting. The decision on which products to use depends on the on-site conditions and was made in close cooperation with the customer. The following solutions were implemented in the Zurich Mülligen project:

- VarioPick for removing non-machinable items
- Singulation with Visicon
- VarioRoute for aligning and sorting items within the conveyor system flow
- Item recognition with DWS and fingerprint
- Optical Code Reconstruction (OCR) and Video Coding System (VCS)
- Sorting with Cross Belt Sorters from Interroll
- Centralized automatic labelling of mail trays
- Centralized automatic filling of roll trolleys
- Sorting and visualization of IT with VarioSC
- New destinations including mail trays and collecting trolleys
- Analytics to detect anomalies in the process with Parcel Data Hub

Features and benefits

- Fully automated sorting to significantly reduce manual sorting, resulting in substantial cost savings
- Reduction from 3–4 manual processing steps to 1–2 steps
- Direct sorting right up to delivery routes (1,400 tours)
- Relief for parcel centers (100 – 220 k mixed-mail / day)
- Sorting capacity: Up to 19,000 items per hour
- Consignment dimensions: Minimum 100x90x5 mm; maximum 420x420x200 mm



- Consignment weight: 0,05-5 kg
- Range of mail and parcels: e-commerce consignments from all over the world
- Belt conveyor & Cross Belt sorter
- Approx. 1,400 Destinations
- Sorting with 5 sorters on 2 levels

