



## DHL BRUSSELS HUB: A MILESTONE IN SORTATION

In the five years to 2018, DHL's Brussels hub enjoyed solid annual double-digit growth in the number of parcels it handled. In addition to the boom in e-commerce, this growth is also due to the facility's ideal central location in Europe, which makes it particularly attractive as an international and transit hub. The result of these years of growth was that the hub was about to reach 100% capacity.

### INVESTING IN THE FUTURE

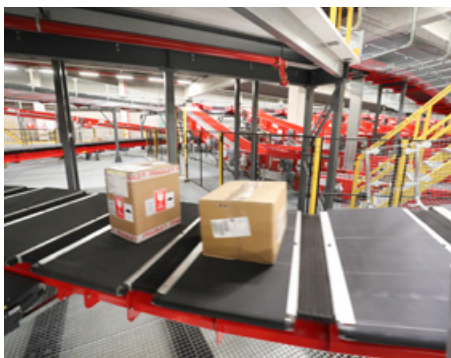
Well in advance of this eventuality, in 2015 DHL began to plan for expansion with a new hub that would play a vital role in its global network. Ultimately BEUMER Group was selected as the

integrator of a complete end-to-end hub sortation system, which it developed in close cooperation with DHL's project group. A key priority for BEUMER's team of designers was to design something innovative enough to ensure that the system would be able to grow and develop along with the DHL network, as the €140 million hub would become an integral part of the overall DHL vision.

### HIGHLIGHTS

- › The new hub is a role model for the most advanced technological innovations in logistics. It is one of DHL's five major distribution hubs worldwide.
- › The collaboration between the DHL and BEUMER teams enables valuable information and know-how about system processes, operation and the sorting machines.
- › A key priority for BEUMER's team of designers was to design something innovative enough to ensure that the system would be able to grow and develop along with the DHL network.

# PARCEL AUTOMATION

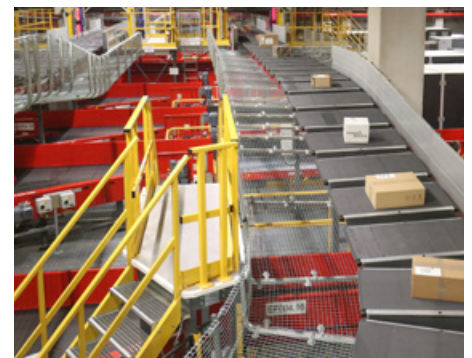


During the design phase it was suggested by BEUMER that basing the entire system on a series of cross-belt loop sorters would provide the optimum configuration by which DHL could achieve the highest item flexibility in terms of sizes and characteristics. Early in the design and development of the system, simulation proved that the operational capacity of the solution would be incredibly close to the theoretical capacity, something that is neither commonly nor easily achieved.

## SUPERIOR SERVICE

To maintain DHL's crucial role in the relationship between the dispatchers of goods and their customers, it was important that the sortation system supported DHL's aim of enabling companies to have their products delivered quickly and reliably.

System availability was particularly important because transport by air has substantial safety requirements similar to passenger security checks in airports. To make sure that shipments were not delayed by security checks,



the sortation system was integrated with x-ray screening technology for security screening of all conveyable items. In addition to ensuring the capacity of the sortation system, the cross-belt loop sorters also ensure 100% track and trace of all items at all times during the automated sortation process. Everything was meticulously prepared to ensure a smooth transition for DHL's customers.

## CUSTOMER SUPPORT ON-SITE

After the system had been installed and a complete handover had taken place, a staff training and residential service

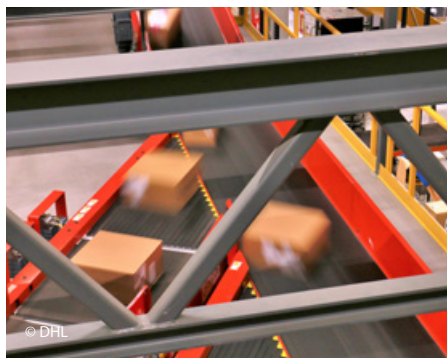


# OPTIMISED CONTROL



began operation. This is managed by a joint on-site team consisting of both DHL and BEUMER Group staff. By combining both teams, the collaboration enables valuable information and know-how about system processes, operation and the sorting machines. This support includes the maintenance and operation of the systems, as well as continuous improvements based on data from monitoring and periodic reviews of the sortation system.

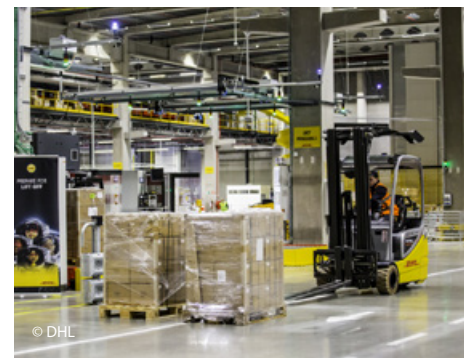
The ultramodern DHL Brussels hub is a role model for the most advanced technological innovations in logistics. It is one of DHL's five major distribution hubs worldwide and its design took the capacity of DHL Express Brussels from 12,000 shipments per hour to more than 30,000. With its new hub, DHL has more than doubled its capacity in Europe and is well prepared to handle predicted volumes efficiently. The sortation system integrated into the hub is a smarter, greener and more intelligent technology, by which speed and continuity are ensured.



