



New DC helps transform Breville's supply chain performance

Leading Australian home appliance manufacturer Breville has made a significant investment in its supply chain, recently relocating to a new, purpose designed national distribution centre (DC) at Minto in Sydney's western suburbs. A key attraction of the Minto site was its close proximity to an intermodal rail container terminal, enabling improved shipping container handling efficiencies, a key supply chain driver in Breville's high volume international product sourcing operations.

Being able to transport containers from Port Botany direct to the new Minto DC by rail eliminates a lot of the time and unnecessary handling and transport costs associated with receiving containers by road transport, said Breville's Logistics Manager, Stuart Roche.

Importance of intermodal facilities

"With the majority of our product range manufactured overseas, we were very keen to take up the opportunity that adjacent intermodal container handling facilities provide near our new DC, and this was a key driver in the DC's design and layout," he said.

The 15,000 m² DC is situated on a 4 hectare site incorporating its own 5,000 m² container storage park, and is designed to provide the optimum combination of space-efficiency with fast, efficient access to stock.

The DC includes a high-density ColbyRACK pallet storage system housing over 20,000 pallets, plus a compact very narrow aisle (VNA) storage system for small parts picking.

Dematic's Rod Brooks, said: "A high level of pre-project design collaboration between Dematic, Breville and the developer of the site, has resulted in one of the most impressive warehouses in Australia."

Safety and space-efficiency the key

Operator safety and space-efficiency were key drivers in the design of the ColbyRACK storage solution for Breville, said Mr Brooks.

Main features include a seven pallet high, double deep ColbyRACK storage system with a top beam level of 10.2m, a full suite of Colby Protect-a-Rack systems to prevent storage system damage during pallet put-away and retrieval, plus an 'ecofriendly' pedestrian safety rail and guard system to segregate pedestrians from areas where materials handling equipment is used. High-density plastic moulded components mean the safety fence absorbs impacts and springs back into position, and because the components are coloured, they don't scratch or show any signs of marks even when hit.

Breville has also gone to the extent of installing steel angles in the floor in line with the pedestrian segregation system. The steel angles provide a high level of safety for pedestrians within walkways by making sure that a forklift's forks or pallet cannot be pushed under the safety rail into the pedestrian walkway areas, further reducing the potential for accidents.



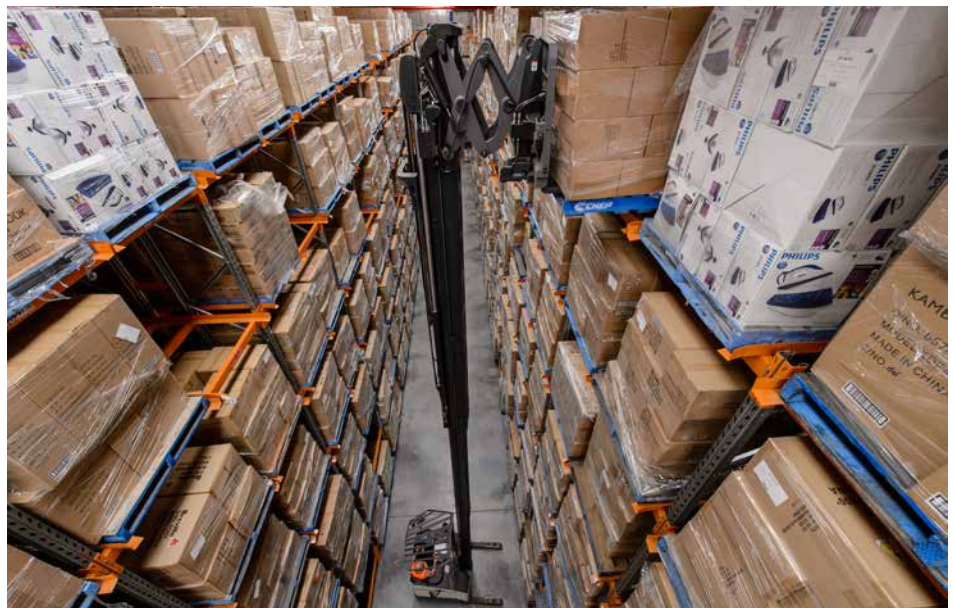
The new DC replaces two outdated warehouses at Botany totalling over 23,000 m², and delivers vastly improved logistics support for Breville, significantly improving supply chain velocity, productivity and customer service levels.

