

CASE STUDY

A PERFECT RETROFIT

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Completed on time and to budget, the recent retrofitting of an advanced building management system across eleven Lancashire County Council properties in Preston could hardly have gone more smoothly. Its rapid and trouble-free installation owed much both to Lancashire County Property Group's choice of a BMS based on Trend IQ3xcite controllers and to the expertise of Nobbs & Jones Ltd, the local control specialists who supplied and engineered the system. Owing to their size and flexibility, the IQs were a straightforward 'drop-in' replacement for the ageing controls that made up the previous BMS. Moreover, their Ethernet connectivity has enabled central monitoring of the sites via the council's intranet, allowing instant system access.

The eleven premises covered by the Trend system are mostly offices for various council departments. They also include a museum and the county analysts laboratories. All of the buildings are located in and around the centre of Preston, within walking distance of each other. The largest has a floor area of over 10,000m².

At each site, Nobbs & Jones has installed one or two Trend IQ3xcite intelligent controllers to provide energy efficient control and monitoring of the building's boilers, variable temperature heating circuits, hot water services and – in the case of the county analysts department – a number of air handling units. The controllers also log readings from gas, water and electricity meters. A Trend 963 supervisor in Preston's

County Hall serves as the main user interface through which the buildings are monitored and control settings are adjusted. Like the IQs, it has been directly connected to the council's IT network.

Sensors, actuators and field wiring from the previous system have been retained. It was also unnecessary to install new enclosures or panels to house the IQ3xcite controllers, which were simply slotted into the spaces vacated by the old controls. This was made possible partly by the controller's small footprint and also because of its use of add-on input/output modules. (The basic IQ3xcite has 16 i/o points, which can be increased to a maximum of 96pts by the addition of various types of i/o module; up to 15 of these

can be linked to the controller via a simple, low-cost bus.) Connection to the intranet simply involved running a patch lead from each IQ to an adjacent RJ45 socket on the network.

Like the Trend BMS, the old system could be monitored and managed from a central operator interface, though this lacked the power and user-friendliness of the graphics-based '963' supervisor. Furthermore, it was connected to the controls in the buildings via modem, over the council's telephone lines; thus, to access a site the operator first had to wait for the modem to dial-in. Because the Trend system communicates via the intranet such delays have been eliminated. Once the user logs on, data and settings are instantly available.



Another advantage of using the IT network is that alarms generated simultaneously in different buildings are all displayed immediately on the 963 supervisor. Using the autodial modems they could only be reported one at a time.

Located in County Hall's control room, which is manned 24 hrs/day, the 963 is not the only means of gaining access to the system. Indeed, because of the web server built into every IQ3xcite controller, any network-linked PC running Internet Explorer can serve as a user interface. This is extremely useful for the council's operational maintenance supervisor, whose main office is not in County Hall. From his PC he can view monitored data from any controller and if necessary change the control settings. He is therefore able to investigate reported problems – and even correct them – without having to move from his desk.

Nobbs & Jones' considerable experience of engineering and commissioning Trend controls, coupled with the system's ease of installation, allowed the BMS replacement project to be completed without loss of services to any of the buildings involved. Since the new system has taken over, the buildings' occupants have also benefited from more stable control of temperature levels. The system's advanced design will make it easy to expand, should it be required to control additional services or further buildings.

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