

case study



High Visibility Down Under: Bing Lee Reinvents its Centralized DC with Wireless Technology and Intermec by Honeywell CK3 and CN50 Mobile Computers

In 1957, Bing Lee and his son Ken co-founded the company that bears his name. From its humble start as an electrical repair business in Fairfield, New South Wales, Bing Lee grew into one of the largest family-owned electrical retailers in Australia.

Bing Lee's central distribution center services the company's 39 stores. In addition to providing next day direct to home deliveries in the Sydney Metro area, the facility also coordinates stock transfers between all stores – leading to a number of logistical and technical challenges.

Initially operating manual paper run sheets, it was clear Bing Lee needed a more efficient system to improve stock accuracy and track and trace all products and orders for direct to home deliveries. Instances of lost or misplaced inventory also made it apparent that stock transfers needed improving – from warehouse-to-store, and store-to-store – from the time an order was placed to the time of signature proof of delivery on receipt by the customer.

Honeywell

Going Wireless to Develop a Modern Mobile Delivery System

In 2007, Bing Lee required a new warehouse management system for their newly built retail superstore and distribution center. Gamma Solutions began discussions with Bing Lee to provide a wireless bar code system using Intermec® by Honeywell CK3 hand-held terminals and a Cisco wireless infrastructure. During this time, Paperless Warehousing (a software partner of Gamma Solutions) developed and implemented an innovative warehouse management system for the distribution center that went live in 2008. Based on the successful warehouse management system and Gamma's familiarity with Bing Lee's terminology



Bing Lee staff using the CN50 from Intermec by Honeywell

and operating practices, it was a natural progression for Gamma Solutions to develop a technology solution to address their "track and trace" delivery needs. In short, Bing Lee required a direct from DC to consumer solution that could be used for its online and retail operations.

"Our first step was introducing Paperless Warehousing to a partner of ours, Interdev, who specialize in mobile software solutions," said Glenn Batten, Northern Region Sales Manager of Gamma Solutions.

"The system deployed includes a proprietary host, the Intermec [by Honeywell] CN50 devices, and Interdev Xmotion software,

"The system has provided large benefits by reducing the number of stock losses."

— Ken Poole, Warehouse Manager, Bing Lee

with Paperless Warehousing's warehouse management system integrating with the new solution," said Michael Atallah, Managing Director of Gamma Solutions.

This modern mobile delivery system replaces the manual paper run sheets used by warehouse staff, contract delivery, and transfer drivers, with Intermec by Honeywell CN50 handheld computers. CN50s communicate with existing RF access points via Wi-Fi. This lets mobile personnel use the 3G wireless network to send accurate information dynamically from the road to devices in the warehouse.

According to Bing Lee's Warehouse Manager Ken Poole, the benefits of the new system are clear.

"Mobile computing using the Intermec by Honeywell CN50 allows us to dramatically reduce stock losses by accurately tracking and tracing stock movements within

the supply chain, as well as digitizing the proof of delivery process – ensuring greater accuracy," said Poole.

Gaining Greater Stock Control and Driver Visibility in Real Time

In Bing Lee's new stock delivery system, drivers now scan all items going onto their truck for delivery. To increase accuracy during the loading process, the system's software then warns the driver if he has not scanned all items scheduled for delivery, or if he scanned items that are not meant for his load. If a driver is unable to load an item due to damage or limited availability, for example, then he selects an "unable to load" reason from a drop-down list in

the application. A built-in safeguard then requires a warehouse supervisor to enter a unique authorization PIN to confirm.

After loading, drivers on home delivery runs enter a delivery window (two hour blocks selected from a dropdown list) against each delivery location. Once loading is complete, the driver then selects "depart warehouse" and all loading details are sent back to the DC's system.

When drivers arrive at each delivery location, they scan off items, collect signature proof of deliveries, and depart. Again, the DC's system is dynamically updated as this occurs.

Drivers can also record in the application when they are unable to deliver items. On selecting "end of day," the warehouse management system is informed of the "unable to deliver" items, which are then rescheduled for delivery another day.

When loading store transfer items, the driver has two options in the application: if the destination store is on his current run, he can indicate that he is going to deliver the transfer item(s) himself. Alternatively, he can indicate that he will return the transfer item(s) to the warehouse for delivery the following day.

On return to the warehouse, the driver must unload all items on his truck. The stock delivery system's application has an inventory of items on-board that the driver entered into the system as unable to deliver or for store transfer.

If an item is not there for unloading, the driver must select an "unable to unload" reason and have a warehouse supervisor enter an authorization PIN. When scanning items to unload, the

application communicates directly with the back end system (which also knows exactly what is on board the truck due to the dynamic updating throughout the day). Then the driver is told which bay to unload the item into, based on the runs created in the system for the next day.

Customer Service Gets a Big Boost, Too

The greater visibility of drivers from the DC, plus more comprehensive and up-to-date data logging, has also enabled Bing Lee staff to provide far greater customer service. Real-time information is now available about any driver delivery problems. And dynamically updated vehicle movements make it easier to provide customers with estimated times of arrival.

With accurate, up-to-date information at their fingertips, staff members have reported that they are better equipped to answer questions about deliveries.

“While we invested in a mobile delivery system primarily to enable greater visibility of stock movements, much of the ROI comes in the form of customer service benefits, which are difficult to put a dollar figure on. The system has provided large benefits by reducing the number of stock losses we incur, as well as reducing labor costs associated with looking for proof of deliveries on manual run sheets,” said Poole.

Planning Forward to Expand ROI

In the future, Bing Lee plans to expand the level of return they get from the solution. In fact, the company has already received an increased profile from its state of the art technology implementation, winning the Supply Chain and Logistics Association of Australia's (SCLAA) NSW Supply Chain Management Award.

“The data reporting is still being developed,” said Poole, “There are many areas that remain untapped and we’re expecting the full benefits of the system to be realized as we begin to investigate how we can use all the information that is being gathered.”

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