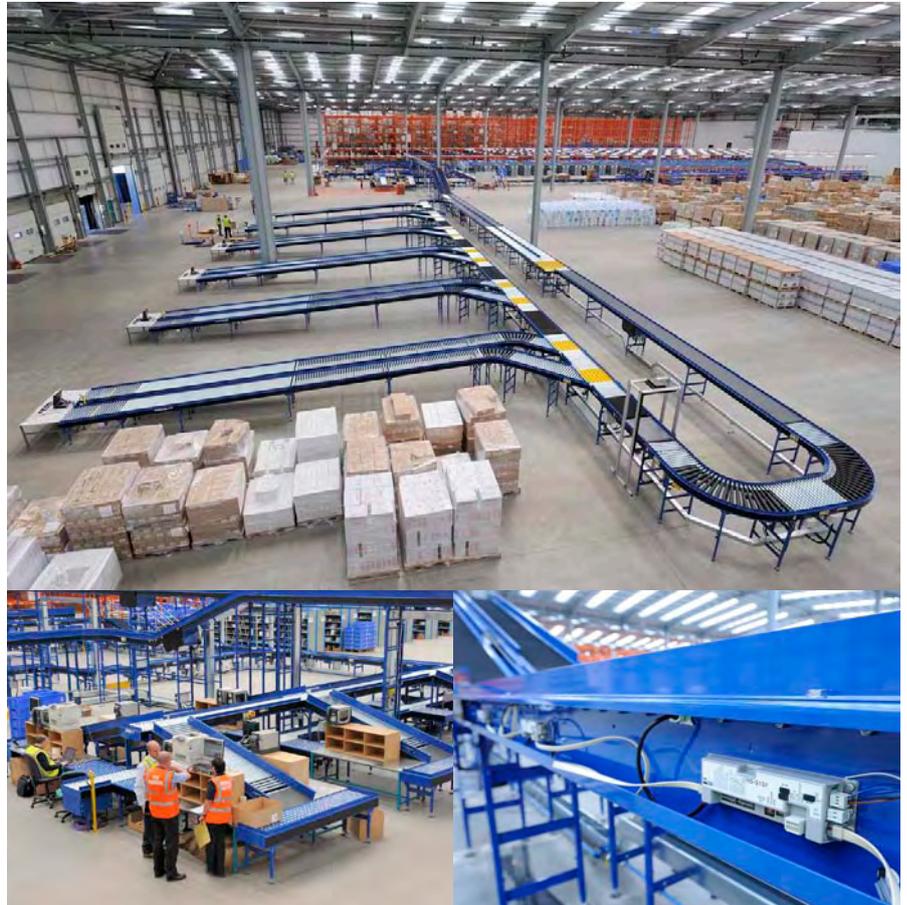


VOW distribution centre

VOW Europe Ltd is one of the UK and Ireland's leading wholesalers of business and office supply products. Following the centralisation of their Sales and Service Centre VOW recently opened its third large-scale, high-tech distribution centre in Normanton, England.

Leading 4th party integrator Logistex was selected by VOW to supply the integrated storage and materials handling systems. These included an extensive range of conveyor equipment manufactured by leading OEM Conveyor Units.

The system is built around a sophisticated one-kilometre carton conveyor powered by low-energy 24v motorised rollers from Itoh Denki. Totes and cartons are routed around a zoned system for picking before being checked and scanned and finally routed through a sorter at up to 2,850 items per hour.



