KENDRA
Smart Solutions. Intelligent Buildings

How Kendra helped UCL achieve targeted maintenance and a BREEAM Outstanding rating

Based in the heart of London, UCL's 34-acre campus accommodates a whopping 16,000 members of staff and over 50,000 students. In fact, UCL is the second largest university in the UK, based on total enrolments. To accommodate so many staff and students, UCL offers a wide, diverse range of living and learning spaces; from 24-hour laboratories to a student centre with more than 1,000 unique study areas.

To keep buildings comfortable and in line with health and safety requirements, they're monitored and controlled by a modern building energy management system (BEMS) and associated smart technology. Not only does it help keep temperature and humidity at optimal levels, but it provides data-driven insights that can be used to pinpoint energy saving opportunities.

Energy saving ambitions

Saving energy is a key consideration for UCL. As such a large institution, it takes its carbon footprint seriously and has pledged to achieve net zero by 2030 – 20 years ahead of the UK Government's 2050 target.

Kendra's contributions

UCL knows that to achieve a net zero building, it must maximise its energy efficiency. That's why it onboarded Kendra, a BEMS specialist that shares its ambitious sustainability goals.

Kendra was onboarded in August 2015 to carry out PPM and reactive support for 143 UCL buildings, covering over 1,000 controllers and smart technologies.

Since joining, Kendra's taken on additional projects and introduced new energy saving technology and initiatives. All of which have contributed towards UCL's impressive 'outstanding' rating from BREEAM – the world's leading sustainability assessment tool.

Goal

On top of day-to-day maintenance tasks, UCL tasked Kendra with:

- Implementing a modern BEMS system which meets its complex, constantly evolving needs.
- Streamlining BEMS maintenance by adopting a targeted maintenance approach
- Maximising energy efficiency and reducing running costs
- Designing a centre that is comfortable and practical for students, while upholding the highest possible sustainability standards.

What's PROActiv Analytics?

It integrates with your BEMS to streamline performance reporting and broaden energy management capabilities. While your BEMS tells you if something hasn't been achieved, PROActiv Analytics goes one step further and tells you why, offering effective solutions with little to no human intervention.

A 'virtual engineer' with a bird's eye view of your estate, PROActiv Analytics can integrate with most protocols and absorb huge amounts of granular data. It then processes, interrogates and makes sense of this data, so it can:

- Spot energy use patterns and saving opportunities
- Advise new approaches
- Create tasks and assign actions
- Track progress
- Generate actionable reports
- Create 'smart service' plans that flag issues and rank them based on business impact, using various criteria (e.g. cost or maintenance urgency)

Its ability to learn and predict future events make it a truly intelligent piece of software. Using bespoke Kendra programming rules and a 24-hour support package, PROActiv Analytics is a game-changer for businesses looking to cut carbon emissions.

What Kendra achieved

Targeted maintenance

Managing vastly different environments across a huge campus takes intricate planning. Especially as some buildings are Grade 1 listed while others are newly built. Taking this into account, and the fact there are different systems operating simultaneously across campus, Kendra developed long-term maintenance strategies and a BEMS 'master plan'.

Part of this plan centred around consolidating UCL's BEMS and ultimately fulfilling the university's desire for standardised, innovative technologies. Kendra did this by migrating previous systems (mainly Trend and Schneider Sigma) to Schneider EcoStruxure – a modern, IoT-based system.

Kendra formed a detailed migration plan and provided foresight on operational procedures. Its permanent team of engineers and supervisors gained an indepth understanding of UCL's systems and relevant logistical procedures, which helped drive plans forward.

To make UCL's maintenance approach more targeted, Kendra installed PROActiv Analytics in some university buildings. In 2023, it was installed in seven buildings and has already made an impact. In the space of a year, it helped save 40% of one building's total energy spend. Another received a CIBSE Retrofit Building of the Year Award and saved 518,000 kWh. That's an annual saving of £155,000.

Student centre

Kendra helped UCL's student centre become one of only 320 buildings worldwide to receive a BREEAM Outstanding Award (above 85%), reflecting exceptional environmental performance.

PROActiv Analytics has contributed to the student centre's impressive sustainability credentials. By utilising this platform, UCL are now alerted to any deviations from optimal performance. This includes predicted issues, which prevent faults and unnecessary energy wastage altogether.

Thanks to the flexible and scalable nature of the software, it's easily adapted to suit the university's changing requirements – something UCL particularly value.

This boost in energy efficiency has drastically improved the centre's carbon footprint, leading to a projected 35% reduction in carbon emissions compared to building regulations requirements (part L 2013). It even won 'Best Student Experience' and 'Project of the Year' at the Education Estates Awards.

In 2019, the student centre was put to the test during a piping hot heatwave. The interior remained cool throughout the summer. 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 occupants.

What the client had to say

"After a few years of working in partnership with Kendra, we've started implementing targeted maintenance in seven of our buildings. Kendra installed PROActiv Analytics in these buildings to identify potential issues at a very early stage.

This advance to targeted maintenance, albeit a reasonably cautious step so far, is made possible by working closely with the Kendra team. They've understood our requirements and introduced good, realistic concepts and solutions. All while taking into account the challenges we face financially and with the size and complexity of our estate.

From a UCL perspective, Kendra is certainly an intelligent contractor. Kendra engineers listen and interpret requirements well.

Over the years, Kendra's contract – and the UCL estate – has expanded and Kendra's knowledge of our BMS systems across the entire estate is second to none.

We have approximately 6/7 different BMS systems over the entire campus and some of which are now becoming unsupported. Kendra took the initiative by moving older systems over to newer platforms. It's even utilised/replaced spare components to keep older systems operational until they can be upgraded.

From a customer service perspective, Kendra's always been quick to respond to urgent requirements. The onsite operational team are a credit to the company and are considered an extension of UCL Estates, being polite, courteous, helpful and of course knowledgeable. They're always willing to assist and support, especially when faced with challenges that our development team unknowingly create."

John Saltariche, Head of Contract Maintenance & Engineering Compliance, UCL