## TIGHTLY MANAGED SCHEDULE

Just as DHL undertakes to handle its customers' shipments in a quick and reliable manner, BEUMER Group takes great pride in the quality of its system integration projects. BEUMER Group manages and executes all projects by use of the Stage-Gate® Model to guarantee the quality of the results.

The DHL Brussels hub project was handed over perfectly on schedule, including extensive testing by DHL's own engineers and BEUMER Group after installation. The grand opening was meticulously planned and trained



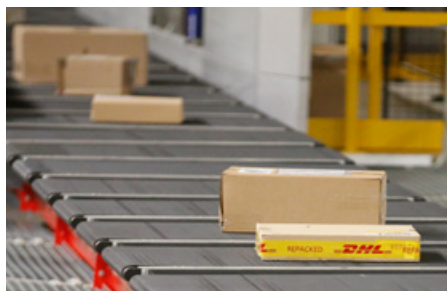
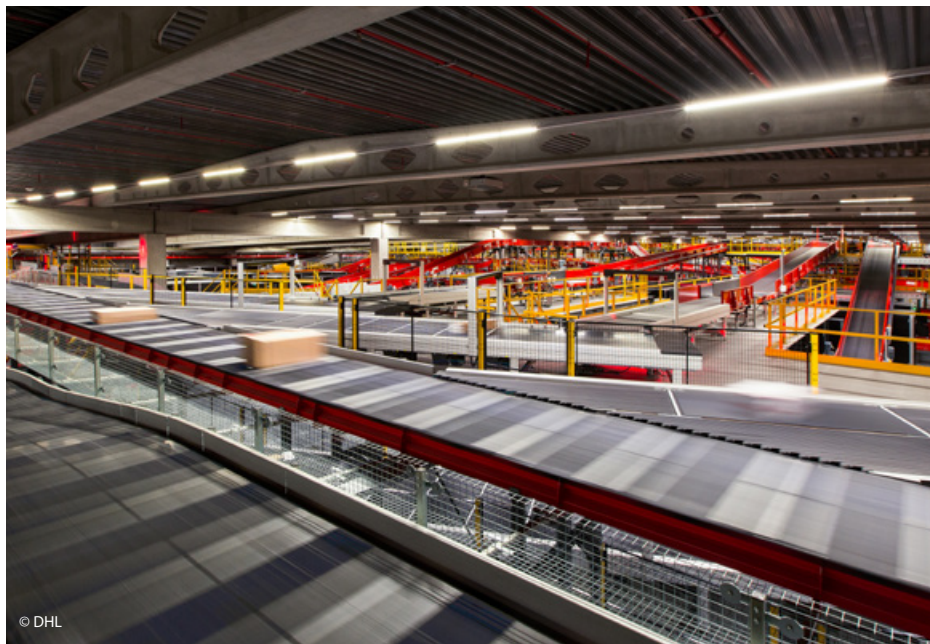
for many weeks in advance, ensuring a smooth transition from the old facility.

**KOEN GOUWELoose, VICE  
PRESIDENT OF DHL BRUSSELS  
HUB, EXPRESSED THE BENEFITS  
OF THE NEW HUB:**

"This is a great example of some of the latest state-of-the-art logistics technology. It allows us to process even more packages even more quickly and efficiently."

## THE SYSTEM COMPRISES:

- 2 cross-belt loop parcel sorters (pre-sorters), 515m
- 2 cross-belt loop parcel sorters (main sorters), 679m
- 1 cross-belt loop flyer sorter (smalls sorter), 358m
- 1 shoe sorter (exception sorter), 97m
- 56 offloading positions with telescopic conveyors (two manual)
- 42 induction units (26 with scales)
- 228 parcel chutes for reloading
- 308 flyer chutes
- 16 telescopic conveyors for reloading (six manual)
- 1,650 conveyor elements; in total 6.6km of BEUMER Group conveyor units
- 15 camera stations for 5-sided reading and 18 cameras for bottom reading at induction units; 94 camera units in total
- 8 volume measurement stations
- 4,750m<sup>2</sup> of platforms
- 300 tons of steel structures
- 945m of safety fencing
- CSC and CMC control for 6 sorters
- PLC control for 27 conveyor systems
- BGFusion user interface
- CIS reporting system
- Image archive
- Computerised maintenance management system
- Dangerous goods detection
- Detailed electronic O&M documentation



For the greatest efficiency, items must take the fastest path through the facility. But care in transporting the shipments is just as important, which is why a sortation system featuring gentle handling of items is of the essence.

The new hub has 70 gates for unloading and loading trucks and vans with containers (including pallets and loose-loaded shipments). Once inducted into the sortation system, it takes an average of six-and-a-half minutes to sort an item to its destination. During the process, labels are scanned, the items are security x-rayed, and the weighing and measuring happens on the fly in the automated system. The system capacity is 32,500 items per hour.

