



Tackling discomfort **Christ Church, Hackenthorpe**

A well-used church hoping to make best use of its cool Victorian chapel and cosy church hall across the seasons.

Sensors monitor how heating use affects both temperature and humidity in the chapel, helping to identify the root causes of discomfort in colder months.

Too cold



Whilst air temperature readings give a good indication of how effective the heating is, they only tell half the story. Measuring humidity too will give essential insight into why the historic chapel might be cold in winter, even with the heating on.

Too hot



As the climate changes, the modern church hall is likely to overheat in summer, and may require additional shading or ventilation. Meanwhile, the chapel could be used as a 'cool bank' for the local community during heat waves. Sensor readings will help with planning.

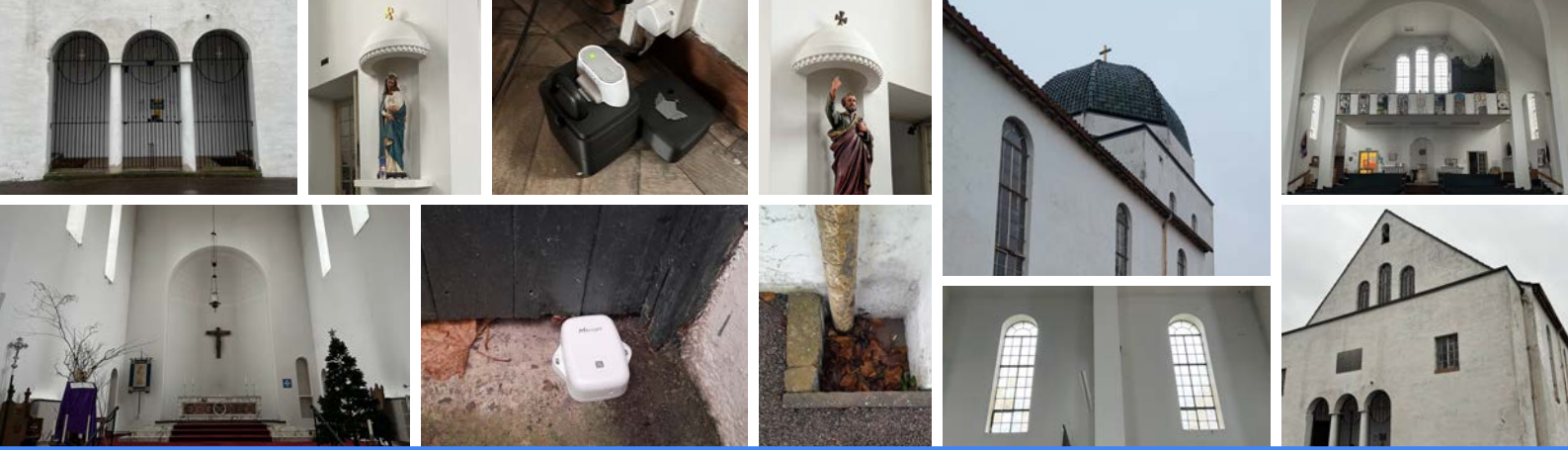
Just right



The hall's southerly orientation makes it perfect for the installation of solar voltaic panels. But in our climate, they're unlikely to provide enough energy year round. Digital monitoring can help implement strategies for achieving comfort passively - reducing energy use and helping meet the deficit.



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Monitoring major repairs [St Peter, Warmsworth](#)

A unique Second World War era church in need of major restoration works in the years ahead.

Sensor readings evidence the need for and impacts of repair and improvement works on building performance, in support of funding, faculty and further works.

Icon under threat



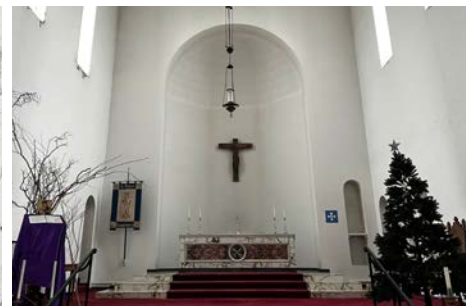
The only UK church consecrated during the Second World War, St Peter's is made from brick which is rendered in distinctive white. This important environmental buffer has started to crumble away and needs major repairs urgently.

Fabric failure



Monitoring internal and external humidity shows how effective the building envelope is at managing the weather. Fabric failure can lead to wetter internal conditions, which also feel colder for occupants. Heating St Peter's is no longer sustainable.

Smart future



Sensor records are not only useful evidence to share with expert consultants and contractors but can also support faculty and funding applications. Thereafter they evidence the efficacy of works and quantify return on investment in reduced heating demands.



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Informing future investments [St Lawrence, Hatfield](#)

A medieval church with a busy day-to-day programme seeks lower cost, more sustainable heating solutions.

Sensor readings will help the churchwardens of this large Grade 1 church to understand their heating needs, before they invest in a new system and reordering.

More than a light breeze



Heating is provided by an ageing, hot air blower. It is expensive (or impossible) to repair and only effective at heating one part of the church. Temperature readings and conversations with a heating specialist will inform economic use and plans for replacement.

Salty side effects



As is common in historic buildings, salts form on the walls in some areas indicating moisture movement in the fabric. Monitoring humidity over time will show whether this is transferring to the internal environment to cause people to feel cold, or enabling algal growth.

Looking forward



With such huge spaces, one option for managing comfort is to subdivide them with separate heating controls. The practicalities of using St Catherine's chapel for regular services are being considered. Sensors are monitoring present conditions to inform this long term plan.



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