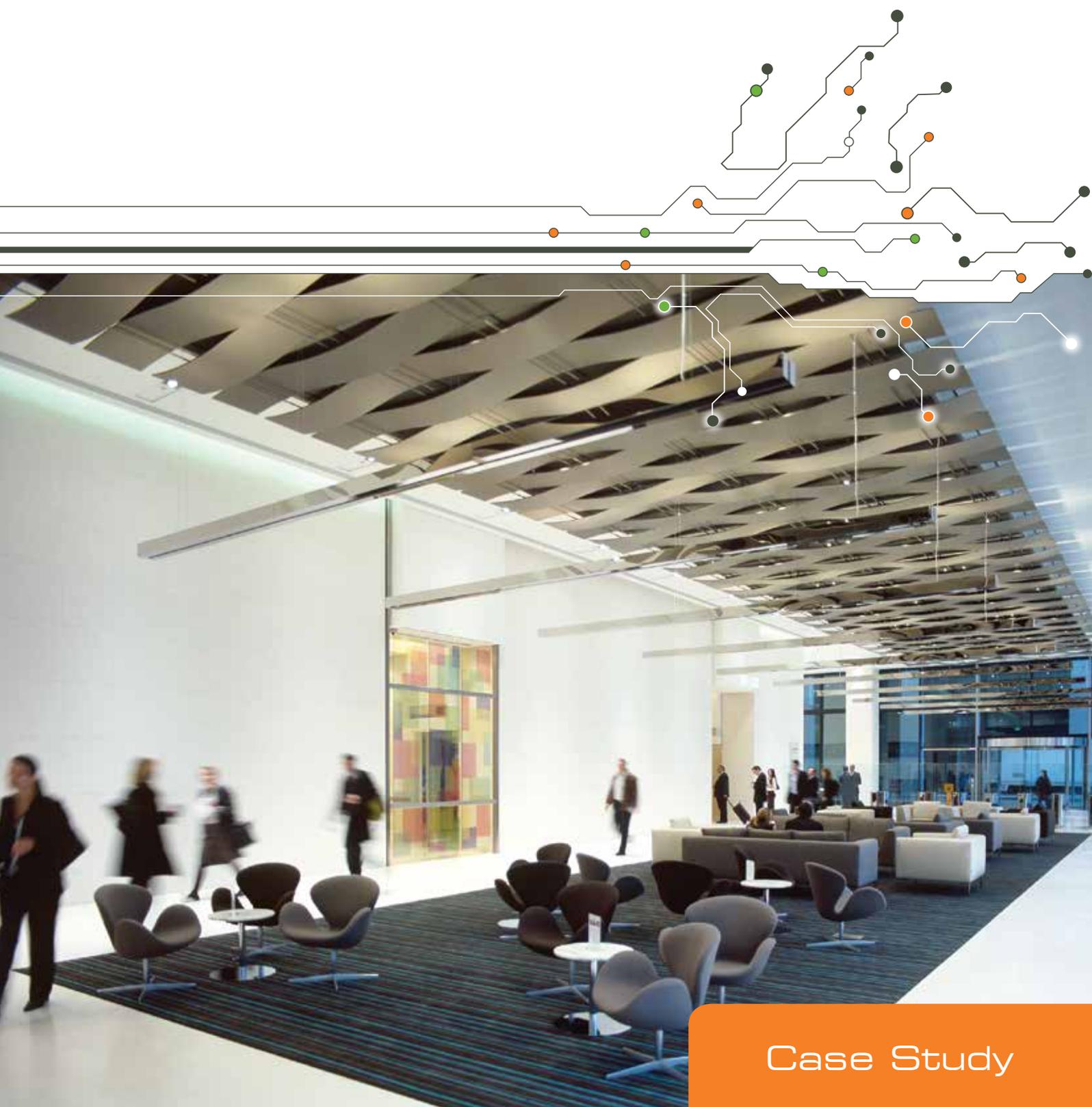


mySmartCTI™

Freshwater Place

The Right Strategy



