

New Distribution Centre

in Brisbane will service all Queensland and New South Wales stores

When volumes are high but margins are small, and the promise is that “everyone gets a bargain”, it’s essential that the supply chain always delivers product – from local and international suppliers to stores and the end customer – with the maximum speed and minimum cost. Such logistics have always been one of The Warehouse’s greatest strengths, creating savings that go straight to the bottom line. This article describes the new A\$33 million, 50,000 square metre Queensland distribution centre which opened in September using the same technology as that proven in New Zealand. It will service all The Warehouse stores in Queensland and New South Wales which together account for about two-thirds of the business volume.

The new A\$33 million Queensland distribution centre – opened in September 2003 – has its own adjacent container park with the capacity to store six hundred twenty-foot-equivalent containers, processing up to eight thousand a year.

The 2000 acquisition of the Australian business gave The Warehouse Group an excellent foothold in the tough Australian discount variety retail market. The business started in Australia with 117 existing stores, in New South Wales,

Victoria and Queensland, together with associated warehouse/distribution centres that have since been closed.

Since then The Warehouse Australia has not only opened fifty-five new stores – including the opening of twenty-two new-format stores and the closure of twelve old stores during the 2003 financial year – but has also increased the retail footprint of many existing stores. As a result The Warehouse Australia now operates 130 stores growing the total retail space from 151,000 square metres on acquisition to more than 270,000 square metres today.

But its aggressive growth plans – the company plans to double the size of the Australian business over the next five years – demand a significant amount of supply chain re-engineering if retail growth is to be managed efficiently and profitably. Indeed, in the discount sector of the retail market, where The Warehouse Australia operates, effective supply chain management is the key to profitability.



The Queensland distribution centre at a glance

- Officially opened by the Queensland Minister for State Development, the Hon. Tom Barton MP, on Saturday 13 September 2003.
- Approximately A\$33 million investment in land, buildings and fitout.
- Occupies a ten-hectare site on Fisherman Islands at the Port of Brisbane within the Australia TradeCoast precinct.
- 50,000 square metres of warehouse space (the equivalent of about eight rugby fields) under one roof making it the largest single structure in the Port of Brisbane.
- Total standard containers processed will be 7,000 to 8,000 per annum, an increase of 40-45 percent in the first year compared with the previous distribution centre (now closed) in Brisbane's Mount Hemmant.
- Pallet racking accommodates 27,000 pallets.
- Has its own adjacent container park with the capacity to store approximately six hundred twenty-foot-equivalent-containers.
- Additional six-hectare site set aside for future expansion enabling construction of up to an additional 30,000 square metres of warehousing space in line with projected growth of The Warehouse in Australia.
- Currently has about one hundred and fifty full-time employees supplemented by a pool of part-timers.
- Services all of The Warehouse Australia's Queensland and New South Wales stores which together constitute about two-thirds of the company's 130 Australian stores.
- State-of-the-art facility employing the latest warehousing and distribution technology.
- High speed sortation system process over 7,000 cases an hour with goods receipt, put-away and replenishment directed by radio-frequency (RF) technology.
- Wireless communications system also covers container yard operations and interfaces with new supply chain processes and systems.

Adding complexity to the supply chain management challenge is the dynamic product range which – depending on promotions, opportunistic buying and seasonal influences – can expand to up to forty-thousand stock keeping units (SKUs).

Determining the best location

A network study undertaken in 2001 showed Brisbane to be the most appropriate location for the new distribution centre in support of store growth strategy. And given that more

than eighty percent of the Australian company's product range arrives in containers it was obviously desirable to be as close as possible to the city's port.

With the support of the Port of Brisbane the company then secured a large site on the newly developed Fisherman Islands within the port precincts. The 50,000 square metre warehouse was then built by the Port of Brisbane and leased to The Warehouse for twenty years. There is also sufficient space on the site to later extend the facility by 30,000 square metres.



QDC interior lanes 6 and 7.

This photo of the new Queensland distribution centre's interior, together with the wider view shown on page 16, illustrates the vast space necessary to accommodate racking for twenty-seven thousand pallets.

Goods receipt, quality checking, put-away and replenishment

The centre operates its own container park, adjacent to the building, with the capacity to store approximately six hundred TEUs (twenty-foot-equivalent unit containers). The arrival of the containers into the park, and the subsequent unpacking, put-away and replenishment, are all managed by the latest wireless radio-frequency data system.

Goods are palletised as they are unpacked and a bar-code label is then generated and attached to the pallet to track the goods at all stages. The Warehouse is constantly working with suppliers to ensure goods are packaged and labelled at source so they can be put away immediately, but some local ticketing and labelling is still necessary.

The quality of the goods supplied is also checked thoroughly before being allowed into the warehouse.