While a lot of Breville's SKU range is fairly lightweight, the ColbyRACK storage systems were designed to handle conventional weight pallets, ensuring that any pallet could be put-away in any location, optimising long-term storage flexibility, added Mr Brooks.

Guides improve pallet put-away and retrieval

Self-centring pallet guide rails are installed within the upper four levels of the double deep racks to assist with safe pallet put-away and retrieval.

“The guide rails in double deep storage systems, especially those in higher bays, can take quite a beating during day-to-day operations. That is why Dematic uses heavy-duty welded cleats with bolted connections to secure the guide rails in our double deep ColbyRACK system. This provides a much stronger and safer solution than Tek screws, improving WH&S and reducing long-term rack maintenance costs,” explained Mr Brooks.



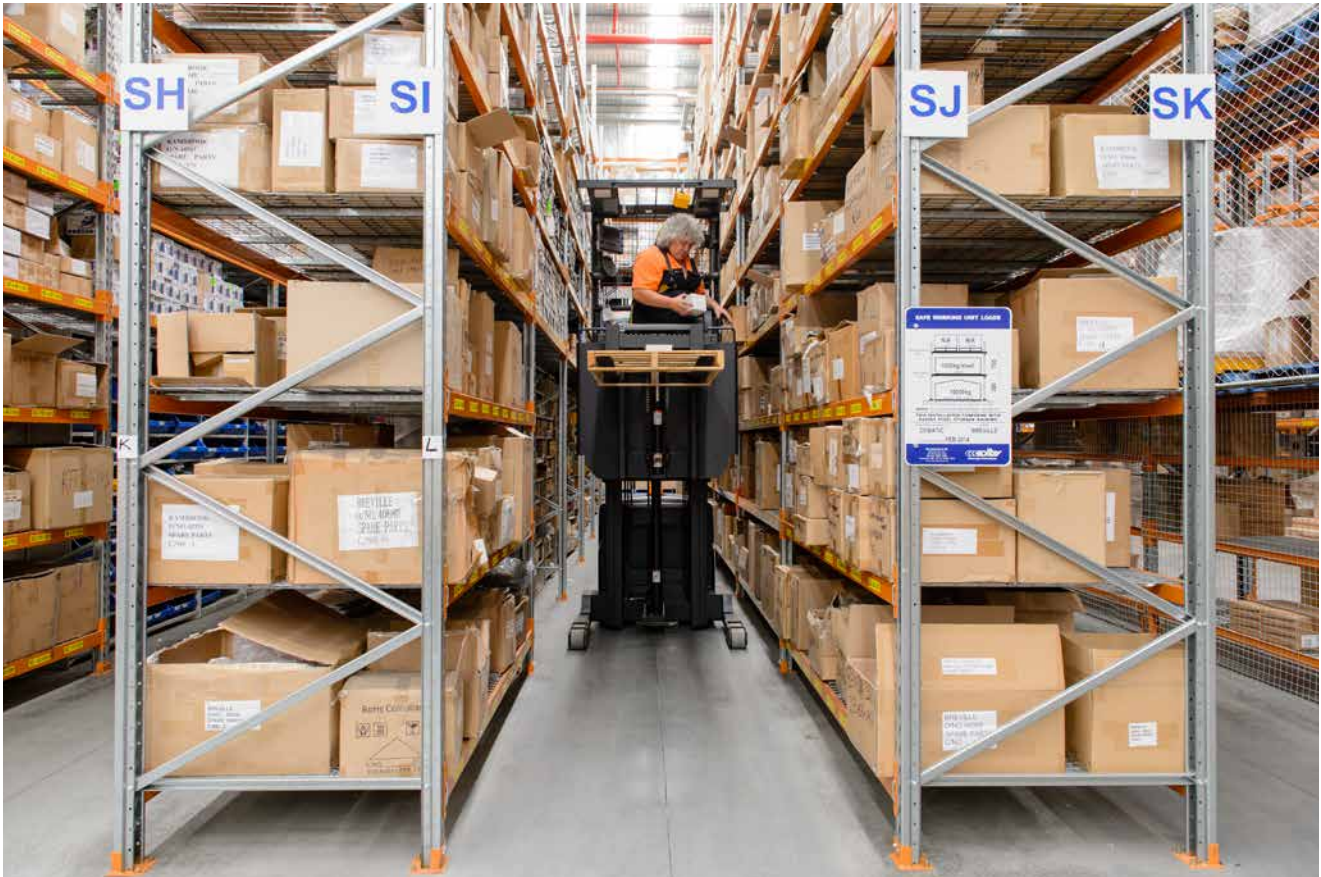
Careful design detailing by Dematic also optimised the DC's pallet storage capacity. By locating building columns within the void between the back ties of adjacent racks, no potential pallet storage locations were lost in the final layout.