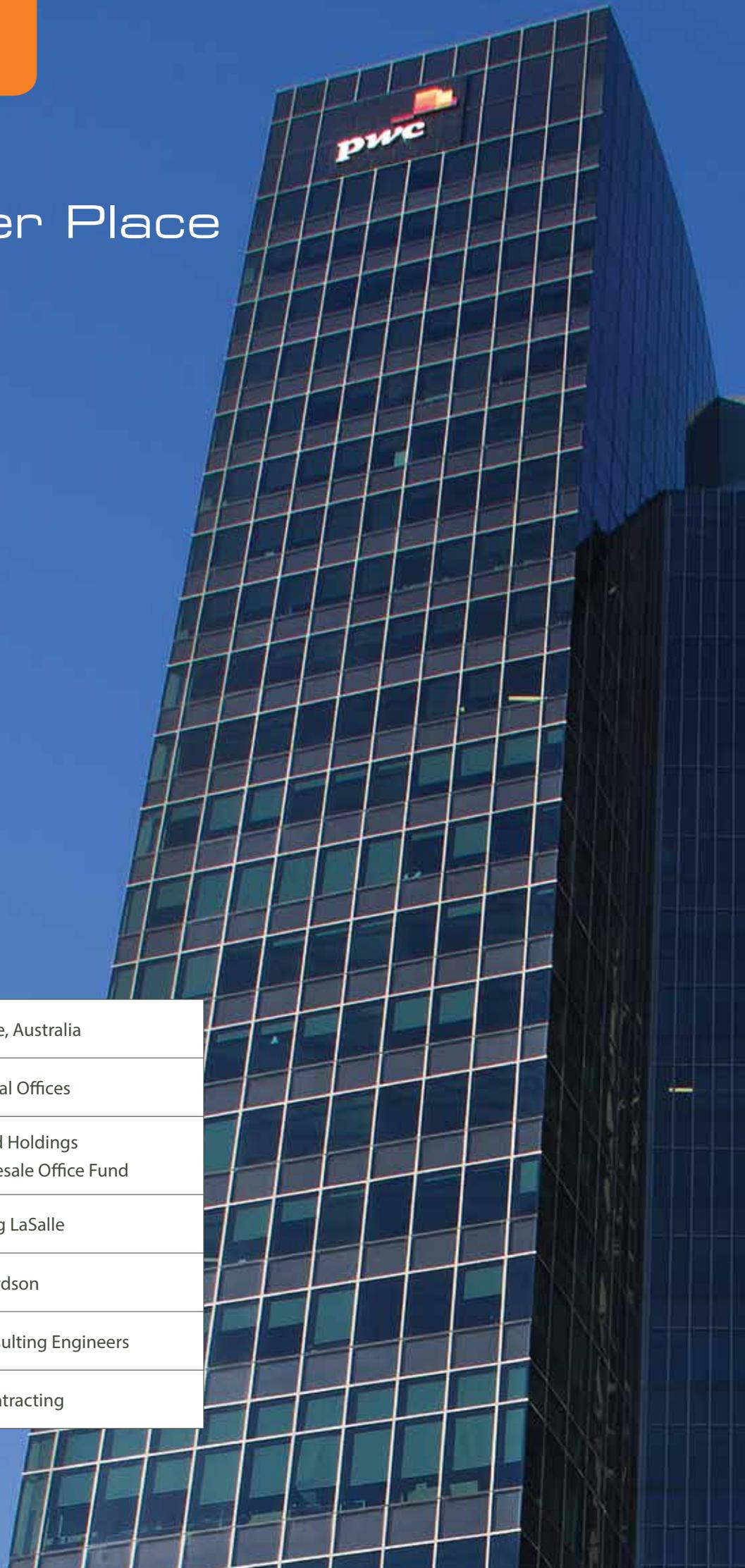
Case Study

Freshwater Place

The Right Strategy

Project Details:

