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DPD case study: Intuitive push-by-light system

Parcels sorted faster and easier thanks to LED

Goods ordered, order dispatched, parcel delivered - it sounds so simple, but it still requires a lot of manual work - especially in the field of parcel shipping. Together with microSYST, the parcel service provider DPD installed a push-by-light system at the Holzgünz depot that not only reduces the error rate in manual sorting, but also ensures shorter teach-in times and a reduction in rework and sorting errors.



Advantages at a glance

- Process optimisation through visualisation
- Reduction of error rate
- Intuitive system with short learning curve
- Maintenance-free and continuous operation 24/7

Shipping service providers such as DPD generally distinguish between automatic and manual depots in parcel sorting. In the case of manual depots, the parcels are sorted manually at goods receipt with the aid of the parcel label data. Employees distribute the parcels to different sorting lines according to the information on the parcel label. The challenge for smooth processes: manual sorting, like any manual work, is per se prone to errors - people are not machines. Especially with high parcel volumes or during the training period of new employees, sorting errors cannot be avoided. The affected parcels have to be replaced or re-sorted to the appropriate hall - a time-consuming and resource-intensive process.

Parcel allocation made easier by displays and colour symbols

The DPD depot in Holzgünz has a total of twelve lines, each with several sorting lanes. The sorting lines are labelled with letters and colours and subdivided according to parcel size. In order to make sorting efficient and keep the error rate low, the responsible project coordinator for the „ Operation - Identification Technology“ area at DPD was looking for a push-by-light system; this was to centrally display the sorting strand for each individual parcel and facilitate allocation with the help of light strips on the respective strand. In addition to functionality, the system had to be designed to be intuitively manageable for staff, in order to simplify the sorting and familiarisation processes for new and existing employees.

Lean implementation with LED display and LED light strips

The picking and LED experts at microSYST designed two different solutions for parcel sortation in consultation with DPD. As part of a pilot project, both variants were tested on site in Holzgünz. The choice ultimately fell on a functional yet slim system consisting of a central display for each line and LED light strips on each line. The LED display clearly visualises the appropriate letter of the sorting line for each parcel in the respective light colour. The LED strip on the relevant sorting line also lights up in the same colour as the letters on the LED display. In order to test the system extensively, microSYST initially equipped two of the lines with the push-by-light system - everything was supplied from a single source, from development to installation. In addition to the hardware, microSYST developed software that is coupled to DPD's scan PC and forwards its signals to the LED display and the LED light strips. With the help of the configuration software, DPD can also easily make changes themselves, such as assigning new letter identifiers or colours.



Practical test with employee survey: Error rate decreases, productivity increases

After implementation DPD carried out an employee survey regarding satisfaction and quality of work with the new system. The push-by-light system received consistently positive feedback from the parcel sorting staff as well as from the branch management and the transshipment management. Particular emphasis was placed on the ease of work in the manual sorting area, as the individual parcel labels no longer have to be read, checked and correctly assigned. Instead, the system visualises the correct sorting line directly after scanning the label. Productivity increased within a very short time and sorting errors occurred less frequently. Even new employees can easily familiarise themselves with the intuitive system, which ultimately works with simple colour assignments.

Connection box for plug-and-play and expansion to other lines and depots

Driven by experience and feedback, DPD decided to extend the system to the remaining ten lines in Holzgünz. In order to minimise the implementation effort for these and other future lines, microSYST developed a connection box that enables installation via plug-and-play. There is no need for time-consuming cabling work and DPD can put the system into operation itself and just-in-time. The plug-and-play method also facilitates conversions or a redesign in the line area. The implementation of the pilot project at DPD in Holzgünz can be considered a complete success - DPD is already planning to equip further depots with microSYST's push-by-light system.