

Priva BMS chosen based on reliability and cost for £2m extension and upgrade at historic Dragon Hall, Norwich.

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- BMS controls climatic factors such as humidity to preserve timbers



The National Centre for Writing, which has just completed a £2 million extension and refurbishment project at its headquarters in Norwich, called upon the capabilities of the latest Priva BMS (building management system) as a vital part of the upgrade. By installing state-of-the-art Priva Blue ID technology to monitor and control the internal climate, the organisation hopes to ensure that the building’s fabric, which includes ancient timber beams, is preserved in an optimum way.

Since 2015, the National Centre for Writing has been based at Dragon Hall, a Grade I listed, 15th

century medieval trading hall of significant historic interest. In such a building, factors like humidity can have an extremely detrimental and compromising effect on the internal structure. With this fact in mind, and the knowledge that the building's existing BMS was reaching the end of its life and becoming unreliable, the decision was taken to invest in Priva technology.

Although Dragon Hall, the Great Hall of which was built in 1430, is a befitting home for such a prestigious organisation as the National Centre for Writing, there is a constant need to ensure that the building is both fit for purpose and properly preserved for the future. With this in mind, permission was sought to upgrade the property.

Lottery funding

As a literature development agency, the National Centre for Writing has a long track record of success, even leading the bid for Norwich to be granted the UNESCO City of Literature title in 2012 – the first such accolade in England. Recognising the need for the organisation to continue its good work, £789,434 from National Lottery sources was granted by the Arts Council England to support the upgrade project's capital costs. The aim was to integrate new educational and community spaces, enhanced office space and technical facilities, a refurbished public performance arena seating up to 120 people, and residential space for visiting writers.

Clearly, as part of such a major innovation, the opportunity arose to optimise the climate control for both occupant comfort and building preservation. The existing building was served with an ageing BMS prone to reliability issues. To address the situation, Norwich-based [Electrical and Mechanical Controls Ltd \(EMC\)](#), a long-standing Priva partner, was appointed to the project.

“We were involved with installing a heating system in a previous glass extension at Dragon Hall back in 2005,” says Dan Millard, Technical Operations Manager at EMC. “The extension incorporated office space and a new plant room, and this successful experience helped us secure the new contract.”

This time around, however, the list of demands was much longer as it involved the renovation of a structure that is one of the famed ‘Norwich 12’ iconic buildings. Dragon Hall, which is renowned for its spectacular timber crown-post roof and intricately carved dragon, is symbolic of Norwich as a city of historic national importance.

Building conservation

“Energy saving wasn't the primary driver for this project,” states Mr Millard. “Conservation of the Grade I listed building was the main concern. Dragon Hall incorporates a lot of old timber and it is therefore vital to ensure the climatic conditions are right, for example – keeping an eye on the humidity to ensure the beams don't degrade.”

The existing BMS, as well as being unreliable, suffered from both poor usability and operability, being described as “fiddly and not user friendly”. Upgrading the system in terms of better control and easier maintenance, was thus a priority.

“Priva is our BMS manufacturer of choice due to the products being reliable and cost effective,” says Mr Millard. “We deployed Priva controllers for the main panel at Dragon Hall, utilising [Priva Blue ID C4 controllers](#) that interfaced with the Mitsubishi air conditioning system via BACnet. We also used the Priva cloud connection [TC Manager Connect] to integrate the new wing with the rest of the building.”

Meticulous planning

At all stages of the project, EMC needed to be mindful in terms of minimising any disruption to building's day-to-day operations. As well as hosting the National Centre for Writing, an organisation called the Dragon Hall Heritage Volunteers act as tour guides to the building, which is also home to a museum.

Couple this task with the priority of not compromising the building's structural fabric, and the size of the challenge is plain to see. The historical significance of Dragon Hall cannot be overstated; although the Great Hall on the first floor was built in the 15th century, some parts of the site are much older. In fact, archaeological research shows evidence of a Saxon building beneath the hall that was erected around the year 1000.

“From a planning point of view, care was needed with regard to what we mounted on the walls,” says Mr Millard. “With this in mind, the sensors used had to be visually in keeping with the rest of the Grade I listed building.”

The upgraded and extended Dragon Hall was opened in June 2018, and the end user is reporting complete satisfaction with the new BMS. Moving forward, more benefits are anticipated.

“Over time, Dragon Hall may see costs savings as the Priva BMS is more efficient and reliable than the system it replaced,” concludes Mr Millard.

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