



## PWS – “OPENING THE DOOR TO RF”

PWS Distributors Limited is a family owned private company which started life as a small architectural ironmongery business over one hundred years ago. Through the adoption of modern business practices, including Radio Data Capture within the warehouse facility, the company has grown to become the leading supplier of kitchen cabinet doors and other related components to the kitchen furniture industry

The company presently employs 113 staff and has a varied customer base, ranging from Blue Chip companies to local kitchen retailers who may only manufacture three or four kitchens per month. The company serves approximately 3,500 customers from its Newton Aycliffe warehouse, has around 7000 product lines and receives in the region of 600 sales orders per day.

To support the gradual modernization of the business in 1991 the company installed an IBM AS400 mini computer and opted for JBA software as the hub of their business process system. Whilst this provided a great leap in terms of improvements in general operational control, it became apparent that the warehouse activities were the weak link in an otherwise smooth operation. As Andrew Elenor, Operations Director, explains, “the volume of manual work associated with a paper-based system was prohibiting the real efficiency gains we were ultimately seeking. The consolidation and cancellation of orders and the tracking of stock which was spread throughout the site were incredibly inefficient labor-intensive tasks and represented a genuine bottleneck”.

A thorough tender process for the semi-automation of the warehouse operation was undertaken and the hardware and software offerings of a multitude of vendors were evaluated. The final selection was based upon the WMS of Abingdon-based Lambda Business Systems, combined with twenty eight **Geneva 6000** series hand-held RF terminals from **Belgravium**, as offering the best “closeness of fit”. The full business control system was now to be based upon a real-time interface between the JBA and Lambda packages, which would be further enhanced by additional bespoke features developed by PWS’s internal IT personnel. The company supplemented the AS400 computer with five Windows NT servers which run sales and marketing databases, fax mail and E-mail, as well as the WMS.

The newly established business processes make optimum use of emerging IT technologies, such as touch screen, as well as the real-time capabilities of the **Belgravium RF equipment**. The sequence starts with the PWS Purchasing Department receiving pre-advise notification of goods arriving, usually via fax. A pre-advise goods received note is then raised, via an internally-developed software module. When the goods arrive a copy of the pre-advise document is printed, displaying a blanket list of products which are expected, but at this stage without ‘quantity’ data. The document includes a bar code which contains product code data.

The goods received operator counts the product stored on a pallet and he enters that quantity into the **Belgravium Geneva** terminal. He scans the bar code on the pre-advise document in order to enter the product code and a Monarch portable printer automatically produces a pallet identification label, which is affixed to the pallet. The process is repeated until the entire delivery is ‘goods received’. The Lambda Warehouse Management System then compares what has actually been received against what was expected and highlights any discrepancies. If discrepancies are found the order is held, if there are none the receipt is released back to the JBA system, so that stock can be allocated against sales orders.

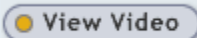
As the stock is moved around the warehouse the **Geneva** Radio Data terminals are used to track movements in real-time. If a location is moved, or stock is moved from bulk to picking or from bulk to outside storage, the goods and new location are re-scanned in order to update the WMS system. According to Andrew Elenor this facilitates “a dynamic view of our stock holding”.

Approximately 600 to 700 orders are received from customers every day. These orders are either transcribed from a fax, or directly via a telephone conversation, onto the JBA system. The customer is checked for credit control status automatically by the system and if valid, and if relevant stock is available, the stock is allocated. A picking note instruction is sent to the WMS system. It resides within the WMS system, in the form of an ‘order well’. An Order Well Administrator manages the order well and releases the orders individually, or in a batch to a picker. The Administrator releases the orders into a pick queue. The pick queue controls the order in which the orders are released against an established priority and whether they are released to a team or individual picker. The default process is that orders are automatically allocated to teams on a first-come first-served basis. However, if an order suddenly attains a priority status (e.g. someone turns up unexpectedly to collect goods) the order can be released to a particular operator, as a high-priority. “The flexibility of manual control was very important to us, as 50% of the orders we receive today will be dispatched immediately. The remaining 50% will go out tomorrow. We need to be very reactive, as it’s a fast changing environment. The elimination of paperwork has yielded a huge improvement in customer service levels, as it’s now possible for us to alter order details right up to a minute or so before the actual pick is due to take place,” states Andrew Elenor. The picker uses the **Belgravium terminal** to view the

picking instructions and go to the relevant location to pick the required product. The bar code on the location is scanned as confirmation of exactly when and where the goods were picked from. The WMS system also provides the picker with an indication of the optimum route through the warehouse. A transaction file on the WMS system records in detail who picked the goods, when the goods were picked, which customer order the picks relate to and where the goods were taken to. The process is repeated until the pick note is complete. Upon completion of the pick note, a delivery note is printed at one of four warehouse workstations. The goods are then packed into cartons or onto a pallet and, using the bar code of the dispatch note, a consignment document is created which records the details of how the goods are to be shipped. This process is undertaken via a touch-screen terminal interface, developed on an in-house basis. The dispatch system records the consignment information as well as printing out all of the carrier information, such as labels and consignment notes. The consignment transaction also triggers the raising of an invoice, via the passing of a dispatch confirmation back to the JBA system.

The WMS system also continually monitors the level of stock within each picking location. Replenishment instructions are generated and prioritized according to the urgency of the replenishment. The operator uses the Radio Data Terminal to read the replenishment instructions and to move stock from the bulk warehouse into the picking location. "The bar code on the pallet and in the picking location makes it very easy for the operator to confirm back to the WMS when and where the stock was moved and replenished," says Andrew Elenor.

Despite the commercial pressure that prevailed with regard to the need to have a more efficient warehouse operation as soon as humanly possible, PWS' overriding concern was that on going 'live' the system would be both stable and running at optimum efficiency. A third quarter 1998 implementation date was actually deferred in favor of a further four months of system enhancement and testing. When the system went 'live' in February 1998 there were no apparent hiccups and the transition to a paperless system was "painless". This was an important factor in minimizing the level of resistance of a 'traditional' workforce to the implementation of a new technology. "I can't deny that there was an element of skepticism that prevailed when we first announced our plans" says Andrew Elenor. "If we had gone 'live' with an error prone system, I think we would have suffered some significant problems. However, the major thrust underpinning the initiative was the elimination of unnecessary pick errors and a reduction in wasteful paperwork. The benefits of the Belgravium-Lambda-In-house system are very transparent in these areas and all our workers can see how this positively impacts on the service levels enjoyed by our paying customers. The move to a 'paperless' environment has been further cemented by the adoption of a document imaging system. Given the level of automation and optimized processes that we have now, it's becoming increasingly difficult to see where further system development would add value. We're proud of the efficient way in which our warehouse operates and the efforts of both our workforce and external suppliers are to be applauded".

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