

COMFORT CONTROLS CASE STUDY

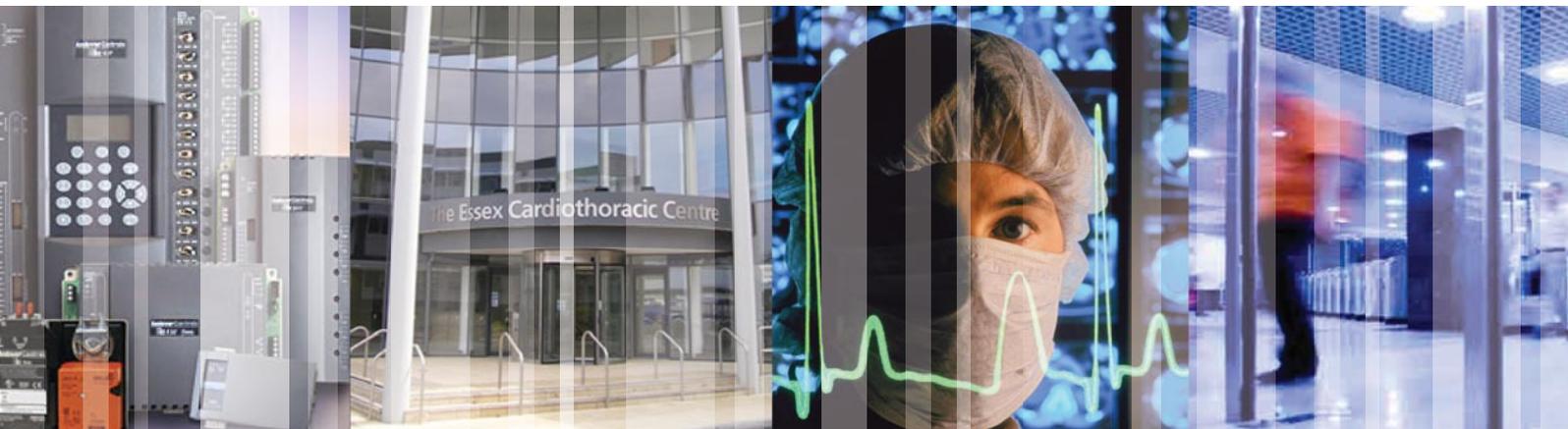
BASILDON UNIVERSITY HOSPITAL

One of the first ten NHS Foundation Trusts in the country, Basildon University Hospital provides an extensive range of acute medical services to a 400,000 population, as well as being an associate teaching hospital. More than £60 million has been invested in the last few years expanding and modernising Basildon University Hospital.

Comfort Controls Ltd. installed the Hospital's original Building Management System (BMS) over 15 years ago, mainly to automatically turn mechanical plant on / off and monitor faults from a central location. A lot has changed since then. The system has been extended to integrate access control and now the focus is on energy saving and reducing the carbon footprint. The BMS is now used by a much wider range of personnel than ever before, including Energy Managers, Facilities Managers, Security, as well as plant engineers.

The latest generation Continuum BMS from Schneider integrates multiple HVAC systems from different manufacturers and provides access control on over 150 doors around the hospital, bringing them onto one easy to use platform. It allows authorised Hospital staff to monitor, manage and control the mechanical plant and access control across the hospital in real time - including the heating systems (boilers and pumpsets), the cooling systems (chillers and pumpsets) and the air plant (air handling units) - from a range of computer based workstations.

Continuum works with the latest open protocols to provide a highly flexible and scalable system, allowing it to readily cope with changes in building usage, refurbishment, etc. as well as enabling an exceptionally wide range of programming. So, for example, lights can be activated at a set time in a specific zone and



Flexible BMS for Both Modern and Legacy Plant

Over the years Comfort Controls has maintained the BMS and access control system and kept our client up to date with the latest BMS technology to meet their evolving requirements, including upgrading to Schneider Electric Continuum and providing comprehensive training to allow staff, and the Energy Manager in particular, to interrogate and modify the system for maximum efficiency.

authorised personnel are able to access all or just the relevant parts of the system, such as the engineers viewing all the temperatures and faults, the energy manager seeing the meter readings, the security teams viewing all the door access events and alarms and so on.

