



United Parcel Service Inc

Integrated hub
Tamworth, Staffordshire

Handover: 2008



The customer

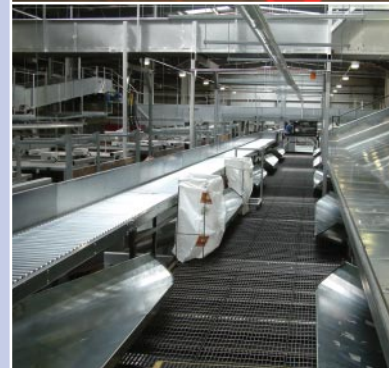
United Parcel Service Inc, the world's largest package delivery service, was started by two teenage entrepreneurs in a Seattle basement in 1907. Then called the American Messenger Company, the firm ran errands and carried notes on foot or by bike at a time when telephones and cars were scarce. Steady growth in the US was followed by international expansion during the 1970s, making UPS a leader in global distribution and logistics. Today, UPS operates in over 200 countries, moving almost 15 million packages a day.

The challenge

Having acquired the independent parcel carrier Lynx Express Ltd in 2005, UPS decided to build a new hub in central England in order to integrate the package operations of the two firms. Tamworth in Staffordshire was chosen as the site for the new, centralised sorting facility for the UK operations of UPS.

The solution

UPS invested \$105 million (then £70 million) in its new 29,000m² distribution hub as part of its plan to rationalise its network from five hubs to three. The Tamworth site is the company's largest facility in the UK and second largest in Europe after the air hub in Cologne. The fully integrated hub and parcel delivery centre handles both domestic and international packages and has the capacity to sort 42,000 parcels per hour. The site features 874 conveyor belts totalling some seven miles in length. The handling solution features ergonomically designed sorter systems which mean that employees do not have to lift packages, but rather slide all parcels to the appropriate conveyor. The control system enables staff to access all 874 conveyors from one central point. The £2.8 million contract to implement the controls for the new hub was awarded to Autotech Controls Ltd. The control solution needed to be designed and implemented using UPS' corporate standards, mirroring as closely as possible the methods used in its US operations. A high level of redundancy was required in order to ensure maximum fault tolerance and optimum system availability. Autotech implemented a Vijeo SCADA system for the acquisition and exchange of process data between the handling equipment and the upstream business systems.





Scope of supply

The scope of supply comprised the control systems for the 874 conveyor belts at the Tamworth hub, as well as lighting, power and communication services for the building.

Mechanical equipment

874 conveyor belts totalling some 7 miles
52 dimensional weighing systems
42 inbound and 120 outbound trailer loading doors
22 dedicated pallet doors
302 feeder positions
1 X-ray machine

Computer systems and communications

A total Schneider solution comprising:
9-off MCC control panels
14-off PD control panels
1-off Modicon Quantum PLC
1-off Rockwell Controllogix PLC
126-off junction boxes
520-off operator stations

Diagnostics

7-off HMI/SCADA screens, fully redundant

Facility Management

Autotech also supplied its own facility maintenance control system – 'Schedule' – to help the on-site UPS team to organise and control their activities, thereby ensuring that the conveyor facility was properly maintained.

This database application provides scheduling, control and management of preventative maintenance tasks. It has been specifically developed to enable large-scale automation systems to be maintained in accordance with suppliers' recommendations. It provides detailed historical reporting on all activities to demonstrate that planned maintenance has been completed, thereby maintaining warranties. Key features of Schedule are:

- Recording and planning tools for scheduled maintenance tasks
- Generation of specific work lists, allocated by time or by engineer
- Logging of defects or problems found and rectification action taken by the engineer
- Reporting against different criteria such as equipment, engineer, date or outstanding work.

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