



Warehouse Optimisation - Toll & Nike



Background

Toll operates the Nike distribution centre at Altona North in Victoria. The custom-built facility measures 18,000 square metres and has receiving, putting away, picking and dispatching functionalities, and the ability to handle in excess of 24,000 SKUs. Containers arrive from the manufacturing facilities in Asia and are dispatched to stores across Australia.

Toll has implemented many improvements onsite to remove waste and optimise productivity, such as continuous remodelling of the warehouse layout as the business changes, incorporating other Nike brands such as Hurley into the supply chain, upgrading the warehouse management system, changing the picking systems and storage profiles, and re-engineering the receiving processes.

The distribution centre (DC) is now at full capacity, and in 2016 Toll and Opturion commenced a proof-of-concept project to reduce load on the warehouse and thereby increase effective capacity. the scope for bypass for any particular item and any particular container. There is also, limited, scope to re-order container arrivals and/or processing order at the DC.



Summary

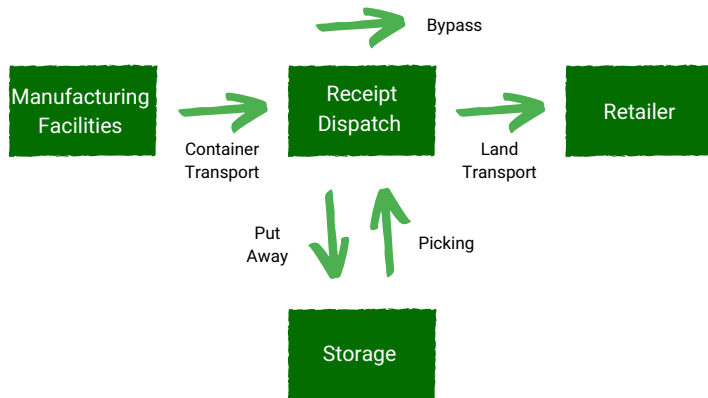
Containers arrive from Asia to the Melbourne Port in a predetermined order. There is limited scope to reorder containers but when any container is received the optimal response is to separate out any goods that have already been ordered by a customer. If that were not done, goods would be put away and then picked. This takes time, costs money and utilises precious storage space.

The solution requires an understanding of the customer orders, both current and anticipated, the expected arrival of containers with their precise contents, and the scope for a bypass for any particular item and any particular container.

There is also, limited, scope to re-order container arrivals and/or processing order at the DC. There are a number of complications that are typical in any supply chain:

- Nike and Toll, and other actors in the supply chain, use different software platforms
- Terminology and referencing changes between actors
- There is some uncertainty; orders can be blocked, changed or cancelled
- Any solution must be simple and easy for the shop floor to use





The Solution

The complete solution takes the container arrival and content data to create an optimal order for processing, and identifies the maximum possible bypass opportunities for each container. This is conveyed to the shop floor via a printed list that is checked off as boxes are selected for bypass.

The Results

The system has been tested in a limited number of orders so that change management and risk is minimised. Even so, the system has identified some 5% of orders that can be bypassed, reducing load by 5% and effectively increasing the capacity of the DC by 5%. Given that a new DC could cost around \$50M, this represents a capital cost saving of \$2.5M. The potential is much higher when more customers are added and the full opportunity of reordering containers is taken.

Potential

This form of warehouse optimisation has further potential benefits that may well be explored in a follow on project, or series of projects:

- Better co-ordination of container arrivals and customer orders.
- Better co-ordination of outbound movements (deliveries to stores).
- Smoothing out workload to reduce the cost of casual labour.

These are only now possible because we can link containers information directly to customer orders.

Customer Perspective

"Toll is always looking for ways to improve productivity and customer service. This project has demonstrated that we can increase capacity without building anything, and it has the potential to go further."

--Rohan Morrow, Toll Custom Solutions

Further Information

Please contact Opturion for a demonstration, or give us some data that we can use to identify potential benefits.



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