Location	Melbourne, Australia
Type of Building	Commercial Offices
Investors	Australand Holdings GPT Wholesale Office Fund
Building Managers	Jones Lang LaSalle
Architect	Cox Richardson
Electrical Consultant	AHW Consulting Engineers
Electrical Contractor	Nilsen Contracting



FRESHWATER PLACE IS AN AWARD WINNING MIXED USE MASTER PLANNED DEVELOPMENT ON THE BANKS OF THE YARRA RIVER IN THE HEART OF MELBOURNE'S ARTS AND ENTERTAINMENT PRECINCT. TWO PREMIUM GRADE COMMERCIAL TOWERS AND A 60 STOREY RESIDENTIAL APARTMENT BUILDING SURROUND AN URBAN RETAIL VILLAGE AND PIAZZA OFFERING RESIDENTS AND OFFICE STAFF A VIBRANT ENVIRONMENT IN WHICH TO LIVE AND WORK.

The first office tower to be constructed 2 Freshwater Place, also known as 2 Southbank Boulevard, was completed in 2005. At 55,000m² spread over 38 levels, 2 Freshwater Place was designed for occupancy by leading edge, high technology organisations with current tenants including international firms Price Waterhouse Coopers and Microsoft.

As the second stage of the development Twenty 8 Freshwater Place is a 34,000m² 25 level premium grade building. The design by architect Bates Smart uses a side-core design to provide expansive open floor plates and extensive ESD work was undertaken in order to target a 4.5-star NABERS energy rating.

mySmartCTI was the original C-Bus lighting control integrator during the construction and the majority of the tenancy fit outs at Twenty 8 Freshwater Place. Based on our project knowledge and the quality of our service delivery **mySmartCTI** has been the exclusive provider of C-Bus lighting controls and programming to Freshwater Place managing agents Jones Lang LaSalle since 2009.



2 Freshwater Place

WITH 95% OF THE BUILDING LEASED ON ITS COMPLETION, 2 FRESHWATER PLACE WAS OCCUPIED IN 2005. REFLECTING ITS PREMIUM GRADE POSITIONING 2 FRESHWATER PLACE WAS BUILT TO ACHIEVE THE HIGHEST ENERGY EFFICIENCY.

Unfortunately due to operational issues the building only achieved a 2.5-star NABERS energy rating, well below its design capability. For Stage One of the energy efficiency program Engineering Services Manager, Kok Lim Ng, targeted the building's C-Bus lighting control system. This had been completed by an integrator no longer in business, and Lim believed that by reprogramming the system significant energy savings could be made.

As a first step an audit of the building's lighting was undertaken. In any commercial office building there are two main categories of lighting; tenancy office lighting and base building lighting. Base building lighting can be further segmented into grey areas; plant rooms, loading docks etc. and key areas; main foyers, lifts, lift lobbies, building perimeter and toilets.

Based on the successful delivery of lighting controls at Twenty 8 Freshwater Place, **mySmartCTI** were engaged in July 2009 to act on the findings of the audit with changes to the base building lighting control strategy at 2 Freshwater Place.