At Basildon University Hospital, most hospital buildings have their own plantroom which houses the HVAC plant for that area, so Comfort Controls has installed BMS outstations and control panels in each location networked via the Hospitals IT infrastructure and local dedicated networks.

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Maintenance

Modern building services systems are an integration of mechanical, electrical and control components and like all complex systems require structured maintenance/support to give continued optimum performance.

As well as modifying and extending the system to incorporate new buildings and refurbishments Comfort Controls provides regular ongoing maintenance of the entire BMS and Access Control Systems to ensure that plant continues to be controlled at optimum levels and the access control system operates smoothly. Planned Preventative Maintenance (PPM) of the building control system recognises this requirement and brings tangible user benefits:

- Reduction in emergency breakdowns
- Building services tuned to building operations
- Optimum energy efficiency
- Safety and comfort of the building users

sophisticated BMS, but also with a number of energy efficiency schemes that have been implemented.

Heating system temperatures are reduced by compensating the flow temperature against outside air temperatures to reduce the heating when the temperature outside is warmer.

Street lighting is now controlled by light sensors and only comes on when required.

Comfort Controls has also fitted Variable Speed Drives on air handling unit fans and pump motors at the Hospital. Historically, most motors were just turned on and off; when on, they would run at full speed. Fitting a Variable Speed Drive enables the motors to work at a reduced rate with minimal effect on the actual motor output but a significant cost saving. We estimate that a 5-10% reduction in motor output equates to a reduction of up to 50% of the plants running costs.



Comfort Controls engineers attend site and work through the entire system ensuring that each control loop, schedule, alarm etc. is working correctly and check the operation of the graphics for each system.

Energy Saving Schemes

Energy usage at a site the size and nature of Basildon University Hospital is a major consideration, with the Trust taking active measures to reduce both fuel bills and its carbon footprint. Comfort Controls has played a pivotal role in this, not only with the installation of a

Integrating Security

One of the key decisions in our choice of BMS for Basildon University Hospital was the ability to not only monitor HVAC, but also security. The Continuum BMS is both a climate control system and a security system, reducing the overall system cost (there's no duplication of hardware and wiring as with separate systems), while providing a solution for the growing requirement for tight integration using coordinated control strategies.

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Comfort Controls installed the access control system which has been expanded over the years to cover over 150 doors, fully integrated into the BMS. The system not only provides security for the hospital but also allows for automatic plant reaction. So, for example, when a person enters an unpopulated area, the ventilation is activated via an occupancy sensor when they exit these systems go into a setback mode or switch off.

The access control system has recently been extended to cover the Hospital's multi story car park, with the key aim of enabling staff parking to be automatically controlled and billed. Now, staff can choose to have access to the car park added to their proximity card and will be automatically billed at set intervals, whilst visitors continue to gain access in the standard manner. In addition, the system has been cleverly designed to allow the Hospital to manage the car park better. By installing exit validation readers on the top floor, staff are encouraged to park at the top levels, leaving the lower floors clear for patients and visitors.

The relationship Comfort Controls has built with Basildon University Hospital over the years is a strong, forward looking one. We work closely with key Hospital staff to understand their changing requirements and make recommendations to meet and anticipate their needs and to aid to the continued smooth running of the hospital.



Project Address

Basildon University Hospital

Nethermayne,

Basildon,

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Tel: 0845 155 3111

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www.basildonandthurrock.nhs.uk

Project Type

HVAC and Security

Project Name

Basildon University Hospital

Market Segment

Health Care

Number Of Buildings

15

Controllers Installed

7 x CX9900 Net Controllers

120 x I/O Modules

34 x i2814

3 x i2867

9 x i2804

27 x i2920

Total System Points

2300

Total Software points

900

Applications

- Heating, Ventilation and Air Conditioning
- Door Access Control and Security Management
- Car Park Access
- Electrical Metering
- Serial Communications to Chillers Inverters and Generators