“On-going collaboration between Breville, Dematic and the developer helped ensure the 20,000 pallet location ColbyRACK storage system provides the flexibility to meet Breville's needs, as well as potential future customers that may have different storage requirements,” said Mr Brooks.

Packaging changes drive need for storage system

For the past 20 years, Breville's distribution operation was located in Botany, Sydney across two warehouses totalling around 23,000 m².

“We were mainly block-stacking pallets of goods, as the roof heights were too low to warrant the installation of high bay storage systems,” explained Breville's Stuart Roche.



“In line with our participation in the Packaging Covenant, Breville has removed polystyrene packaging from many of our products.

“Accordingly, there was a resulting decrease in overall package strength and integrity, and we soon discovered that many products which were previously suitable for block-stacking, were now not.

“We could no longer rely on block-stacking, and it was becoming increasingly apparent that we needed to relocate to a new DC where we could implement smart storage system layouts and logistics procedures to achieve our objectives in terms of capacity, performance, productivity, flexibility and quality control,” said Mr Roche.

“When we made the decision to relocate, we evaluated a range of alternative storage system types, including fully automated VNA systems. Dematic carried out an extensive analysis of the pros and cons of the different options, with double deep racks coming out on top for our application,” he said.

Opting for double deep racks helped increase the overall pallet storage capacity of the DC by more than 30% compared to conventional selective racks.



Racks go up before walls to optimise layout

To make sure the storage system layout optimised space within the new Minto DC's four walls as efficiently as possible, Breville designed the bare structural frame of the DC first, so that Dematic could make the best use of the actual floorspace.

"Being able to install our racks within the bare shell of the DC enabled us to really take advantage of every centimetre at our disposal, and optimise the layout and capacity of the DC's storage systems," said Mr Brooks.

After Dematic had completed designing the DC's various storage systems, the internal structure and roof were then able to be designed and erected around the building framework.

Mr Roche explained: "This was one of the best decisions we took during construction of the DC because this gave us the ability to correctly align skylights, sensors and lighting within the aisles of the storage system, providing excellent natural and assisted lighting throughout the whole facility, significantly reducing the need for and costs associated with conventional lighting. We have also used step beams with wire mesh decks in many areas, and these also allow light to filter down through the storage systems."

The DC's very successful daylight-harvesting program has seen it reduce lighting power consumption by 17%, with resulting energy cost reductions.

Wider aisles pay for themselves

Instead of trying to squeeze every last pallet into the DC, we opted to create aisles about 300mm wider than normal to give our forklift operators a bit of breathing space in which to operate, said Mr Roche.

