Next Controls Limited
Bournemouth University
Case Study 03/07/14

Evolution of Energy Management in the Tertiary Education Sector

Overview

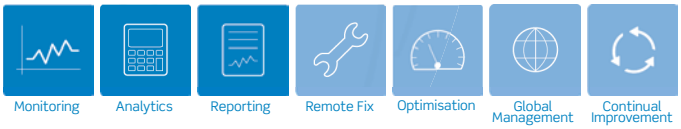
"We have a great relationship with Next Controls which will be a key partner in taking Bournemouth University to the top of the 'Green League'. We like the fact that that we can access our energy dashboards from any device as opposed to a single fixed location"

Gareth Williams
Carbon Management Program Manager,
Bournemouth University

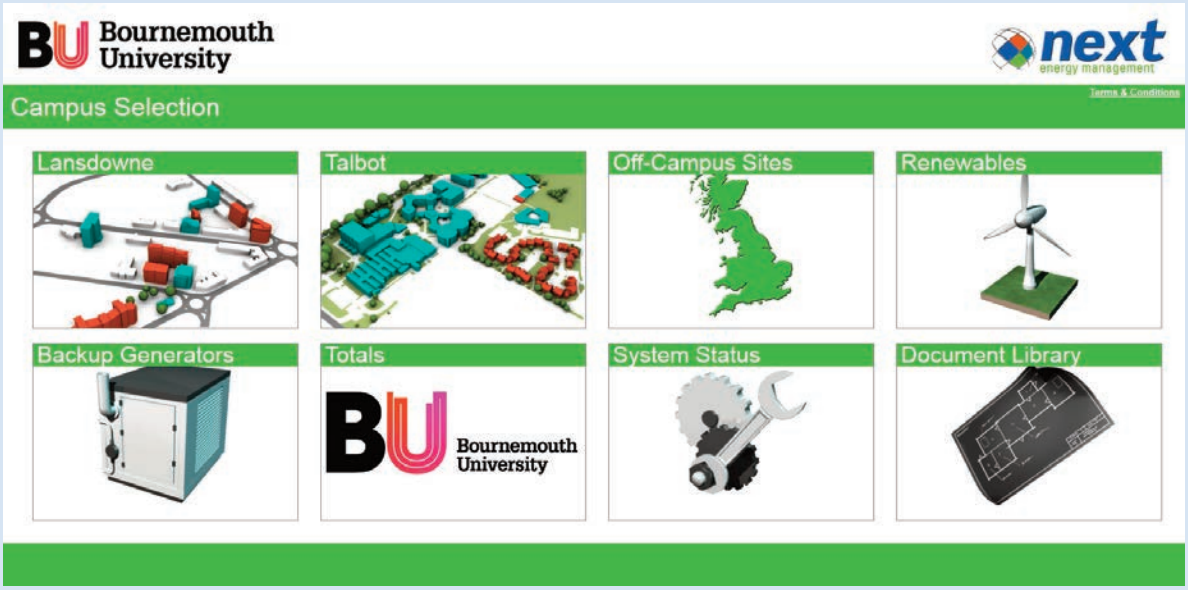
Typical of many tertiary educational establishments in the UK, the energy costs at Bournemouth University are significant and this can be attributed to a diverse estate comprising a large number of buildings of various ages and function that have been added to the establishment over time.

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.

iBOS Components Delivered



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 need to upgrade the system and deploy it universally across the whole campus.

Building Controls Implementation

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.

Additionally it enabled Bournemouth University to actively manage their energy consumption and maintain a carbon neutral position despite the expansion of the estate to support the growth of the university.

next control systems

Energy Management and Student Engagement

Student Finance and Sustainability

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.

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.

With sustainability designated as a key performance measure within the university management team, the need for greater data granularity was mandated and an integrated energy management system was designed by Next Control Systems Limited.

Rolled out rapidly across the whole Bournemouth estate, the new integrated energy management system was incorporated into the existing BeMS 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 targeted and monitored to the day cycle. The building is then optimised through the BeMS in place in order to generate incremental savings and a positive ROI.

The next implementation of energy dashboards 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.

next control systems

Web-based Energy Management for Expandability

Over the next five years, 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, the energy management system 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 the Next Controls system which can acquire data from any BeMS or metering technology using industry standard protocols without the need for additional hardware or 'black box' interfaces.

Key Points

- Alarm monitoring by the Next Controls bureau provides total peace of mind
- Continuous remote monitoring enables greater operational and energy efficiency
- Web-based systems allow unlimited expandability
- Next Controls provide technology agnostic solutions and can utilise existing hardware
- Remote access via Next Controls graphical user interfaces and dashboards improves operational efficiency
- Web-based systems provide secure 24/7 access from any internet capable device