St Leonard's church

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St Leonard's Church, Shoreditch, London

Energy efficient heating control is now in the hands of the end-users who use the building most following a recent heating system refurbishment at St Leonard's Church in Shoreditch, North London. A new SeaChange control system from smartkontrols ltd has provided the Reverend Paul Turp, office staff and community project leaders with all the advantages of intelligent zone control as well as the capability to adjust temperatures and time schedules, as and when required. This installation also marks the first project for the smartkontrols smartbox – the space-saving, cost-effective alternative to conventional motor control panel cabinets.

St Leonard's is a popular, mixed-use Victorian Church, home to different activities at various times and days during the week. The main Church, with its mezzanine seating level, is used for regular worship each and every week but the building also includes three floors of administration offices, meeting rooms and a community drop-in centre.

The new heating system is likewise a mixed affair. A variable Osma ThermoBoard underfloor heating system now serves the Nave while conventional radiators are used to heat the other parts of the building, both powered by a new gas-fired boiler and variable speed pumps.

Project consulting engineers, Max Fordham LLP, specified SeaChange controllers from **smart***k*ontrols to provide as cost-effective and straightforward a solution as possible, giving the system's different users accessible control over the new heating system, enhance comfort levels and lower fuel bills.

The SeaChange system is incredibly simple to operate. Networked SeaChange Zone Controllers are wall-mounted in each of the specified zones in the building to provide the control system's simple interface with the building users. By pushing relevant buttons and rotating each controller's adjustment knob to alter settings, they can easily adjust operating times and local temperature for the respective radiator and underfloor heating circuits. The boiler only runs when a zone needs it to run, ensuring optimum energy efficiency performance.

> "**smart**kontrols were selected to provide a simple interface for the system's end users"

smart*k*ontrols intelligent actuators are used for local control of each radiator circuit. These valves open or close in response to temperature changes, providing far more accurate and responsive heating control than is possible with ordinary Thermostatic Radiator Valves (TRV's). These actuators also reduce energy costs by slowing down the speed of the variable speed pumps as the valves close.

At either end of the Church, intelligent temperature and relative humidity sensors have been installed as part of the **smart***k*ontrols network. These ensure effective fabric protection for the listed church organ and altar, signalling activation of the underfloor heating system in especially damp or humid conditions. A cellular modem allows Max Fordham and controls specialist, Publicstar to access the controls

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*The **smart**box enables cost effective distributed modular systems in the plantroom and around the building*

system remotely without having to use a fixed telephone line to assess, monitor and maintain system performance.

SeaChange plant controllers are housed within compact **smart**box enclosures, further reducing installation time on the project as well as saving space and the expense of large, purpose-built control panels. The Grundfos low energy, variable speed pumps used on the project simply require wiring from the distribution board with no need for bulky starters but only low voltage control wiring from the relevant **smart**box. The **smart**box panel system is fully modular so it can be easily expanded, with panels neatly and simply joining together should additional control modules be added to the system.

"**smart***k*ontrols were selected to provide a simple interface for the system's end users" explains Mark Maidment, Project Engineer, of Max Fordham LLP. "Also, the modular nature of the installation has meant that the controls were simple to add in to this large domestic system which includes underfloor heating in the Nave."

The controls for the project were supplied and commissioned by Kent based Publicstar (www.publicstar.co.uk) a **smart**partner member company.

Installation at St Leonards Church was completed in August 2001.

Site	St Leonard's Church
Main system components	• **smart**box panel for boiler and DHW services • 2 **smart**box panels for underfloor heating • Wall mounted intelligent RH sensors • Wall mounted zone controllers
Key Benefits	• Simple user interface • Grundfos pumps require no starters thus making the panels smaller • **smart**box panels compact and cost effective • RH based fabric protection of listed building and organ • The use of intelligent actuators simplifies pipe work and wiring

smart*K*ontrols

smart*k*ontrols systems offer a proven solution in both large and small commercial buildings. Making building control easier for engineers and, ultimately, the end-user is at the heart of the **smart***k*ontrols philosophy. SeaChange systems from **smart***k*ontrols are versatile enough to control all types or any combination of heating, air conditioning and natural ventilation. **smart***k*ontrols ltd is part of a group of companies which includes ENER.G plc, the clean provider of electricity.