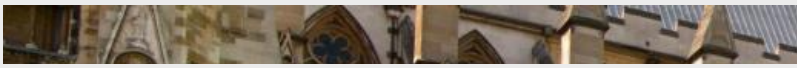
CREATING A CLIMATE FOR GROWTH

PRIVA



WESTMINSTER ABBEY

Priva retrofit brings performance and cost benefits to Westminster Abbey

- **Temperature and humidity controls improved with retrofit upgrade of old BMS to Priva Blue ID**
- **Impressive front end capabilities have reduced some jobs from hours to seconds**
- **Retrofit completed in two weeks without inconveniencing visitors**

Problem

The BMS of Westminster Abbey was in desperate need of an upgrade. Controls weren't communicating very well and kept failing.

Solution

Using Priva Blue ID, the new BMS has replaced an outdated system, bringing the building's heating and ventilation function into the 21st century.

Benefits

Temperature control within the abbey is far more efficient, while the extensive and laborious checks required with the previous BMS are confined to the history books. In fact, some jobs have been reduced from hours, to just seconds.

Westminster Abbey, one of London's most important religious and historic buildings, has undergone a BMS (building management system) retrofit. Using Priva Blue ID, the new BMS has replaced an outdated system, bringing the building's heating and ventilation function into the 21st century. As a result of the project, temperature control within the abbey is far more efficient, while the extensive and laborious checks required with the previous BMS are confined to the history books. In fact, some jobs have been reduced from hours, to just seconds.

Time for change

Fed up with requesting support from the abbey's system integrator in order to attend failures

associated with its previous BMS, which was installed in the 1990s, Jim Vincent, clerk of works, decided enough was enough.

"It was in dire need of upgrade," he says. "The controls weren't communicating very well and kept failing, which meant I would have to call our system integrator, Electrical and Mechanical Controls Ltd [EMC], to attend to the issue. This obviously incurred costs both in terms of time and money. Eventually, EMC convinced me that a retrofit would make financial sense, especially using Priva Blue ID."

Priva Blue ID hardware consists of a base, on which individual functional modules featuring all the mission-critical components can be installed. This intelligent design is both cost effective and guarantees maximum operational reliability. In the unlikely event of a failure occurring in a module, the failure will remain restricted to that specific part of the system. The base is always live, and communication always remains intact.

Two-week retrofit

EMC was able to replace the old system with Priva Blue ID across most of the site in a little more than two weeks. One of the huge cost efficiencies of the project was that Priva Blue ID could use the existing BMS network, including the temperature sensors. What's more, Priva 2-wire technology meant that the existing twisted pair network could be used for IP communications. Compared with installing a whole system network from scratch, the ability to retrofit Priva Blue ID technology has minimised costs significantly.

In one instance, a large panel in the museum would have incurred considerable costs to change, but EMC was able to simply replace the controls, saving Westminster Abbey a small fortune.

Furthermore, due to the sensitivity of the existing building fabric, and the history it contains, the usual running of cables and fixing of temperature sensors would have been impossible: drilling holes and clipping cables to 1000 year old surfaces was clearly not appropriate. Energy management in historic buildings is often a challenge due to this issue, but Priva's retrofit capabilities provided a simple solution.

Also of important consideration was that the reduced upheaval of the retrofit option would lessen disruption and inconvenience for the high footfall of worshippers and tourists at this extremely busy cultural site. With the system installed during the winter of 2014-15, ongoing temperature control was vital.

The new BMS network is a mix of controllers using Ethernet and 2-wire connections, with full scalability moving forward (unlike the previous system). The system helps preserve a host of important artefacts within the abbey, especially in the museum, which needs to be kept at a constant 20°C, with humidity at 50%. The heating and ventilation controls, now under Priva Blue ID control, play a vital role in meeting these requirements. The numerous panels located around the site feature Priva S10 controllers with various input/output modules to suit the specific plant, while certain other panels have a Priva Blue ID Touchpoint installed on the front for local access to the equipment.

Front end benefits

Mr Vincent says that one of the best attributes of the new BMS is the front end user interface, which he describes as "idiot proof".

"I can view the system with a web browser on my PC, using either our internal network or remotely," he states. "The format is very simple and easy to understand. Previously I had to use engineering software, but there was no front end. I used to be an electrician so it was fine for me, but the rest of the team couldn't understand it."

Now, if Mr Vincent needs to change anything, he can just click a button on the screen. This is in marked contrast to the previous system, where a change would necessitate calling one of his staff, and asking them to walk to the control room to sort it out. Aside from Mr Vincent, two other members of the abbey staff have access to the Priva front end, with any manual changes to the control settings flagged clearly on the system.

Reduced effort

Beyond greater performance efficiencies and better front end controls, a further major benefit is time savings. With the previous system, a staff member was required to spend two hours a day walking around the boiler houses, which are spread across the site, to check that nothing had tripped and everything was working as required. Now, Mr Vincent simply logs on to his PC in the morning to see if the system has flagged any faults. A two hour job has been reduced to little more than 30 seconds.

Westminster Abbey today is still a church dedicated to regular worship and to the celebration of great events such as royal weddings. The abbey is also a hugely important tourist destination. In fact, the abbey has just started a £15 million refurbishment programme of the triforium area, which will become Westminster Abbey's new museum. It is the single largest project that has been undertaken by the abbey in the past 700 years. Clearly, times are changing.

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