The new paperless data system technology controls all stock movements and constantly updates the global inventory. Thus, as soon as a pallet has been accepted at goods receipt, and scanned, it can be put away and made available within minutes for picking.

Design and operation

Selective racking to 11.5 metres high was installed to provide 27,000 pallet locations. The key to the operation is the efficient batch-picking of all full case goods which are picked to pallet from the storage system and taken to an area adjacent to the conveyor sortation system. Products are then loaded onto the conveyor and transported to the automated sorter which sorts them into individual store orders. Split-case goods are picked and transported in large boxes (called "totes") which are also sorted automatically by the conveyor sorting system.

When all of the cartons from a batch have been processed, and the orders closed, the pallets are taken to a staging area where they are consolidated with non-conveyable goods (interestingly called "uglies") stored elsewhere in the distribution centre.

Volume throughput...

The distribution centre's target volume throughput is currently around 50,000 order multiples (OMs) per day on a single shift, although the facility is designed to handle up to 120,000 OMs per day over



multiple shifts as demand increases. Accordingly, the sortation system is designed to sort at a rate of 7,200 OMs per hour.

...and the fine art of building pallets

Because most store orders contain a wide range of carton shapes and sizes, building pallets at the end of the sortation lanes is an art. The object is to minimise damage during transport and handling by always putting the heaviest goods across the system first, so that they go on the bottom layers of the pallet, with progressively lighter goods coming through later.

The importance and growth of cross-docking

Cross-docking is the term used by the company when local suppliers agree to deliver their product to the central distribution centre ready and in time for immediate distribution to stores in accordance with their individual requirements. This means product can be received and despatched in one operation thus eliminating the cost of storage and picking later.

Cross-docking both improves distribution efficiency and reduces costs, and the company is therefore actively encouraging

the better scheduling of goods delivery by local suppliers to the point where cross-docking of locally-supplied product will become the norm. Meanwhile the potential for staged delivery of some containers is also being investigated so that containers, too, can be put across the system rather than having to be put away.

Since its opening, the Queensland distribution centre has been successfully cross-docking twenty percent of all products; the objective is to lift that to more than sixty percent.

...and people

Anyone can go out and buy technology but you simply cannot put a price on having people who want to work for you and do whatever it takes to get the order out. The Queensland distribution centre (QDC) has created a unique culture for its people where ongoing learning, development and continuous improvement are the order of the day. With great people and good technology, the new QDC has already reduced costs by more than thirty percent compared with previous distribution systems with the expectation that even more efficiency and savings are possible.

Meanwhile, back in New Zealand...

In New Zealand the company has two world-class distribution centres, one in each island, together with a new apparel-only distribution centre under construction adjacent to the North Island distribution centre in Wiri.

South Island distribution centre opened June 2003

The new South Island distribution centre (SIDC) was opened in June 2003. Located at Rolleston, near Christchurch, it is a large complex believed to be the biggest single-level building in the South Island.

Here are some of the new centre's main features:

- Base footprint of 33,000 square metres (about six rugby fields) on a seven hectare site providing expansion potential for future growth.
- Can stack pallets up to 10.2 metres high with capacity for 12,000 pallets.
- Has a fully-automated conveyor system.
- Adjacent 17,300 square metre container yard has enough space for about four hundred twenty-foot-equivalent containers.
- Employs more than 30 full time staff.
- Services Wellington and the whole South Island.

North Island distribution centre

The North Island distribution centre (NIDC) was opened in 1996. It is located in Wiri, Auckland, and has a working area of 62,000 square metres which is the equivalent of about thirteen rugby fields.

Here are some interesting facts about the NIDC:

- Processes more than 8,400 containers and 4,3 million local cartons a year.
- Employs more than 220 full time staff which is enough for more than fourteen rugby teams.
- Has a continuous cyclic stock-take team operating and at peak times can operate 24/7.
- Has almost 28,000 pallet locations.
- In the past, the "hang garments" team of forty-nine full time staff processed more than eleven million garments a year, despatching them to stores in more than a million clothing bags. This work will now be done by the new apparel-only distribution centre, due to open in April next year, which is described below.

New apparel-only distribution centre in Auckland

The construction of a new \$16 million apparel distribution centre is necessary to support the continued and remarkable growth of the company's apparel business. It is being built adjacent to the North Island distribution centre on existing land set aside for this purpose and is expected to be operational by April next year. It will then free up a large amount of space in the neighbouring North Island distribution centre which will be able to better handle other important distribution activities such as music.

Here are some interesting facts about the new apparel distribution centre:

- Has a base footprint of 18,000 square metres.
- Two levels with the ability to add more.
- Storage capacity of 2.5 million hung garments.
- Two automated sortation systems.
- Will service all New Zealand stores.