

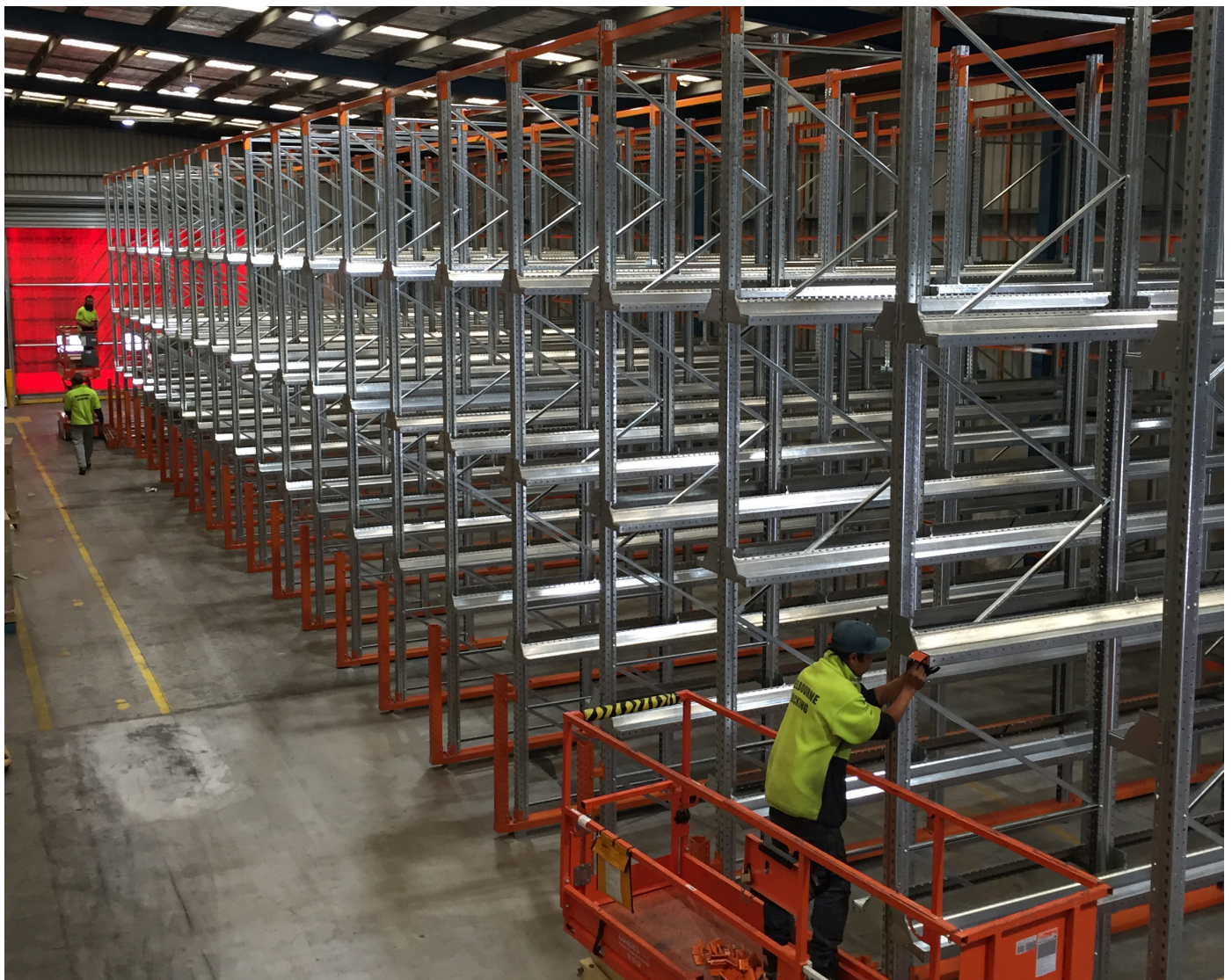
Case Study

Chobani

Dandenong South

Chobani is a yoghurt manufacturer with nationwide distribution in all major supermarkets across Australia. Based in Dandenong South, this is the first Chobani manufacturing facility outside the U.S.