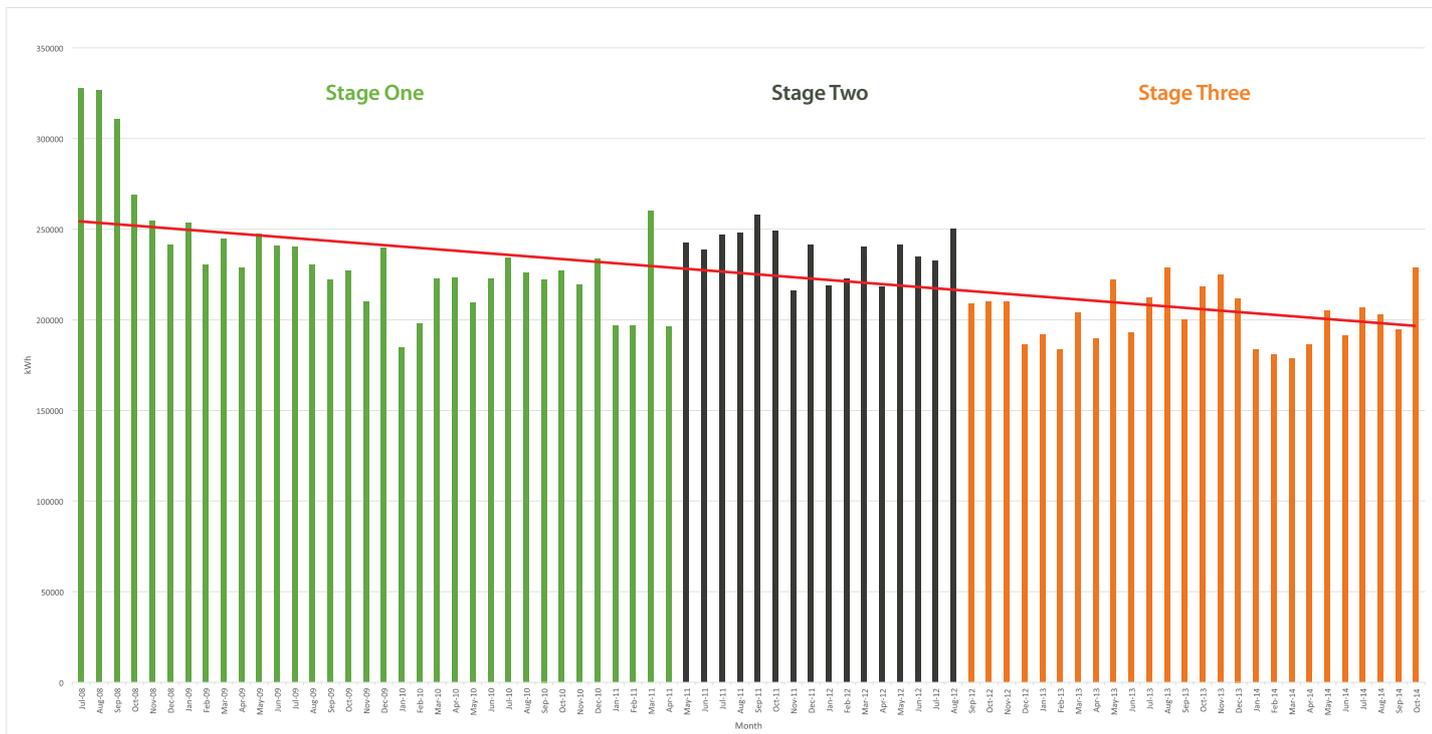
The reprogramming by **mySmartCTI** included;

- > Aligning the building operation and after-hours schedules
- > Rescheduling the grey areas to the lowest possible operational hours
- > Reprogramming key areas to make use of natural light
- > Using sensors to shut down key area lighting when not required
- > Ensuring all lighting is shut down when a floor is unoccupied after hours

By September the optimised lighting control strategy at 2 Freshwater Place had reduced consumption by 18,400kWh, a saving of 7.7% over the pre-audit monthly figures.

Over the period from July 2008 to July 2014 the optimisation of the lighting control strategy, along with a lamp replacement program in Stage Three, has reduced the lighting energy consumption by 37%. Further since January 2011, 2 Freshwater Place has consistently gained a 4.5-Star NABERS energy rating.

Overall Lighting Power for Freshwater 2





Twenty 8 Freshwater Place

Stage One

The nature of the strategy for stage one is aggressive. Wherever possible lighting is turned off to reduce energy consumption. This is achieved through programming and lights are either permanently switched off or the amount of time they are on is drastically reduced.

Stage Two

After 18 months feedback from the buildings occupants was used to determine which of the disabled lighting should be turned back on. An investment in more sophisticated programming is required to deliver the lighting levels requested by occupants whilst still keeping energy consumption below that recorded at the start of Stage One.

