Sortation System – System and Controls Upgrade

Coventry and Manchester – United Kingdom

exel

Throughput demands from 2,200 parcels per hour to 4,100 parcel per hour

- ü   Control system upgrade
- ü   PLC software, PC software
- ü   Microsoft Windows user interfaces
- ü   Web based system configuration
- ü   Automatic omni-directional barcode reading
- ü   Labour saving
- ü   Limited mechanical system changes
- ü   24 hour operation – short installation window
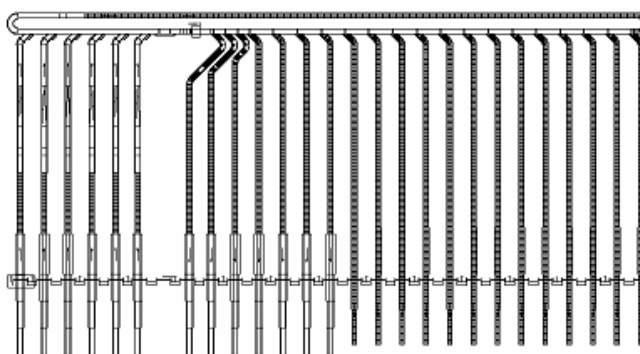
Demands for higher throughput resulted in Axiom being called upon to re-develop sortation system software and controls for one of the world's largest supply chain solutions. The system receives parcels from six standing trailers, merges the parcels onto the main take away conveyor, where they are scanned using an omni-directional scanning array on the top and side faces. Parcels are then dynamically sorted to any one of twenty destination lanes. The system flexibility allows multiple sort to destinations with overspill characteristics if the sort to destination becomes full.

Exel is responsible for supply chain distribution for a leading high street store chain. Utilising high speed sortation systems they are able to receive, sort and dispatch approximately 80,000 parcels within a 24 hour period.

The system was installed in the early 90's and consisted of six in-feed conveyors, manually fed from truck loaders, six hand-held scanning stations, a merge area and twenty sortation lanes feeding into one recirculation lane for manual correction.

The installed system was able to sort 2,200 cases per hour, giving a total throughput in a 24 hour period of 53,000 cartons. Each in-feed lane needed to be manned by a person unloading the truck and a person scanning the cartons for final destination and receipt checks.

The customer's requirement was to raise the throughput from 2,200 per hour to 3,900 cartons per hour and eliminate the need to hand scan the parcels. However, as the project developed Axiom were asked if the throughput could be increased to 4,100 per hour.

Utilising the latest omni-scanning technology, some very minor layout changes to make space for the omni-scanning station and extremely clever software solutions Axiom's engineers reached and passed the goal of 4,100 cartons per hour, giving the customer a peak sortation rate of 4,200 cartons per hour, based on an average carton length of 550mm. Axiom's engineers also made changes to cope with sortation to multiple destinations and a redundancy facility for the automatic scanning, using hand held wireless scanning equipment.

Adding the omni-scanning solution lowered the customer's operational costs and allowed them to move resources to cope with changes in working patterns demanded by their client.

The total project was implemented around normal working for the customer, with little down time as a result. The system dynamically updates the customer's warehouse management systems allowing them to invoice their client automatically.

Axiom

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