

CJ LANG & SON

Scotland's largest independent retailing and distribution company



CJ Lang leads the way in Voice

Founded in Dundee in 1919, CJ Lang & Son is Scotland's largest independent retailing and distribution company. The company services over 45 per cent of Scotland's independent market (a total of 400 supermarkets), including all of Scotland's SPAR stores, its own chain of 82 CJ Lang stores, NAAFI and VG stores. All are serviced from a modern, dedicated Retail Distribution Centre (RDC) in Longtown Road, Dundee. In addition, the company's 'Martex' Cash & Carry depots service 7,500 customers a week as well as providing a delivered Food Service operation to hotels, pubs, restaurants, leisure outlets, industrial, healthcare and education catering establishments throughout Scotland.

CJ Lang's continued growth and success is a reflection of its commitment to excellence and best practice, an enlightened approach to IT and new technology and a dedication to being the best supplier of food, drink and associated products in Scotland. This success was externally recognised in 2006 when CJ Lang was crowned the best wholesale business in Scotland at the Scottish Wholesale Achievers Awards.

The Challenge

Modernising an outdated paper-based operation

Servicing the needs of half of Scotland's independent retailers is a demanding undertaking. CJ Lang's RDC in Dundee operates 24 hours a day, seven days a week and stocks 6500 lines of ambient, frozen and chilled goods across its three warehouses. The ambient warehouse, alone, employs 100 workers to handle over 130 deliveries a day to retailers.

In order to retain its position as Scotland's premier wholesaler, the company is continually looking for innovative ways to react to and exceed customer expectations and service its businesses in the most efficient way possible. With the food retail industry being such a competitive business, it's imperative that products reach the customer in a cost-effective and efficient manner. One of the most crucial areas for efficient distribution is within the warehouse, where levels of accuracy and productivity have a direct impact on profit margins. In 2002, CJ Lang recognised that its paper-based warehouse operations were becoming outdated and no longer offered the flexibility needed to meet the company's requirements for the growth and expansion of the business.

Moreover, CJ Lang needed a comprehensive solution that would be capable of covering the complete range of warehouse activities, including: goods receiving, forklift truck movements, order picking, pick face replenishments and perpetual [inventory management](#).

The Solution

A seamless transition from paper to voice

In August 2002, following an evaluation of the different voice solutions available on the market, CJ Lang approached Business Computer Projects Ltd (BCP), a leading systems house specialising in supply chain solutions. CJ Lang decided to go ahead with the implementation of BCP's **Accord®** voice warehouse management software to control all aspects of operation in its Dundee RDC. BCP's voice directed WMS, including the specialist voice tasks, uses the proven technology and advanced voice recognition of Vocollect Voice®, supplied by BCP's partner VoiteQ. Based on its previous experience, CJ Lang was confident that BCP understood its business and the two companies worked together closely throughout the design and development phase of the project to ensure the system would meet CJ Lang's particular needs.

To ensure the system was working as designed, BCP initially conducted a comprehensive trial of the system in a pilot area within the warehouse. The pilot allowed BCP to show how, by using voice, the WMS can be updated in real time, providing full visibility and an accurate audit trail into all aspects of warehouse operations. It also demonstrated to CJ Lang the dramatic increases in speed and accuracy that could be achieved. Once the pilot was complete, the project was implemented in phases, starting with the installation of a Symbol Technology Spread Spectrum 24 radio frequency (RF) network as the cornerstone for the voice system.

The next step was to introduce voice functionality into goods receiving. This enabled workers to receive instructions by voice and then enter the data directly onto the Accord WMS using a combination of barcode scanning and voice verification. As voice is used to check all aspects of the delivery from quantity to batch number, any discrepancies are identified and addressed immediately rather than filtering into the warehouse to be resolved later on. This ensures the data on the system is accurate from the start.

The next voice module CJ Lang installed was put-away. At this stage, the voice distribution system instructs the forklift truck drivers of the location in the warehouse where the goods need to go, and the drivers then verbally confirm the delivery.

Once the put-away phase was up and running, voice recognition functionality was introduced into order picking. With CJ Lang's emphasis on accuracy and customer service, order picking was one of the most critical stages of the implementation. The system is designed so that the workers are directed by voice to the location in the warehouse where a product needs to be picked and told the quantity for selection. One of the benefits of voice is that its real-time interaction means that pick faces can be replenished as soon as they drop below a minimum level – the system automatically generates instructions to the forklift truck drivers to get a full pallet from bulk storage when this predetermined level is reached. This not only optimises the use of the forklift truck drivers, but also prevents re-picks and waiting time due to empty picking faces.

The final phase of the project was to voice-enable perpetual inventory. This allows stock checking to be done in real-time and means that any stock discrepancies can be dealt with immediately, improving the accuracy of stock control.

The phased nature of the implementation was critical to CJ Lang, whose 'The customer always comes first' ethos had stipulated that service levels to customers must not suffer during the voice implementation. BCP worked closely with CJ Lang throughout the implementation to fine-tune the voice functionality, to ensure the system precisely matched its needs and to provide a seamless transition to voice. Throughout, the implementation was designed to be 'switched on or off' at the touch of a button, guaranteeing that service to customers was in no way disrupted during the transition.

"We felt that our paper-based system was preventing us from achieving the productivity and service goals we aspired to," explains Graham Murdoch, IT director for CJ Lang. "As a result, we were one of the first companies to adopt voice technology within the warehouse."

The Results

Voice takes centre stage at CJ Lang



Utilising voice has transformed CJ Lang's ambient warehouse at its RDC from a predominantly paper-based operation with no RF functionality to one that is entirely based on Voice-Directed Distribution™. As a result, the company has experienced significant benefits in all areas of its warehouse operations, improving accuracy, productivity, profitability and customer service. In total 40 Vocollect Talkman® mobile computers have been deployed and are being used by 80 workers within the ambient warehouse. The new technology has been quickly adopted and the feedback has been extremely positive, with everyone finding it easy to learn and deploy. As anticipated, the biggest benefit for CJ Lang has come from improved picking accuracy. Since implementing voice picking errors have been virtually eradicated and CJ Lang has been able to achieve accuracy levels of 99.99 per cent. The hands-free, eyes-free operation has improved workers' concentration on their tasks and also their productivity, as they no longer have to stop

what they are doing to collect new assignments from the office. Improvements to productivity have also resulted from the reduction in re-picking and less time being spent investigating stock discrepancies, thanks to a more efficient stock-checking process. Picking rates have always been high at CJ Lang, but have improved even further with the introduction of voice – "overall, picking rates are up by around 10 per cent with some pickers consistently exceeding that figure."

The stationery and administration savings from the voice implementation have also been significant. The use of paper lists and labels have been eliminated, along with associated administrative tasks such as printing and distributing picking documents, the re-keying of picking confirmation and order adjustments for out of stocks. The result has been a reduction of 5 man-days' effort per week in Warehouse Management Administration, allowing the company to re-deploy administrative staff to more productive areas of the business.

Finally, safety in the warehouse has been improved. Eliminating paper has meant a cleaner, tidier and safer warehouse; as workers are now operating hands-free, eyes-free, they have a much better awareness of their environment, which leads to fewer accidents.

"Voice technology is now integral to how we manage our warehouse. It has led to dramatic improvements, not just to our productivity, but to the overall service we offer to our customers," says Graham Murdoch. "The project has exceeded our expectations in all areas of the RDC from goods in to goods out, and we hope to be using Accord voice-directed WMS and Vocollect Talkman terminals in our frozen and chilled RDC warehouses in the near future."