



Vicinity Centres

Adelaide, South Australia

Delivered by
Leading Edge Automation /
Alerton Australia using
Optergy Software

Background

Hilton Plaza is a small neighborhood shopping plaza located in Cowandilla, South Australia. The site operates seven days a week and accommodates one major tenant, ten minor retailers, a café and has 228 parking spaces available for shoppers.

The common mall area air conditioning is served by two roof mounted units and parking for the site is via an enclosed parking garage with exhaust and an external open-air parking garage. All plant and lighting was previously operated by stand-alone timers, adjusted seasonally.

Remote connectivity, visibility and integration were all impossible with stand-alone timers and made it extremely hard for the facilities team to make site changes and measure the performance results in real time.

Rising energy prices put pressure on the facilities team to investigate monitoring tools and energy saving opportunities. Subsequently Leading Edge Automation/Alerton Australia was engaged to carry out a detailed site audit and provide recommendations.

Opportunity

During the detailed site audit, there were a number of Energy Conservation Measures (ECM's) identified:

- The operation of the underground parking exhaust fans could be better managed by implementing fan control based on the number of cars entering and exiting the car park and Carbon Monoxide (CO) levels.
- The two roof-top mounted air conditioning units servicing the mall areas could be integrated and controlled by a centralized building automation system.
- Garage lighting could be better managed through ambient lighting condition-based control rather than simple time clock operation. This would allow the lighting to module its hours of operation as the local conditions require.

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Solution

- An Optergy Building Management System (BMS) was installed to remove the stand-alone time clocks and provide Integration, remote connectivity and time scheduling control for mall air conditioning, lighting, and parking garage fans.
- Demand based lighting level (Lux) monitoring and control for external parking and security lighting.
- Push button switches were installed in the cleaner's room which provided adjustable time period control for after-hours mall and parking area lighting.
- Installation and programming of variable speed drives (VSDs) for the enclosed parking garage exhaust fans coupled with Carbon Monoxide (CO) monitoring and fan operational control.
- An electrical meter that records total energy use, power quality characteristics for the incoming power supply, and "time of use" details of power consumption was installed. This data and reporting can be accessed via the local control panel.
- Site work was coordinated with the site's maintenance electrician to ensure no inconvenience was caused to shoppers and tenants. Work in the parking garages and other miscellaneous work was completed outside of normal business hours to ensure the mall and parking garages remained completely accessible during operating hours.

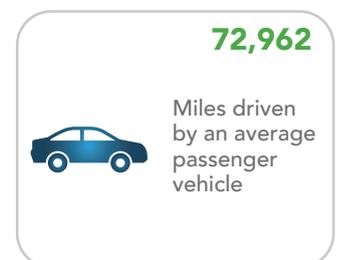
Results

Savings per year
Simple payback

\$14,000
Less than one year

- The parking garage fan operation and energy use were logged over a period of one month prior to commencing the upgrade for project benchmarking. In the first year the project achieved a **\$10,000** reduction in energy costs compared to the logged benchmark. The project has delivered energy savings greater than estimated.
- Remote access to the Optergy BMS allows site maintenance staff to remotely connect to monitor, report and make simple adjustments. A reduction of over **\$4,000** was achieved when comparing service callout costs to the previous year.

Energy Savings Equivalent



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