The business has grown significantly since emerging in Australia in 2011 - going from producing 25,000 cases of yoghurt per week to over 30,000 cases per day! In just the last four years, Chobani has doubled in size and added over 3,000 square metres to its existing facility.



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Storage Requirements

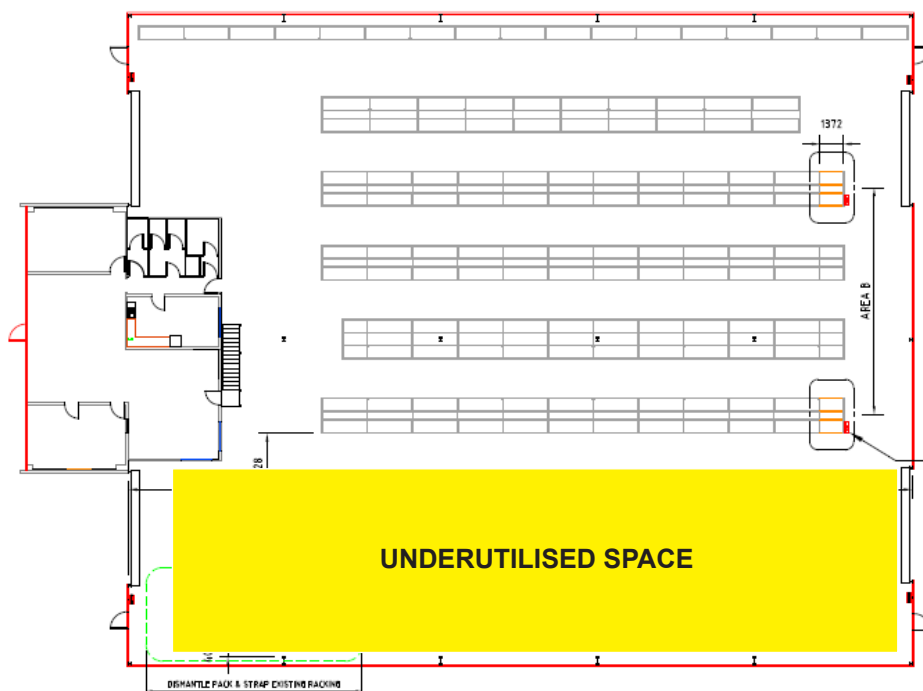
The manufacturing facility located in Dandenong South was utilising an off-site storage facility for holding stock of product cartons. Maintaining a separate warehouse for the cartons meant additional time spent transporting the cartons back to the manufacturing facility, not to mention additional storage costs.

As manufacturing increased, so too were the costs of transporting the additional cartons.

While looking into possible solutions, Chobani identified that their main storage facility at the manufacturing plant was being underutilised, with boxes stacked on the floor rather than maximising the full ceiling height with a racking system.

Dexion Solutions has a longstanding relationship with Chobani, having installed and maintained pallet racking throughout the facility.

Once again, Chobani engaged with our team to create a storage solution in the underutilised area of the storage facility.



Chobani's main storage facility had an area with no racking which was proving to be inefficient for storing cartons.

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Dexion Solutions proposed two options that would maximise the space:

A. Push Back Racking

Push Back Racking allows for high density storage by eliminating aisle spaces. Pallets are pushed to the back of the system as another is loaded. The rails are installed on an incline so that when a pallet is removed, the pallets behind slide forward to the front position. Unlike single entry or double deep pallet racking, push back racking can store pallets more than 6 spaces deep.

