LCS Control Systems

Market segment
Recreation

Location
Kilkea, Kildare, Ireland

Project type
New construction and retrofit

Total area
2,000 m^2 (21,527 ft^2)

Installation type
HVAC

Protocol
BACnet, Modbus

Kilkea Castle

Project Profile

Kilkea Castle is one of the oldest inhabited castles in Ireland. Once the medieval stronghold—for over 700 years—of the Fitzgeralds, earls of Kildare, today the grounds are the site of a family-owned 140-room resort that includes carriage rooms, lodges, a golf course, a spa, and 11 bedrooms and a bar and restaurant within the castle itself. Kilkea Castle also accommodates weddings and events.

Authorized Dealer LCS Control Systems installed a Reliable Controls building automation system to control air-handling units, boilers, pumps, and heating-circuit valves at Kilkea Castle and provide flexible control and efficiency.

A MACH-ProWebSys controller, a combination BACnet Building Controller, BACnet Operator Workstation, and powerful web server, serves as the main interface for facility staff and allows convenient control of mechanical equipment over the internet. LCS implemented MACH-ProSys and MACH-ProCom BACnet Building Controllers with extensive networking capabilities and scalable inputs and outputs to control large mechanical equipment. The site has a number of plant rooms, each of which uses a MACH-ProSys to connect to the facility's local area network.

Integrated equipment
Trend IQ4E controller, HRS AquaModule controller

Installed equipment

Total system objects
1,842

2 MACH-Pro1™ controllers

1 MACH-ProCom™ controller

5 MACH-ProSys™ controllers

23 MACH-ProAir™ controllers

5 MACH-ProView™ LCD Operator Display with Router controllers

1 MACH-ProWebSys™ controller

6 MACH-ProZone™ controllers

Interested in Reliable Controls technology for your next project?

Find an Authorized Dealer near you:
reliablecontrols.com/sales

Explore other Reliable Controls projects:
reliablecontrols.com/projects

"Bringing together all the remote plant rooms in one overall system proved to be straightforward with BACnet/IP," said Trevor Lucey, managing director at LCS. "Little to no extra cabling was required, which resulted in significant cost savings."

Facility operators use the high-resolution graphical interfaces on five MACH-ProView LCD controllers to access, control, and monitor comfort and energy use. With the MACH-ProView LCD, users can choose from a selection of configurable views to display real-time data and edit object values on custom background images using text, graphics, and animations like buttons and sliders.

Six fully programmable MACH-ProZone controllers, ideal for controlling midsize rooftop and heat-pump applications and small mechanical room equipment, provide highly scalable inputs and outputs in a compact package. LCS also installed two MACH-Pro1 devices, both rugged, flexible, fully programmable BACnet Building Controllers.

LCS used the power and flexibility of RC-Studio software to integrate all mechanical equipment, third-party controllers, and Reliable Controls devices into the building automation system and optimize control strategies for comfort and energy efficiency. An easy-to-learn, easy-to-use BACnet Advanced Operator Workstation, RC-Studio provides real-time fault detection and diagnostics so facility managers can resolve issues in the system before they become a problem.

With RC-RemoteAccess BACnet Secure Network software, LCS improved data communications security without the need for additional routers or controllers, providing a secure link to the site for service and maintenance functions. RC-Reporter software extracts intelligence from building data with readable, reliable analytics that help Kilkea Castle find opportunities to improve energy efficiency. The installation of a large number of power-sensing devices with RC-Reporter running in the background gave building owners a never-before-seen breakdown of how energy was being used across the site.

Today facility managers depend on RC-Archive to deliver a robust, dependable record of performance with continuous downloads of data logs to a SQL database. With RC-Reporter and RC-Archive, Kilkea Castle owns and controls all its building data, which means no ongoing subscription fees or licenses are required.

Power consumption in each section of the resort is now individually monitored, providing the ability to see points of excess energy use. This was particularly useful in the weeks following installation, when facility managers noticed power consumption was unusually high in some areas and unusually low in others. These issues were easily resolved with scheduling adjustments and addressing failed equipment.

Aidan O'Sullivan, Kilkea Castle estate's general manager, said of the installation, "Reliable Controls system data has allowed the management team to have an understanding of energy consumption and the ability to make informative decisions that have resulted in energy use and plans for future efficient energy consumption."