

Ardent Leisure BMS Upgrade Delivers 20% Energy Savings

FOREWORD



Ardent Leisure is one of Australia's most successful owner/operators of premium leisure assets including 52 bowling centres and amusement arcades, 77 health clubs, three theme park attractions and seven marinas.

Rick Johnson, Energy Efficiency Manager for Ardent Leisure Group, wanted to make sure that the business had complete control and visibility over equipment

on site to reduce operational costs. They appointed leading energy efficiency specialist SEDAC Energy Management as their OEM supplier to lead the project. With a proven track record in delivering significant savings and quick paybacks for customers across the Refrigeration, HVAC, BEMS and Energy Management sectors SEDAC EM were perfectly positioned to deliver the project.

THE CHALLENGE

Ardent Leisure identified that the HVAC systems across multiple sites were not operating efficiently. Maintenance was a challenge as the existing control system was proprietary, requiring specialist technicians to program and maintain

it. Replacement parts were also extremely expensive as they often needed to be replaced and backed by limited, short-term warranties.

The project also had to be fulfilled in a compressed timeframe to avoid

any downtime and disruption to site comfort levels and customer access. Sites also needed to be managed in conjunction with the client and the maintenance service providers to ensure they were confident with the RDM system for optimal operation.

THE SOLUTION

SEDAC EM proposed the RDM Control System to expand the visibility and control of the assets and to allow for more efficient operation. The system utilised RDM's Intuitive range of programmable logic controllers featuring their free lifetime PLC software TDB, to create complex, bespoke control solutions. RDM's TDB software also allowed for the fine tuning of site assets, ensuring the most efficient operation without compromising comfort levels. At the heart of the solution a DMTouch, RDM's control and monitoring system front-end, gathered all of the data making it available in real-time. The DMTouch facilitated the advanced features of the solution, including

remote access via a user-friendly graphical interface without the need for proprietary software.

The sophisticated control solution, incorporating all HVAC plant, delivered more efficient economy cycles, time schedule flexibility, and remote access for interrogation.

The system also delivered reduced maintenance costs and peace of mind due to the included five-year warranty.

A number of the sites operated Air Change® Package Units containing heat exchangers to allow for efficient operation. The RDM System heightened control

and visibility by maximising the features within the existing system. Optimal control of the Variable Speed Drives and Economy Control Dampers dramatically improved the efficiency of the units operation. This was completed by installing temperature sensors in the Zone, Air On Coil, Air Off Coil, Return Air, Outside Air and Humidity on each unit. All sensor readings were then used to optimise the package unit control using custom logic within the Intuitive controllers utilising the TDB software. Having live visibility across each package unit allowed for fine tuning and optimisation to ensure all settings were efficiently calibrated.

THE BENEFITS

The solution not only provided fast returns on investment but enabled maintenance technicians to fault find issues much faster than with the previous system, reducing maintenance charges and dramatically improving the HVAC system's efficiency. Following the completion of certain sites

the RDM system highlighted pre existing issues associated with plant and equipment which allowed for efficient rectification and site optimisation. The RDM system continues to deliver full visibility and control across existing plant and equipment, facilitating complete control and optimal asset operation.

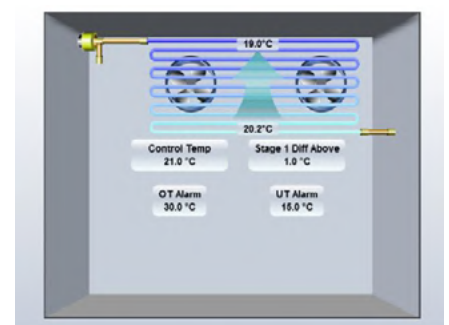
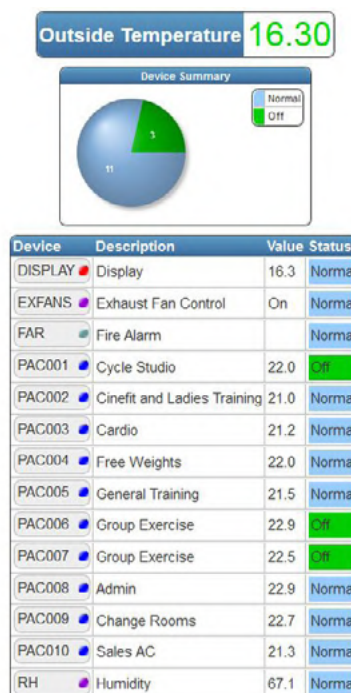
While reducing energy consumption, and the associated costs, the climate controlled environment gives customers optimal conditions and a comfortable leisure environment – ensuring that they have an enjoyable experience across the venues, boosting their loyalty and extending the customer lifecycle.

SUMMARY

Ardent Leisure has now completed eight sites, resulting in energy reductions of 20% and an estimated ROI of less than one year.

"The RDM solution that SEDAC EM implemented has significantly improved our control and visibility on site, which has resulted in large energy and maintenance savings. The remote access and intuitive control enables me to review site performance and asset efficiency from anywhere at any time with internet access."

Rick Johnson – Energy Efficiency Manager, Ardent Leisure Group



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