Case Study

Bournemouth University

Typical of many tertiary educational establishments in the UK, the energy costs at Bournemouth University are significant and this can be attributed to a diverse estate comprising a large number of buildings of various ages and functions that have been added to the establishment over time.

Bournemouth University has two main campuses but is also responsible for the University Centre Yeovil. Due to the diversity of the estate, energy and utility use has been a complex management and resourcing issue. Against the backdrop of recent funding changes that have forced all universities to re-evaluate their business model, a technology-based solution was implemented across the estate to improve efficiency and performance in energy management.

Reduced energy consumption across the estate

Visibility of energy consumption by all stakeholders

Remote monitoring and escalation prevents operational and energy performance drift

Continuous optimisation of buildings and plant

Gareth Williams, Carbon Management Program Manager

"We have a great relationship with Next Controls, who will be a key partner in taking Bournemouth University to the top of the 'Green League'. We like the fact that that we can access our energy dashboards from any device as opposed to a single fixed location."

AXON

Bournemouth University

Building Controls Implementation

Bournemouth University had previously installed a building management system but it was not fully deployed across the campus nor was there any integration. Plant data and control was derived via a dial-up process but the system was unreliable and, because it was not campus-wide, was an ineffective management tool.

A Salix scheme secured the additional funding needed to upgrade the system and deploy it universally across the whole campus.

Next Control Systems Limited designed and installed an upgraded building control system which was implemented building-by-building until the whole estate was under remote management and control.

This brought immediate savings observed at a billing level but lacked the granularity to enable a more strategic approach.

Energy Management and Student Engagement

Rolled out rapidly across the whole Bournemouth estate, AXON was incorporated into the existing infrastructure.

By measuring gas, electricity and water at individual building level, a wealth of new data became available to the energy management team at Bournemouth University via bespoke dashboards.

These dashboards integrate operational data with energy data to enable each building to be profiled and reduction opportunities identified and targeted.

The building is then optimised in order to generate incremental savings and a positive ROI.

Student Attraction & Engagement

Green credentials are now the second influencing factor in choice of university (after course availability). As a result, universities are now highly focussed on differentiating factors to attract students and Bournemouth University is targeting a top 10 position in terms of green credentials by 2018.

The next implementation of AXON will be in public areas to build engagement with the student population and university staff and to encourage and reinforce behavioural change to create a more carbon-aware culture.

Supporting the university's sustainability and energy strategy, a biomass boiler was implemented together with some photovoltaics to generate a further 40% saving in energy costs.

Web-based Energy Management for Expandability

With sustainability designated as a key performance measure within the university management team, the need for greater data granularity was mandated and the university plans a mix of further energy efficiency measures including AMR and BeMS improvements, additional renewable energy sources and further estate development.

Being web based, AXON offers unlimited expansion as no third party software needs to be installed or maintained on local servers, the capacity of which would eventually limit flexibility. This flexibility is enhanced by the brand and technology agnostic nature of AXON which can acquire data from any BeMS or metering technology using industry standard protocols without the need for additional hardware or 'black box' interfaces.

AXON Empowers 'In Use' Performance Benchmarking

The wealth of accurate data continually harvested, processed and analysed by AXON from the Bournemouth University estate allows precision benchmarking at a variety of levels of granularity – individual plant, occupied space, faculty or the entire estate – to ensure that the estate is always operating effectively.

By adding real time occupancy data and statistics into the performance model, faculties are now considering dynamic space allocation in order to match the size of the lecture space to the actual attendees and prevent further energy wastage by having large lecture theatres occupied by a few students.