

Case study: Britannia Building Society Headquarters, Leek

Background

Britannia is one of the UK's leading building societies, with a network of 245 branches throughout the country, almost three million members and £37.2 billion assets.

The company's headquarters is based at Leek in Staffordshire, where almost 2,000 employees provide financial services such as mortgages, savings accounts and insurance for the Society's members.

The site is divided into two large buildings, Britannia House and Newton House, which include an IT data centre, customer service departments and a treasury function.

The headquarters opened in the 1960s and has undergone substantial renovation to bring the whole complex up-to-date. Building Environment Control (BEC) has been upgrading and servicing the building controls at the site for 19 years.

The Challenge

BEC were tasked with upgrading the existing building control system and replacing it with modern, user-friendly technology that was designed to generate energy savings and reduce running costs.

It was important that the installation caused minimal disruption to the building society and its staff, so the company's operations were unaffected and any costly downtime was averted.

As an integral part of the company's UK headquarters, it was also essential that the new technology was robust, flexible and resistant to network security threats.

The Solution

BEC designed and installed an automated building controls solution, which was based on the open protocol, native BACnet technology manufactured by Delta Controls.

This began with an upgrade to a more energy-efficient HVAC system, which operated via Variable Air Volume (VAV) controllers in both buildings. By retrofitting frequency inverters to fans in the ventilation plant, BEC facilitated the variable speed control of fans to optimise efficiency. This has resulted in a significant reduction in energy consumption, which is in excess of 38% across the ventilation plant.

Newton House has undergone additional refurbishment with the creation of a glass-roofed atrium area over its central core. BEC were employed to provide energy-efficient control of the new underfloor heating and natural ventilation within the area, which was designed to create a comfortable environment for its occupants.

BEC engineers also installed intelligent lighting controllers throughout both buildings, which are equipped with Passive Infra Red (PIR) motion sensor detectors. This means that the lighting is only activated when a room is occupied to avoid unnecessary energy wastage.

As part of its service, BEC is also responsible for monitoring the incoming electricity supply to the site via a Power Distribution Unit (PDU). This enables BEC engineers to check performance and analyse energy usage.

A standby generator with Uninterrupted Power Supply (UPS) change-over, also ensures that the building society headquarters and its national data centres can function as normal in the event of any potential interruptions to the power supply.

BEC selected the Delta hardware as it supports the BACnet open protocol communication with other vendor's devices. This allowed for a natural progression from the old system to the new, which was easy to commission and didn't affect the building operation and its occupants.

Lastly, the BACnet control software from Delta Controls provides a web-based front end that connects the building automation system to Britannia's Wide Area Network (WAN). The user-friendly technology enables Britannia's facilities managers to login and monitor the status of the building controls in each vicinity and adjust when necessary - either locally or remotely via secure network connections.

This is particularly unusual in an application of this type, where there are stringent restrictions to the WAN due to perceived financial threats to network security.

Client benefits

BEC delivered a solution that will ensure that Britannia's headquarters continues to enjoy the benefits of modern building controls technology.

The new HVAC system has enhanced the climates within the offices so that staff benefit from a comfortable working environment. The installation of frequency inverters and underfloor heating has also achieved optimal energy and cost savings. Likewise the installation of PIR lighting has further reduced energy consumption and helped to lower running costs.

Central to the BACnet system's effectiveness is the Ethernet-based software, which means that Britannia's facilities managers can have quick and easy access to all the various controls on site. As the front end of the system is located securely on Britannia's network, this also eliminates the need for time consuming connections to separate external software.

Customer quote

"BEC successfully carried out a phased upgrade of the existing building controls system within a set time frame, this was despite the building being occupied round the clock. As well as the energy and cost savings that our company has seen, we can also be assured that the open protocol technology will not become obsolete in a few years time."

Barry Goodfellow, Maintenance Manager, Britannia Headquarters.