

Case Study

Building Schools for the Future, Gateshead

PROJECT OVERVIEW

Building Schools for the Future (BSF) is a multi-phase school rebuilding programme. This £45 billion project began in 2005 and is the biggest single government investment in the last 50 years. The aim is to rebuild or refurbish every secondary school and half the primary schools in England, over the next 15 years and across 72 Local Authorities. This unprecedented programme will transform schools into modern environments that will inspire learning. Building Schools for the Future is being delivered by a new type of Public Private Partnership known as a Local Education Partnership (LEP) in which a Private Sector Partner invests alongside the public sector. This is the Private Finance Initiative (PFI).



In March 2003, Gateshead Council received PFI credits to invest in developing new school buildings. This project includes 6 schools in North East England and is a £54 million build project. As part of the Renewable Energy Programme, photovoltaic electric panels, solar water heater systems and wind turbines have been installed. Part L of the Building Regulations required that utility metering was to be provided as part of the specification. Therefore the schools landlord needed an energy management package. Astral Control Services, the system integrator and Cylon Controls worked together in order to provide the right solution for all stakeholders including the builder, the consulting engineer, the facilities manager and the council.

Today, the Cylon Building Energy Management System (BEMS) controls and monitors the ventilation, air conditioning systems, heating systems and also monitors the photovoltaic electricity meters, solar water heater systems and wind turbines. The system was installed and is maintained by Astral Control Services.

"The Cylon BEMS product offers the local authority added benefits by allowing each school to use the BEMS system as an educational tool on projects such as renewable energies while having web based remote access at no additional capital cost" - Alan Jones, Director, Astral Control Services

SOLUTIONS BENEFITS

Energy Savings - By investing in a centrally managed BEMS with optimum levels of utility meter monitoring, the Gateshead schools can implement their strategy for reduced energy consumption and thus lower carbon emissions.

Available information at no capital cost - Using Cylon Embedded Weblink, information on building management is available from any networked PC to the Facilities Manager and also to the Local Authority. As the WebLink's interface is user-friendly with a familiar web browser program, little or no training is required to access this information along with no capital cost of BEMS software and dedicated dongles. The Facilities Manager can monitor all the integrated systems for the 6 schools from a non-BEMS single PC.

CYLON SOLUTION

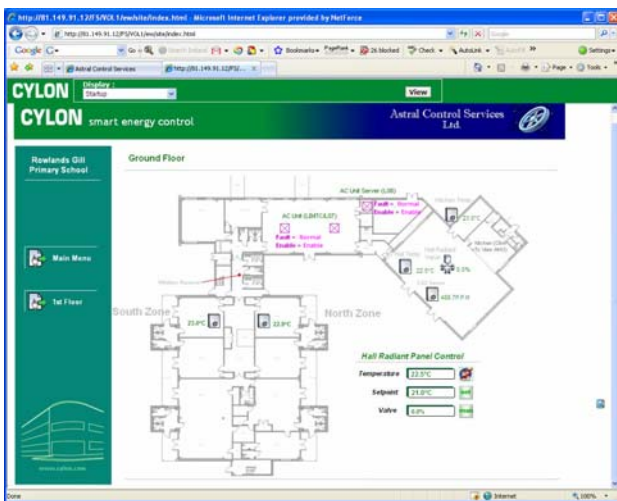
Each of the 6 schools in Gateshead are controlled by the Cylon BEMS. Heating, air conditioning, cooling, photovoltaic electric panels, solar water heater systems and wind turbines are centrally managed and monitored.

The web server embedded in the UC32.net Communications Controller can access point values, setpoints, datalogs, alarms, and schedules on any of the Field Controllers. The Embedded WebLink generates an interface for users to view and adjust any of these parameters. The Unitron Command Centre installed in the Gateshead schools also allows for data archiving. It displays real time measurements taken by the controllers, ensuring that maintenance is carried out quickly if a problem occurs. The Unitron Command Centre collects data and allows the Facilities Manager to print reports.

The comprehensive schools have approximately 25 wireless sensors each and the Primary schools have approximately 6 wireless sensors each. Sensors allow temperatures to be measured and inputted to the BEMS. The right location for the receivers is critical. For example, one receiver on the ceiling of the ground floor can potentially cover the ground and the first floor areas depending upon building structure. Therefore wireless sensors have a real added value as they can be easily relocated without the need for reconfiguring installed wiring. Wireless sensors allow enhanced datalogging as an additional wireless sensor can be added at any point and used as a data-logger. Commissioning is also made easy as the sensors are located at the end of the installation. The sensors are solar powered which greatly simplifies maintenance as no batteries need to be replaced.

ABOUT CYLON

Cylon Controls Limited provides smart energy control solutions for buildings. Founded in 1985, Cylon is now one of the largest independent manufacturer of building control systems in Europe and continues to grow worldwide. With the UnitronUC32 solution Cylon delivered the groundbreaking UniPutT technology and today continues to lead in terms of innovation and responsiveness to customer requirements. As the independent supplier Cylon's go-to-market philosophy is based solely on working through approved system integrator partners which ensures competitive service and support for all projects big or small. For more information visit www.cylon.com.



PROJECT SUMMARY

Applications:
Monitoring, heating, cooling,
metering.

Number of Points:
100 to 200 points in each school

Number/Type of Building:
6 schools

Network: Ethernet

Cylon Hardware Installed:
UC32.Net
UC32 Field Controllers

Cylon Software Installed:
UCC
UEC

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