B. Drive-In

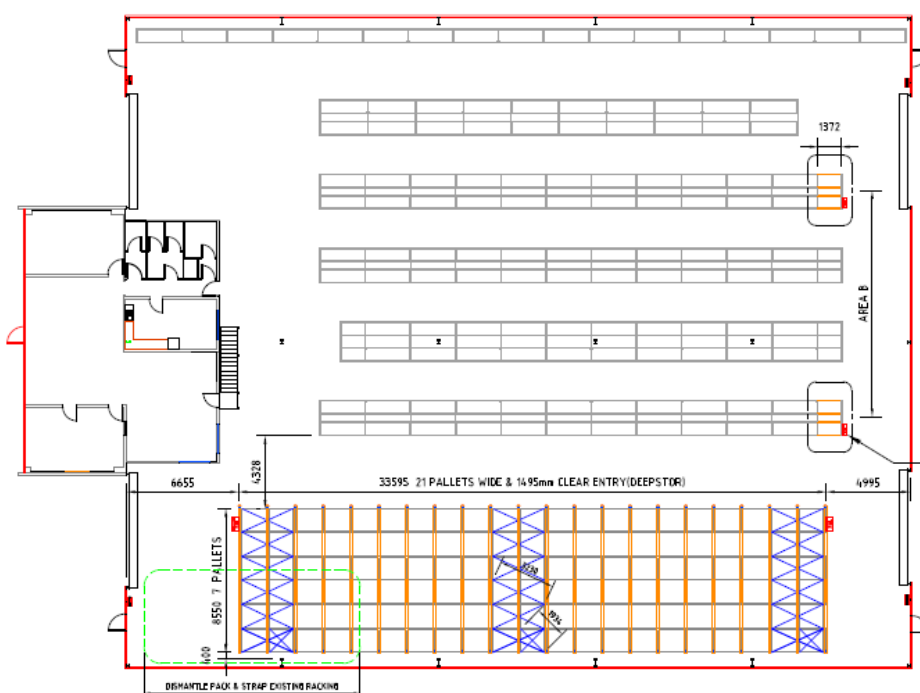
Drive-in racking condenses a storage area by allowing pallets to be stored more deeply – in this case up to 7 pallets deep. Like Push Back Racking, Drive-In Racking also eliminates the need for aisle spaces and utilises full ceiling elevations. Overall reducing the storage footprint dramatically. This system can accommodate both slow and fast moving items.

After comparing the two options, it was decided that Drive-In Racking was better suited to the space. It offered Chobani a number of advantages, including:

- Maximising storage capacity
- More standard parts used
- Cost-effective installation

The Design

The Drive-In design proposed would accommodate 588 pallet spaces in just 315 Sq m. This exceeded Chobani's storage requirements allowing for future business growth.



Initial Drive-In layout had one additional lane which was removed prior to installation to allow more space around the office entry and stairs.

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After the initial design was considered, a small adjustment was made to remove one lane. This would allow forklifts to exit all lanes on a straight path rather than on an angle, as would have been the case for the left most lane. Making this change would further enhance the safety of the working area, ensuring forklifts didn't collide with the office or stairs near the storage structure.

The final design included 7 deep x 4 high x 20 lanes = 560 pallet spaces

Project Parameters

A known factor for consideration in the planning phase was an uneven concrete slab where the storage system was to be installed. However, due to the floor being taken up by storage boxes, the severity of this flooring issue wasn't completely understood until the installation was due to commence.

Once the area was cleared, it became evident that the concrete slab had discrepancies of 10mm to 70mm at some points. Using any more than 20mm of levelling plates under any one upright would be at risk of being knocked from underneath the floor channel by fork tines – potentially causing a complete structure collapse.

This meant that Dexion Solutions needed to quickly find a solution that would provide a safe and secure storage system despite the large discrepancies in floor levels.

To get a comprehensive view of the issue, our installation team checked the levels of the flooring in detail by analysing floor levels using a laser. This allowed the Dexion Solutions design team to map out the Drive-In lanes and the variations in floor levels.

Working in consultation with our steel fabrication company, the Dexion Design team came up with a solution that would not interfere with the proposed storage configuration.

The Solution

To create a level base to the Drive-In Lanes, a toe-down floor channel was employed. This meant that levelling plates could be used inside the channel to level the system – creating a secure place for the plates to attach to.



Levelling plates were secured to the inside of the channel to level the system.

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A toe-down floor channel is also a smart choice in any warehouse storing liquids. If there is a spill the liquid won't sit inside the channel.