Challenge

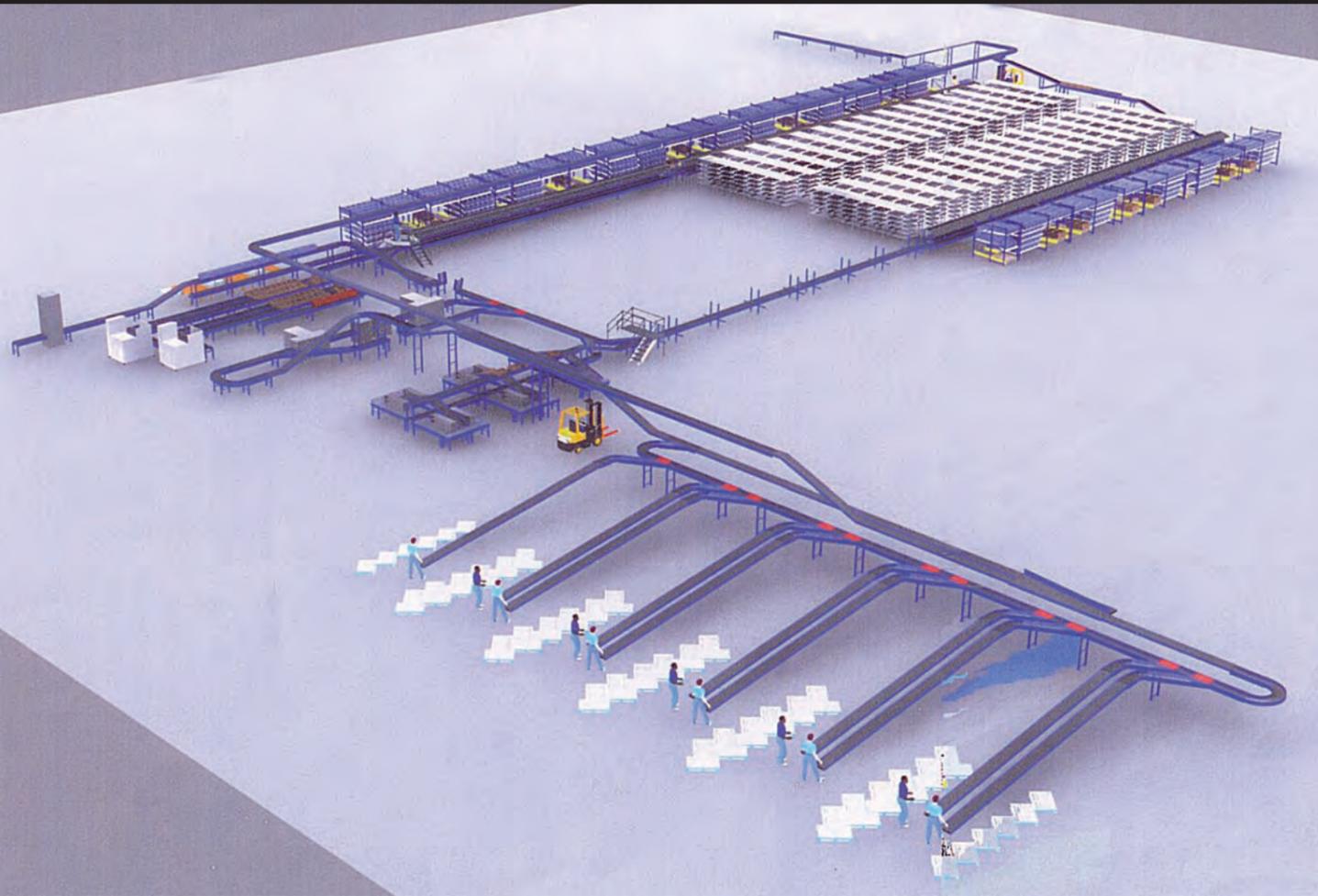
- ▼ Wide variety of carton sizes and weights
- ▼ Medium-to-high transport speeds
- ▼ High throughput, two-shift operation
- ▼ Maximum noise @ 1m: 64dBA

System

- ▼ 250 24v motorised rollers manufactured by Itoh Denki
- ▼ Zero Pressure Accumulating logic controls with built-in communication links
- ▼ Adjustable speed and transport configurations, up to 70m/min
- ▼ Smooth, low noise transport of goods on precision bearing rollers

Solution

- ▼ Energy efficient, run-on-demand low voltage motorised rollers
- ▼ Self-managing accumulation logic maintains product separation
- ▼ Dynamic product buffering, transfer and sortation
- ▼ Convenient and simple integration with PLC and WMS.



From an early stage Itoh Denki's Technical Sales Engineers worked closely with Conveyor Units and Logistex to provide the best conveyor solutions and specifications to meet the system challenges. The installation has been designed to handle the diverse range of order size, volume and changes in demand. Totes can carry up to 25kg and cartons as slim as 50mm can be conveyed directly to dispatch to keep space and shipping costs to a minimum.

Integration of the Power Moller® drives with Logistex's LWS automation software was made easy with Itoh Denki's sophisticated HB510 zone control board.

The HB510 incorporates control logic and zone-to-zone communications that facilitate valuable product buffering and separation throughout the conveyor system. The HB510 is also configurable to allow adjustment of roller speed, transfer configuration, and zone release modes. This made it ideally suited to the various control requirements of the project and was used extensively throughout.

The combination of HB510 and Power Moller® 24v motorised drives provided the ideal solution to the high speed sortation conveyor installed in the despatch area.



HB510P
Zero Pressure Accumulation

- ▼ Built-in logic control provides automatic flow management
- ▼ Singulation or block release for higher throughput
- ▼ Energy-efficient run-on-demand operation
- ▼ Dynamically adjustable speed control: zone or group
- ▼ Optional PLC connections for RUN, DIRECTION, SPEED, SENSOR STATUS & ERROR

Logistex provided a full consultation and design service to assist VOW throughout the planning stage. The company used its Situational Analysis procedure and the client's historical data, resulting in a proposal to consolidate several warehouse operations into a single distribution centre in Normanton, South Yorkshire.

The solution features an extensive carton conveyor comprising of belt conveyor and 50mm diameter motorised roller conveyor. A full case-pick line operating at up to 2,000 containers per hour supplements the pick case function.



Each consignment is checked and scanned, then routed through a sorter at up to 2,850 items per hour. Logistex supplied its own LWS warehouse control software, designed to fully integrate with the client's Manhattan WMS.

