CONVEYOR SYSTEMS AND ROBOT PALLETISING SOLUTIONS

Boots PLC

Case Study

Order Picking and Sortation System

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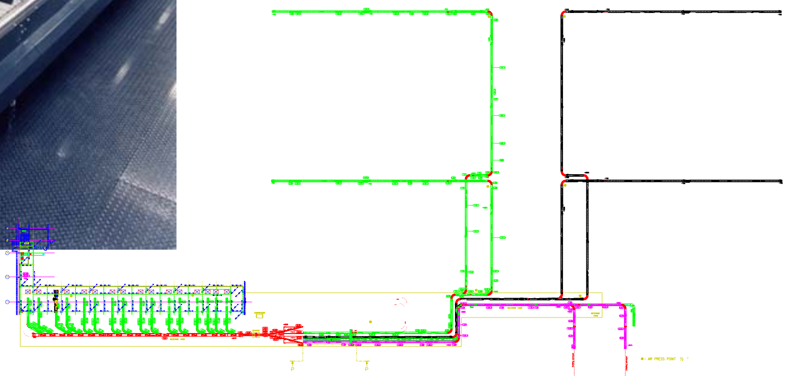

INTRODUCTION

Boots was established as a chemists shop by Jesse Boot in 1877. The company has grown enormously since then and now operates more than 1,200 stores in high street locations across the UK. Based in Beeston, near Nottingham, Boots sells more than 50,000 product lines and has an annual turnover of some £3,100 million.

REQUIREMENTS

Following a devastating fire which destroyed a 27,000 sq m warehouse at its Beeston site, Boots initiated a highly accelerated replacement programme.

Vanriet Rohaco was awarded a contract to design and build an order picking and high speed despatch soratation system, capable of handling upto 6000 crates per hour

SOLUTION

Vanriet Rohaco was awarded a contract to design and build a high speed sliding shoe sorter capable of sorting 6,000 trays per hour, with product being delivered from supporting order pick conveyors. Pickers remove re-circulated empty town trays from an overhead chain conveyor mounted above the order delivery conveyor system and place them into specially designed picking trolleys.

A conventional order pick follows with a number of orders being completed. Town trays with completed orders are removed from the trolley and loaded onto powered roller accumulation conveyors located at ground floor level adjacent to the picking aisles. Powered access gates within these conveyors are incorporated for easy picker and trolley cross movement between aisles.

Town trays are routed from six picking locations throughout the building and conveyed to high level for transport to the sortation system located on a mezzanine floor directly above the despatch bay. Product is progressively merged into three accumulation conveyors prior to sequential release into a single line. Having passed under overhead barcode readers which are used to route product to the correct one of 17 destinations, the town trays are delivered to the sorter.

No read and lane full situations are automatically catered for within the system via re-circulation loops with a designated rectification area for no re-circulation.

Sorted trays leave the sorter on a powered rollers accumulation conveyor and are released on demand into combined stacker / lowerator for marshalling prior to despatch.

The total system is controlled by a combination of PLCs and PCs. A SCADA IC2000 program running the MMI and visualisation system provides a graphical overview of the system along with management and statistical information.

The completion of project Phoenix within such a remarkably short space of time might well be put down to determination on the part of all parties involved. To see the 300-day goal achieved, regular meetings between Boots and Vanriet Rohaco, not to mention the Boots engineering team’s attention to detail, close monitoring of critical dates and full works testing of all systems all played a part.

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