Energy consumption in Stage Two will increase over that recorded at the end of Stage One however savings made in Stage One can be used to offset the increased cost.

Stage Three

At the end of Stage Two the majority of savings possible from programming will have been made. Other options including upgrading of lamps are now implemented while programming changes for final areas including carparks are undertaken.

mySmartCTI were instrumental in the delivery of Twenty 8 Freshwater Place's lighting system, designing and commissioning the base building and all bar one tenancy area control systems. Initially Twenty 8 Freshwater Place was designed as a 4.5-star NABERS energy rated building however since completion of the base building mySmartCTI has been working with Jones Lang LaSalle to optimise the entire building the NABERS energy rating has reached 5-star.

What is more, is that both 2 and Twenty 8 Freshwater Place have gained their 4.5 and 5-Star NABERS energy ratings unassisted, i.e. zero percent Green Power.

From the Engineering Services Manager

KOK LIM NG IS THE ENGINEERING SERVICES MANAGER FOR JONES LANG LASALLE AT FRESHWATER PLACE. RECOGNISING THAT THERE WERE SOME SIGNIFICANT ISSUES IN THE OPERATION OF 2 FRESHWATER PLACE, LIM SET TO WORK TO TRY AND TURN THE BUILDING'S PERFORMANCE AROUND.

The Strategy

Lim's first call was to measure and assess the building's energy usage. By conducting an audit Lim was able to determine exactly how and where energy was being used. "The first goal must be to establish a baseline for energy usage", says Lim. "After that you can work to isolate seasonal and daily variances that impact on performance."

Invest to Return

Many in our industry find it can be hard to ask owners to invest in returns they feel may not benefit them directly. Lim's initial approach was to look for operational savings in order to create surplus funds. Once funds were available they were used where they will give the quickest returns from the smallest investment.

Optimising lighting automation and control is often the quickest method to get a quick return. "With mySmartCTI charging an hourly rate many changes can be made in a very short period of time for not a lot of money," says Lim. "The critical factor is that the integrator is suitably experienced and able to quickly understand what changes are required and how best to implement them."

Nothing is in Isolation

Another point to consider is that no change acts in isolation. A simple change in the programming of the lighting leads to a reduction of energy used and also of heat generated. A reduction of heat generated by lighting also reduces the load on the air-conditioning. A reduction in the air-conditioning load reduces the baseline energy and water consumption. "While these reductions may not be huge, it is a constant loop of analysis, change, more analysis and more change that leads to a fully optimised building."



Design » Deliver »
Optimise » Guarantee



About mySmartCTI

mySmartCTI is an Australian company that prides itself on making a positive difference for its customers, their employees and the environment. **mySmartCTI** helps to create the most energy and resource-efficient environments possible.

Using the latest technologies with highly trained consultants and service technicians, **mySmartCTI** is able to optimize buildings and outdoor built environments so they are more comfortable and use less energy and resources with a resulting reduction in ongoing operational costs.

Established, originally as Complete Technology Integrations (CTI), in Sydney in 2001 before being rebranded in 2011, **mySmartCTI** remains wholly Australian owned. With almost 50 staff it has offices in Sydney, Melbourne, Brisbane, Canberra and Perth. The company operates across a range of markets, including hospitality, education, health services, aged care, retail, residential, defence and Industrial.

mySmartCTI's solutions include:

- › Lighting control solutions which provide daylight harvesting and timed control
- › Basic and high performance metering and reporting solutions for energy, solar, water and gas usage
- › enGauge behavioural change displays for showing energy usage and savings
- › Fully integrated building automation systems providing lighting and façade management control, audio-visual interfacing, HVAC control, reporting and central control.
- › Hotel room control systems for controlling lighting, HVAC and blinds with full integration to the hotel check-in system
- › Stand-alone intelligent motion sensors
- › Unique custom solutions



mySmartCTI™

ABN: 85 097 753 458

1300 697 627

www.mySmartCTI.com.au

SYDNEY | MELBOURNE | BRISBANE | CANBERRA | PERTH