



ENERGY EFFICIENCY FOR ST PAUL'S CATHEDRAL

Priva Blue ID S-Line and C-Line controls have been installed as part of a major BMS retrofit project at St Paul's Cathedral in London

> **Fingertip control**

> **Short installation time**

> **Enhanced front end**

Challenge

St Paul's Cathedral, London's iconic 340 year old church realized that its plant room equipment was in need of replacement in order to improve energy efficiency, enhance reliability and meet high heating and hot water demands.

Solution

Priva Blue ID S-Line controls were duly selected for the main boiler room at St Paul's where they now control four new boilers and the primary boiler pumps. With these improved controls, in periods of low heat demand, the boilers are not constantly cycling and wasting energy.

Benefits

The benefits of the revamp include increased reliability, and better scalability and flexibility for future modifications. Naturally, there are likely to be significant energy savings too, as a result of enhanced temperature control.

Priva Blue IDS-Line and C-Line controls have been installed as part of the major BMS retrofit project at St Paul's Cathedral in London. The installation, which was part of an overall plant room refurbishment, gives the cathedral complete control over its temperature requirements from radiators/heating coils and the hot water system throughout the building. A new front-end based on Priva UK's integrated, web-based TC Manager, which is accessible from any PC with internet access, ensures authorized staff can

change preset temperatures or on/off times at the click of a button.

New BMS required

Although deciding that a replacement/upgrade project would be the best course of action, an immediate issue came to light. The site's 20-year-old control panel would not have the capability to adopt the new equipment being installed.

St Paul's wanted to replace its existing boilers, hot water system and ventilation plant, thus instigating the search for a suitable BMS. The appointed M&E contractor, Bunton M&E Services, had a good relationship with [Electrical and Mechanical Controls Ltd \(EMC\)](#) in Norwich, which in turn is an experienced Priva installation partner. Priva's specialism in the heritage buildings sector has seen its technology installed at a number of high profile historic sites.

"We worked together very successfully on a similar BMS upgrade project at Westminster Abbey," explains Daniel Millard, Technical Operations Manager at EMC. "Here, we could show St Paul's how Priva Blue ID had been used to transform outdated controls into a 21st century heating and ventilation system at another of London's most important religious and historic buildings."

Fingertip control

Priva Blue ID S-Line controls were duly selected for the main boiler room at St Paul's where they now control four new Hamworthy Wessex ModuMax mk3 boilers and the primary boiler pumps, which together provide a total space heating output of up to 1,016kW. In fact, thanks to a turndown ratio of 20:1, the boilers can deliver any output from 50.8 to 1,016kW. This means that in periods of low heat demand, the boilers are not constantly cycling and wasting energy.

Short installation time

In terms of the plant upgrade, Bunton M&E built everything off-site in five weeks to ensure minimal disruption. In total, the installation time on-site was condensed to just four weeks. Saving further time, it was possible to use the existing IT network (utilising Ethernet) to communicate between the main panel, Wren Suite and the BMS PC.

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Heating speed: from a week to a day

Another advantage relates to heating speed. Heating a cathedral can take a long time due to its large space, but the speed of heat-up has improved greatly. Previously it would take a week to heat the cathedral from cold, but now it only takes a day. In addition, the heating runs 24/7 on weather compensation, which means a small outdoor sensor is fitted to adjust heating controls according to outside temperature changes, thus providing more efficient operation of the system.

Enhanced front end

"Importantly, the new system offers greater ease-of-use through an improved front end that utilises Priva TC Manager," says Mr Millard. "The benefit being that we can also gain remote access to the web interface to assist with any issues. Furthermore, St Paul's can now move away from having a single, dedicated front end PC, as any PC with internet access should be able to use the front end, subject to authorisation."

Robin Bunton, Director at Bunton M&E Services, concurs: "The greatest benefit is ease-of-use; the front end is really simple to access. In addition, St Paul's have vastly reduced their maintenance time/burden."

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