



# Optimal Warehouse Management

## Case Study: SA Power Networks

As the state's electricity distributor, SA Power Networks' role is to build, maintain and upgrade the poles, wires and substations that deliver power to around 1.7 million customers.

### Case Scenario

The task of building, maintaining and upgrading the state's electricity network is a hugely complex one where regional depots need to be supplied with parts and components to carry out the daily work. Materials are sourced from a central warehouse that holds approximately 8000 unique parts some of which are picked each day and hauled to the depots using a fleet of trucks.

The challenge faced by SA Power Networks is to have sufficient stock on hand to meet the strictly regulated requirements for high levels of service and be able to satisfy all incoming orders in a timely manner. Demand can vary greatly day by day, posing additional challenges for the staff picking and packaging the requested materials.

### The Solution

SA Power Networks utilises Daitum to solve three related and interdependent operational problems that allows the central warehouse to better deal with fluctuating demand while meeting required service levels:

1. Inventory management: uses historical material movement to project future demand and determine optimal reorder points and quantities across all materials stored in the warehouse and depots.
2. Warehouse picking: groups all incoming orders to minimise the distance to be travelled by staff (and hence time taken) across all the day's picks.
3. Warehouse layout: suggests strategic relocations of materials to improve the overall efficiency of the picking process by placing often-picked materials close to the consolidation area, clustered with other materials often picked at the same time.



### Benefits

- ↑ 10x faster review process
- ↑ 24x historical data
- ↓ 25% distance travelled
- ↓ Overtime
- ↓ 32% overhead access

**“In asking Daitum to fix one problem they came up with ideas to fix more than that problem, which was really good.”**

Andrew Dilena  
Logistics & Operations  
Manager

## The Results

While all 3 solutions deployed solve different parts of the overall logistical challenge, they are highly complimentary to one another and efficiency gains in one area assist efficiency gains in another.

Inventory management ensures the right stock is on hand at the right time and in the right quantities. This allows for the warehouse space to be utilised effectively.

This is the focus of the layout solution that recommends where materials are to be stored for efficient access.

Any layout improvements are directly benefited from by the optimised picking of materials where travel distances can now be reduced even further.

All three solutions provide similar user experiences and utilise the same underlying technology. Their deployment significantly reduces the times it takes the decision maker to derive a plan of action. Furthermore, the amount of historical data that can be considered, as well as additional constraints and objectives is increased considerably, allowing users to generate high-quality solutions.

Andrew Dilena, Logistics and Operations Manager, explained that, *“In asking Daitum to fix one problem they came up with ideas to fix more than that problem, which was really good. They learnt quickly and uncovered other problems/opportunities.”* He added, *“It was pleasing that they solved bigger problems than we initially went to them with.”*

**25%**

Distance  
travelled

**32%**

Overhead  
access

**10x**

Faster review  
process

## Why Daitum

At Daitum, we understand that making good operational decisions is hard. And none are harder than rostering.

With Daitum Rostering you will spend less time rostering plus deliver a roster that better meets your organisation's needs.



**Accessible**  
No specialist  
skills required



**Familiar**  
Simple, easy to  
use interface



**Universal**  
Any problem  
Any industry



**Scalable**  
Cloud based  
Elastic computing



**Optimal**  
Algorithms learn  
from experience



**Efficient**  
ROI measured in  
weeks not years

**“It was pleasing that they (Daitum) solved bigger problems than we initially went to them with.”**

Andrew Dilena  
Logistics & Operations  
Manager

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