



BREEAM Outstanding UCL Student Centre

Ambitious sustainability goals took centre stage in the design of the University College London (UCL) Student Centre. With more than 1,000 high-quality study and meeting spaces, the centre provides diverse environments to suit its students. Eventually becoming one of only 320 buildings worldwide to receive a BREEAM Outstanding Award.

Given its pledge to achieve net zero by 2030 (20 years ahead of the UK Government's 2050 target), UCL topped the leader board of the University Carbon League Table.

At its simplest, the term 'net zero' means achieving a balance between carbon emitted into the atmosphere and carbon removed from it. A key way to reduce a building's carbon emissions is energy management. It's important to get a handle on how buildings use energy and how to identify inefficiencies in order to ultimately optimise performance.

Kendra Energy Solutions is a leading provider of Intelligent Building Energy Management Systems (BEMS), which control the heating, ventilation and air conditioning (HVAC) services within large commercial and high end residential buildings.

Kendra's team was tasked by UCL to design a student centre that would later achieve a BREEAM 'Outstanding' rating (above 85%), reflecting exceptional environmental, social and economic sustainability performance.

Kendra worked closely with Schneider Electric and other partners to guarantee the seamless integration of all building systems and deliver a phased project in a timely manner.

Goal

Kendra designed and implemented a system which:

- Met the complex, constantly evolving needs of the university
- Was simple and cost effective to install
- Was intuitive to manage
- Had features that helped to reduce running costs
- Enhanced the student experience

Challenge

With pressure to meet UCL's needs around sustainability and experience, whilst also minimising cost, Kendra was challenged with fitting a smart automated building solution into the university's new student centre.

The building had to be capable of providing different environments for individual study and group collaboration, as well as more specialist applications. To do this, the technology needed to be flexible and scalable.

To add to the complexity of the project, the building resides within a constrained urban site in the heart of the UCL campus, meaning the design required an offsite pre-fabrication strategy meaning installation, commissioning and testing had to be carried out offsite.



UCL Student Centre. Photo credit: UCL (www.ucl.ac.uk)

“We’re pleased Kendra chose to work with Schneider on this project and integrate our EcoStruxure™ Building solution into the Student Centre development. The building is not only energy efficient, but it provides a whole new level of transparency and usability. Our EcoStruxure platform aims to give users complete visibility into operations and empowers them to intervene effectively to drive improvements and efficiencies.”

Westley Thurley, Schneider Electric

Solution

Kendra deployed Schneider Electric’s EcoStruxure™ building solution. It provides real-time control & monitoring of systems which have open protocols, cutting edge control technology and IoT-connected software and services. This delivers in-depth operational insights.

Through using a combination of external data from a weather station and internal conditions detected via the various sensors, the system is able to select the most appropriate mode of operation. Integrated room controllers were also installed to control & monitor occupancy, indoor air quality and temperature. These smart features enable the facility managers to reduce the building’s energy wastage and, in turn, minimise costs.

The solution also puts the power in the hands of occupants. The students have access to intuitive dashboards and a mobile application which present real-time insight information. This allows occupants to find efficient and convenient ways to connect to their workspaces, control temperature and navigate to workspace availability.

Extended logging data was used for seasonal adjustments to system performance in order to ensure that the building services installation was operating at optimum performance throughout all seasons of the year.

Kendra Energy Solutions

T: 020 30065 888

E: london@kendraenergy.co.uk

www.kendraenergy.co.uk

Results

As a result of the technology and support provided by Schneider Electric and Kendra:

- The UCL Student Centre is projected to witness a reduction in carbon emissions of 35%
- The building became one of only 320 in the world, and the first for UCL, to receive a BREEAM Outstanding Award.
- UCL won ‘Best Student/Pupil Experience’ and ‘Project of the Year’ at the Education Estates Awards.
- The UCL Student Centre met the demands of a 2019 heatwave, with the interior remaining cool throughout. With no air conditioning, the building’s mixed mode control strategy was able to keep it at an optimal temperature and ensure a comfortable working environment for all occupants.

What’s next?

The EcoStruxure system has provided a platform in which to develop future systems and drive greater efficiency. This includes cloud-based monitoring, conditional monitoring and data analysis of the system. That data in turn will help to improve Kendra’s offering by allowing them to identify areas that could be redesigned to make them more robust.