Macquarie Primary School Load Management Project

DELIVERED BY IES AUTOMATION, IN COLLABORATION WITH ESBS AND ACT GOVERNMENT PROPERTY, INFASTRUCTURE AND ELECTRIFICATION, INFASTRUCTURE CANBERRA TEAM.

TAKE CONTROL OF YOUR POWER DEMAND

HOW IES AUTOMATION USED BMS LOAD MANAGEMENT TO SOLVE ELECTRICAL CAPACITY CONSTRAINTS

2026

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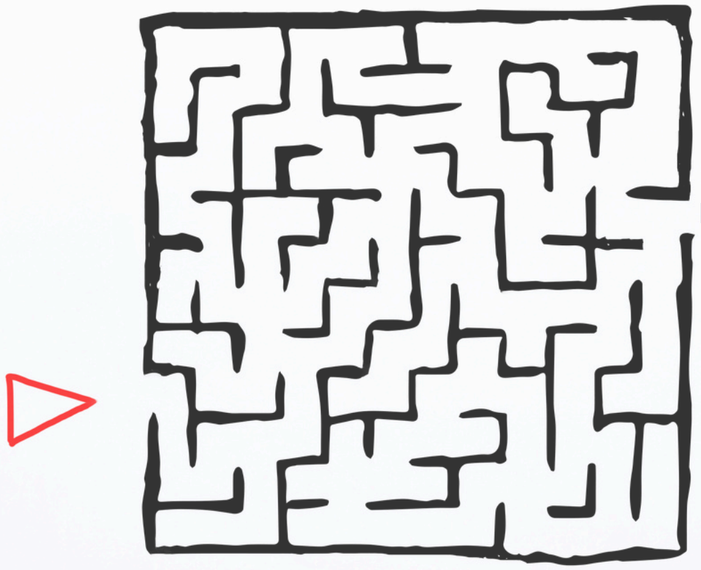
INTRODUCTION + PROBLEM

IES Automation delivers intelligent building control solutions that enhance system performance, improve reliability, and provide clear, user-friendly visibility across building services.

Macquarie Primary School was experiencing electrical capacity constraints following a transition from gas to electric HVAC systems, with increased demand contributing to high peak loads that risked triggering a power blackout and disrupting school operations.

The objective was to use the existing Building Management System (BMS), enhanced through the IES platform, to actively manage electrical demand and maintain safe operating limits while supporting ongoing infrastructure upgrades and without impacting occupant comfort.



IES AUTOMATION

THE CHALLENGE

Macquarie Primary School was operating close to its electrical capacity limits, creating a risk of nuisance tripping and system outages.

With increasing pressure on electrical infrastructure across Canberra and strict capacity limits enforced by Evoenergy, required electrical upgrades involved long lead times, significant cost, and potential disruption to school operations. This project provided continuity of service and safe operation.

HVAC systems were a major contributor to peak demand, particularly during morning warm-up periods, where multiple units operated simultaneously without coordination. This resulted in high coincident loads during peak periods and no ability to actively manage demand.

In addition, the site had limited visibility of real-time electrical usage, making it difficult to identify when peaks were occurring or how systems were contributing.

A more proactive approach was required to manage demand, reduce risk, and maintain reliable operation across the site.

THE SOLUTION

IES Automation, in partnership with ESBS and the ACT Government Property, Infrastructure and Electrification team, implemented a smart load management strategy using the existing BMS, enhanced through the Reliable Controls platform and RC-WebView interface.

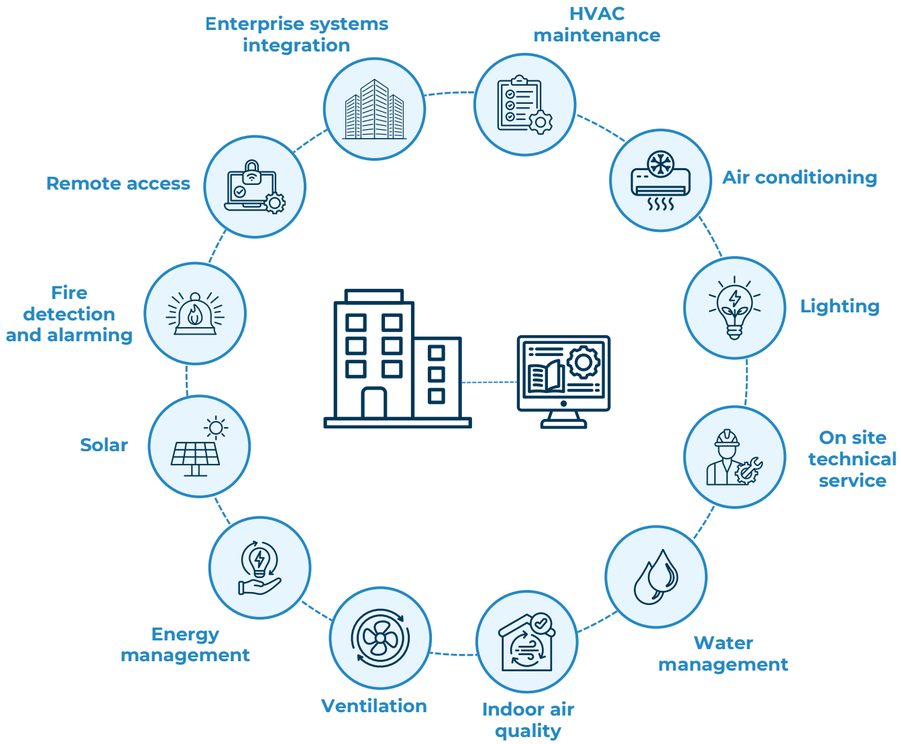
Smart energy meters were integrated to provide real-time visibility of electrical demand, allowing the system to respond dynamically as loads increased.

A staged load management strategy was introduced, where non-critical HVAC loads were automatically reduced during peak demand to maintain safe operating limits.

Additional strategies, including electrical load balancing, demand-based temperature adjustments, staggered restarts, and off-peak DHW load management, further improved performance while maintaining occupant comfort.

RC-WebView provided clear, accessible visualisation of system performance, enabling stakeholders to monitor demand and support ongoing optimisation.

The IES BMS solution can integrate and control, but not limited to:



RESULTS & IMPACT

The new control strategy reduced peak electrical demand and improved stability across the site, significantly lowering the risk of overloads and outages.

By actively managing system operation, the IES implemented BMS strategies reduced unnecessary energy use and reduced immediate demand pressures and supported safe operation while longer-term electrical upgrades are progressed.

Improved visibility of energy usage also enables ongoing optimisation and identification of further energy saving opportunities.

WHY THIS MATTERS

With increasing electrification and network constraints across Canberra, many sites are reaching their electrical capacity limits.

This project demonstrates how an intelligently configured BMS, combined with real-time energy metering and clear visualisation, can support or, in some cases, reduce the need for infrastructure upgrades depending on site conditions.

By actively managing demand, buildings can operate more efficiently, improve reliability, and unlock energy savings through smarter, data-driven control.