At some points, levelling plates were stacked 70mm high to level the upright with the rest of the structure. Any levelling plates of 20mm or more were welded to ensure the plates did not slip.

To further enhance the safety of the storage system, we developed a custom-designed, Bull-nose Protector Plate using 5mm thick steel that would cover the front and a portion of the side of the floor channel. This eliminated the gap underneath the front of the channel, which means forklift tines cannot get caught under the channel and knock the levelling plates.



Custom Bull-nose Protector Plate using 5mm thick steel that would cover the front and a portion of the side of the floor channel.



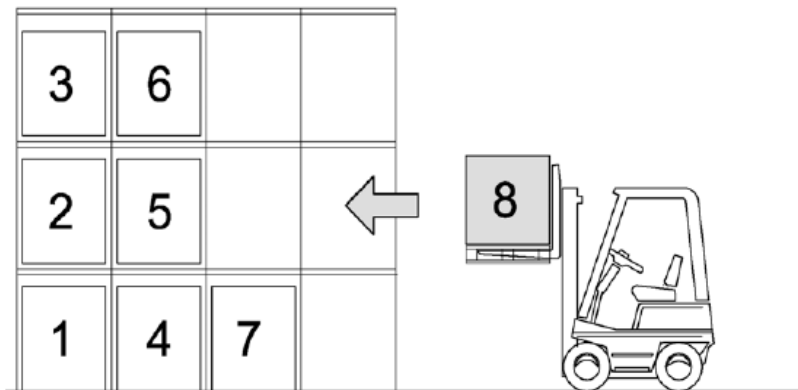
Bull-nose Protector eliminated gaps underneath the front of the channel.

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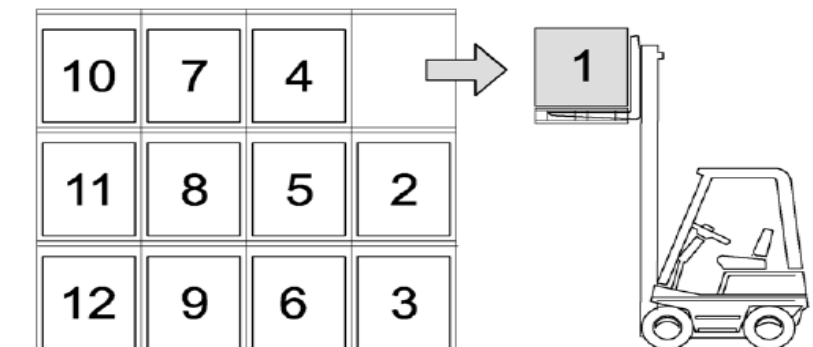
Operator Training

The storage flow of a Drive-In racking system is very different to that of single entry pallet racking. Pallets must be stacked in a particular order to ensure the safety of the structure and those working within it.

LOADING THE SYSTEM



UNLOADING THE SYSTEM



As this was the first Drive-In system installed for Chobani, the warehouse operators were unfamiliar with the loading and unloading process.

To ensure the safety of staff and protect the racking structure, Dexion Solutions conducted a training session and supplied a user manual. Instructions were also included on the Safe Working Load Sign for everyday reference.

Conclusion

This project is a great example of smart design and engineering at work to resolve some unexpected issues with the warehouse foundations. Dexion Solutions quickly overcame the challenges to create a safe, secure and effective storage system. The underutilised area of Chobani's storage facility now has a storage capacity of 560 pallet spaces.

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“Recently, we engaged our long time supplier, Dexion Solutions, for another major project at Chobani. This latest installation was for a large scale Drive-In Racking system. The team were faced with many challenges throughout the project, including an incredibly uneven concrete floor in the section of the warehouse where the storage system was to be installed.

As usual, the team from Dexion Solutions were able to develop effective solutions when presented with these types of challenges. The job was completed within the timeframe projected and to the standard required by Chobani.

Thanks again for being our supplier of choice when it comes to storage needs.”

Shane J Burge,
Chobani Logistics Manager