

## Swire Cold Storage's Search for Maximum Lighting Efficiency Leads to Intelligent LED Upgrade

### Achieving Greater than 90% Lighting Energy Savings Across Four Facilities

With a network of temperature-controlled facilities spanning more than 68 million cubic feet across Australia, Swire Cold Storage provides logistics services and supply chain solutions, including temperature-controlled warehousing, refrigerated transport and distribution services to a broad range of businesses. Their customers include leading Australian and international food producers, distributors and retailers as well as export bulk commodity clients and beverage and pharmaceutical products.

Swire Cold Storage is deeply committed to sustainable growth and development as a path to long-term value creation and as part of this commitment, the company has made portfolio-wide energy efficiency a high priority. In fact, by following the Australian Government Energy Efficiency Opportunities (EEO) legislation, the company has achieved a reduction of over 1,000,000 kWhrs in the first 18 months of its commitment. One key element of this program is Intelligent LED Lighting, which is dramatically reducing lighting energy use across a number of sites.

After considering a range of LED products, Swire Cold Storage determined that integrated intelligence — sensing, control and wireless management — was the key to achieving a dramatic energy savings contribution from lighting. They elected to implement the Digital Lumens Intelligent LED Lighting System for the first stage of lighting retrofit projects at Laverton (VIC), Hemmant (QLD), Lurnea (NSW) and Dry Creek (SA) and the overwhelming success of these installations lead to a second and third stage of projects being identified.

Comprising a network of intelligent LED fixtures — all with integrated occupancy sensing, power metering, a microcomputer and wireless networking capabilities — managed by LightRules energy management software, the Digital Lumens Intelligent Lighting System provides light only when and where employees are present. Lights are on in the areas where employees are working and off or dimmed when no one is present. And, each fixture reports its power-consumption, occupancy sensing, and on/off/dimmed data back to LightRules, which shows exactly how much energy is being used and where.

Working with Maser, a specialist provider of Energy Efficiency solutions, Swire performed detailed audits on second stage facilities including Banjup (WA), Welshpool (WA), Homebush (NSW) and Clayton (VIC). The Maser team analyzed existing 400W lighting, energy costs, maintenance plans, and facility occupancy patterns, then provided recommendations on proposed lighting upgrades, including detailed calculations of potential energy savings.

Maser managed the installations and system commissioning to ensure project success and alignment with Swire Cold Storage's established project goals. By taking an efficient and timesaving approach, the team was able to minimize disruption and costs while performing wholesale lighting upgrades.



### SWIRE COLD STORAGE

#### LOCATIONS

Laverton (VIC), Clayton (VIC), Hemmant (QLD), Welshpool (WA), Lurnea (NSW), Banjup (WA), Dry Creek (SA), Homebush (NSW)

#### PREVIOUS LIGHTING SOLUTION

400-watt HPS

#### PROJECT TYPE

Lighting Retrofit

#### ENVIRONMENT

Cold Storage

#### LIGHTING ENERGY SAVINGS

1,000,000 kWhrs annually  
Lighting energy use reduced by 90%

#### RE-LAMPING / RE-BALLASTING

N/A

#### LIGHTING MAINTENANCE COSTS

\$0 annually



Maser installed the Digital Lumens Intelligent Lighting System across multiple Swire Cold Storage locations, including Laverton (VIC).

## RESULTS? MORE THAN 90% LIGHTING ENERGY SAVINGS

The system has met and/or exceeded initial energy savings estimates, provided by Maser with results as follows:

- Banjup, Western Australia = 273,851 kWh per annum or 94.80%
- Welshpool, Western Australia = 558,328 kWh per annum or 95.32%
- Homebush, New South Wales = 776,977 kWh per annum or 94.01%
- Clayton, Victoria = 111,015 kWh per annum or 95.41%.

“In addition to impressive energy savings, LightRules gives us detailed information on the savings and justification to retrofit additional facilities in a timely manner,” offers Engineering Project Manager, Ramana Haran. “Further, having operational data about occupancy patterns — down to usage patterns in particular aisles and rooms — is valuable perspective on how our facilities operate, how we can support our staff, and how we can further optimize inventory placement.”

With demonstrated energy savings across multiple facilities and no maintenance or re-lamping required, Swire Cold Storage is expanding its deployments of Digital Lumens Intelligent LED Lighting System not only at the third stage of retrofit projects but also to new construction sites like the recent Laverton Stage 2 (VIC).

“Historically, lighting was an energy-intensive, high-maintenance and under-performing challenge in cold facilities,” continued Haran. “With the move to intelligent lighting, we are achieving our energy efficiency goals, while gaining data-driven perspective on business operations. In fact, our investments in efficiency are paying dividends in other areas of our business where lighting has never had a role before.”



Inside the Laverton facility, LED light fixtures provide excellent light and require zero maintenance.