Box Hill Institute

Leading tertiary facility relies on Switch Automation's Platform to manage campus energy infrastructure and further sustainability education programs.

Executive Summary

Box Hill Institute is at the forefront in sustainability education in Australia. The Technical and Further Education (TAFE) engages all members of the faculty and student body in their energy conservation and management programs. The Institute faced a challenge in showing real-time energy usage to stakeholders. Switch Automation's Platform provided a means of displaying energy statistics in a public area and presenting the information in an intuitive graphical display format. The platform's "Green Dashboard" provides usage and environmental data that can be viewed in a web browser, enabling anyone to review the performance of the underlying renewable technology. This has also served to raise awareness of the Institute's sustainability program and increased the sense of individual participation.

Business Drivers

To Box Hill Institute needed to raise awareness of energy usage within the main campus. To ensure greater participation and stakeholder engagement, sustainability projects had to provide visibility into energy usage and the inputs contributed by renewable solar and wind power generation. An important goal was to create a sense of community and ensure that individual investment in sustainability objectives was recognised. To meet operational goals, the usage statistics had to be presented in an easily understood graphical format to assist with delivering better learning outcomes.

- Support learning objectives defined by the Institute's syllabus
- Provide real-time reporting of renewable electricity generation and the contribution solar and wind makes to overall energy usage
- Extend the reach of the "green skills learning hub" by making sustainable building design and management easily accessible to increase the skills of electrical, plumbing and air-conditioning apprentices

Requirements

To achieve Institute's business goals, the data logged from collection devices located across the campus had to be aggregated. The solution must be scalable, allowing new technology to be added with ease. It also had to be able to grow and meet the evolving needs of the syllabus and day-to-day requirements of campus energy management. It was critical to build the solution upon open standards to ensure future proofing of the investment.

- Provide large-screen TV's displaying usage metrics on "green dashboards" in highly trafficked areas for the information of visitors, tutors and students
- Provide a web-portal that displayed data from the campus energy infrastructure and made the usage data accessible from any web browser
- Correlate electricity usage with the contribution made from solar panels and wind turbines and measure rainwater tank and solar hot water variables
- Display environmental conditions including wind-speed and direction, internal and external temperature and the hours of sunlight

Client Overview

Box Hill Institute is located 20Km from the Melbourne CBD. The organisation delivers vocational training courses and is the recipient of numerous awards from both Government and industry. The Institute was recognised by the Australian Information Industry Association (AIIA) for its commitment to sustainability, receiving the "iAward" for the development of the Vocational Graduate Certificate in ICT Sustainability in 2010.

BOX HILL INSTITUTE
Global Educators™

- Location: Australia
- Industry: Education
- Founded: 1924
- Employees: 950
- Students: 39,500
- Revenue: A$127M (2010)
- Locations: 6
- URL: http://www.bhtafe. org.au

"Switch Automation was able to provide Box Hill Institute with a simple solution to a complex problem"

Pat Italiano

Chief Information Officer
Box Hill Institute

Case Study

Box Hill Institute

The Solution

The Switch Automation platform connects using the "Cloud" and aggregates all of the information collected from the data logging devices. The solution uses standard Internet Protocols (IP) to transfer data over existing network infrastructure making deployment and administration easy. The initial system design goals were focussed on reporting, but with the flexibility and scalability of the Switch Platform, energy management controls are now being implemented. The upgrade will first control the C-Bus lighting system with other enhancements in various stages of planning.

- A complete cloud based energy management solution
- Initial goals are to measure and monitor resource usage with plans in place to expand the system to improve overall energy management
- The system integrates easily with open standards based equipment from vendors like SMA, Clipsal, Campbell Scientific, Selectronic and Siemens

Technical Overview

The Switch Platform is an open standard based "cloud" framework able to monitor and manage energy usage over an IP network. The Platform works seamlessly with current open conventions and with most legacy protocols. Because of the open architecture, compatibility with proposed standards assures a future proof investment.

- Switch Automation MCR-SRV Switch Control Server
- Switch Automation Green Dashboard Module
- Microsoft "Azure" Cloud hosting framework
- Open Standards IP Network Protocol

"Our students, staff and visitors can see up front the changes we are making, and in turn that encourages them to consider how they can be more sustainable in how they live their lives"

Pat Italiano

Chief Information Officer
Box Hill Institute

About Switch Automation

Switch Automation (Switch) is a market leading provider of automation solutions for commercial, industrial and residential property. We lead the industry delivering our service platform through flexible and scalable cloud-based global framework powered by Microsoft's "Azure" infrastructure. Switch provides energy management for commercial and residential property with a combined value of more than $3Bn in Australia, Asia and New Zealand. The company is headquartered in Sydney, Australia where it undertakes research and development, actively supported by the Australian Government.

Summary

When visitors enter the main reception area at the Institute's campus in Box Hill, the Green Energy Dashboard display never fails to impress. Usage metrics published to the Internet in real-time, show energy consumption, and because of the intuitive graphic interface, is easily understood. This helps articulate the TAFE's sustainability goals and provides a point-in-time snapshot of how efficiency targets are being achieved.

- Active participation nurtures sustainability initiatives
- Energy management monitoring enables meaningful understanding of energy usage and assists strategic planning to improve conservation measures
- Box Hill Institute have set the benchmark for delivering sustainable Green Buildings in Australian education

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