

Saving 39,000,000 KWH per Annum For Woolworths Supply Chain

OVER 14 DISTRIBUTION
CENTRES

13,000
LIGHTS RETROFITTED

700,000 m²
70 HECTARES

80% DRY
20% CHILLED

THE SAVINGS

39,000,000 KWH
PER ANNUM

31,700
TONS CO₂ PER ANNUM

THE SIGNIFICANCE

A third of the power
generated by the \$146M
Nyngan Solar Farm

Or twice the power
generated by the \$50M
Greenough River Solar
Farm

HYPERION LIGHTING SYSTEM

Autonomous Intelligence
Superior Lifetime
Ceramic LED
Rugged Transformer based
power supply
Optics to maximise savings
Designed to dim and switch
without reducing lifetime

COMPUSPEC ADAPTIVE
NETWORK

A self-establishing wireless
network that interfaces with
Hyperion LED fixtures and
selected devices (including
MHE & forktrucks)

THE PROBLEM

Woolworths had an emissions reduction target, to reduce carbon emissions from stores, distribution centres and offices by 40% and return to levels from the baseline year of 2006/2007.

Although LED technology has proven to be an energy breakthrough, Woolworths significant energy reduction targets could not be met by a simple lighting retrofit. To hit these targets a new generation of lighting control technology was needed, matched with a suitable LED solution. Although requiring a larger initial capital outlay, the increased investment was more than offset with increased savings and longer lifetime provided.

Compuspec's Hyperion LED fitting and Adaptive Network is designed specifically for large warehouse facilities and has multiple features that optimise the savings and preserve the lifetime of the solution. It will typically achieve a 90% reduction in energy use, while significantly improving lighting outcomes.

THE EQUATIONS

Average energy use per light fitting was reduced from 438W down to 53.8W, a saving of 88%, while light levels were enhanced - in many cases doubled.

Ceramic LEDs provide exceptionally long life time and minimal lumen depreciation.

A toroidal transformer and proprietary power supply eliminates unreliable capacitors in the LED driver.

Constant input power to light output ratio provides enhanced savings even when dimmed.

PIR motion sensors in each fitting, that can control multiple fittings.

Autonomous intelligent fixtures that "plug & play" in a self establishing wireless network.

THE RESULT

A system that intelligently responds to the need for lighting, providing light where and when it is needed, and dramatically minimising energy use.

Woolworths are continuing to explore the use of the additional capabilities to enhance their operations from an energy, safety and operational perspective.

All of the environmentally controlled facilities have been installed with the capability of continuously monitoring external temperature and reporting.

The established network enables communication between sensors at any point of the facility, including mobile sensors on materials handling equipment.