"This move has certainly paid off. In most normal narrow-aisle forklift operations, it is rare for a forklift or reach truck operator to be able to drive into the aisle and swing directly into position for picking. The narrow width of the aisle usually means they have to reverse a little and then come forward into position," he said.

"I've been watching our forklift operators, and I have yet to see one who has needed to slow down, stop reverse, stop, and drive forward again to make their turn within an aisle.

"The productivity benefits we have gained by just making the aisles that little bit wider are fantastic. It also makes our forklift drivers' jobs that bit easier and more enjoyable, has dramatically reduced product damage and improves WH&S on the warehouse floor," added Mr Roche.

Private road to intermodal facilities

The nearby location of the intermodal container handling terminal was a key attraction of the site for Breville.

“We have a private link road to the intermodal terminal, so our trucks don’t even have to go out onto the main road anymore, with the travel time between the sites typically less than five minutes.

“This means we have quicker access to stock, and have been able to significantly cut back on road transport, which is a win for us, the environment and the people who travel on our busy roads in Sydney every day.”



Morale at an all time high

The high level of co-operation between ourselves, the developer and Dematic has delivered an excellent outcome for us all, and the results speak for themselves, said Mr Roche.

“The new DC has been very successful. Relocating to a brand new facility where our staff can see that we have done everything we can to create as pleasant and as safe a working environment as possible has had a huge impact on staff morale,” said Mr Roche.

“I have people who have been with the business for over 20 years and have never seen everyone happier than they are now,” he said. “You can see people really enjoy coming to work here and that’s a great outcome all around.”



“Our forklift drivers love the new site. The DC is so nice and bright at all times of the day so they can clearly see what they are doing.”

Mr Roche added: “We have been very impressed with Dematic’s customer service at every stage of the project. From design concept through to installation and commissioning, Dematic has met every target, which has helped us to get the DC up and running within such a short timeframe.

“In a high volume business like ours, you need to have very good control of your supply chain to deliver to our customer’s expectations and still keep a handle on costs.

“Our new DC significantly improves our distribution logistics capabilities, reduces our supply chain costs and helps us deliver a higher standard and quality of service to our customers,” said Mr Roche.

Safety the key design driver

He added: “The number one driver for the DC was safety. We wanted to make sure the storage system was easy to operate, and would allow our people to access stock safely and efficiently.”

“We operate a one-way traffic flow through the DC. To improve productivity and reduce the distance operators have to travel after they finish picking from an aisle, we included a central driveway through all of the picking aisles.

“This means that when a forklift driver or order picker has finished doing what they have to in an aisle, they don’t have to travel up to 70 m all the way to the end of the aisle before reaching the next one,” explained Mr Roche.

“When we were block stacking, we were continually shuffling stacks of containers and moving containers to other locations within the site, and were completely reliant on our container forklifts to put containers on the ground before we could access them. With our new docking arrangements, now there is no delay,” said Mr Roche.



“Our old DCs were an old design with restrictive layouts, had very average lighting, had very little weather protection and suffered from extremes of temperature – very cold in winter and very hot in summer,” said Mr Roche. “Our new DC, however, is fully insulated and we have made sure to locate work areas along the shaded side of the building so that radiant heat is minimised on hot days, and we brought virtually all of our processes indoors to minimise people working outdoors on hot days.

“We have also located all of our delivery docks to the DC on the leeside of the building to keep everyone in the shade and sheltered from the weather as much as possible. All loading areas are now fully covered with awnings,” he said.

The proof that Breville has hit the spot with its new DC, is its high rate of staff retention following the relocation.

“When we looked at where our staff were coming from, the majority were already living along the M5 corridor, so the relocation was actually a big benefit to the majority of them. In fact, many of them have been able to reduce their travel time to work from over an hour to under 10 minutes,” said Mr Roche

As a result of the new DC, Breville has been able to consolidate staff numbers while achieving higher throughput and operational savings.

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