

# Enhanced Plant Control Through Remote Monitoring at NHS Hospital Sites



## Overview

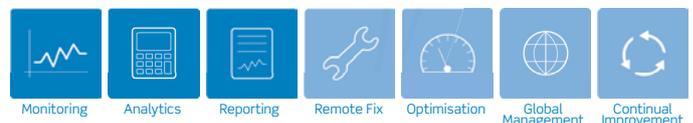
*"The job of managing plant manually across an estate as complex and varied as an NHS Hospital would be inefficient - with the Next GUI, I can see at a glance how every piece of equipment monitored is performing and deploy my limited resources more effectively."*

Chief Engineer

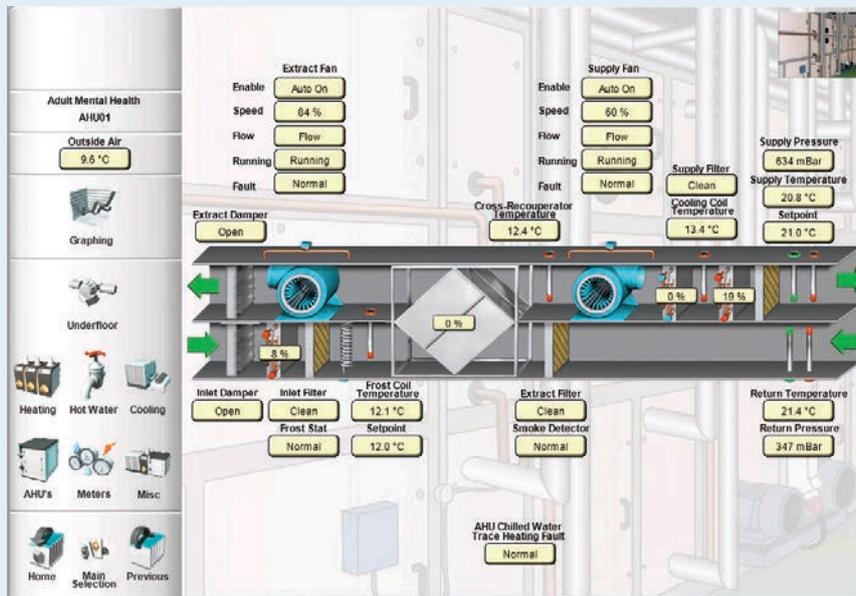
Typical of many NHS hospitals in the UK, this large facility has evolved over the years as the community's needs and population growth has necessitated expansion and modernisation.

Management of this ever changing site from an estates and facilities perspective is complex, especially so with the current budgetary pressure mandated by the economic conditions of the past five years. This suggested a technology based solution to improve efficiency.

## iBOS Components Delivered



# Controls Implementation Process



Seven years ago, the initial phase of the energy management process was to implement continuous monitoring of the HVAC systems in place and Next Controls were selected to upgrade the existing system and to install over 100 controllers to deliver plant data to a central server.

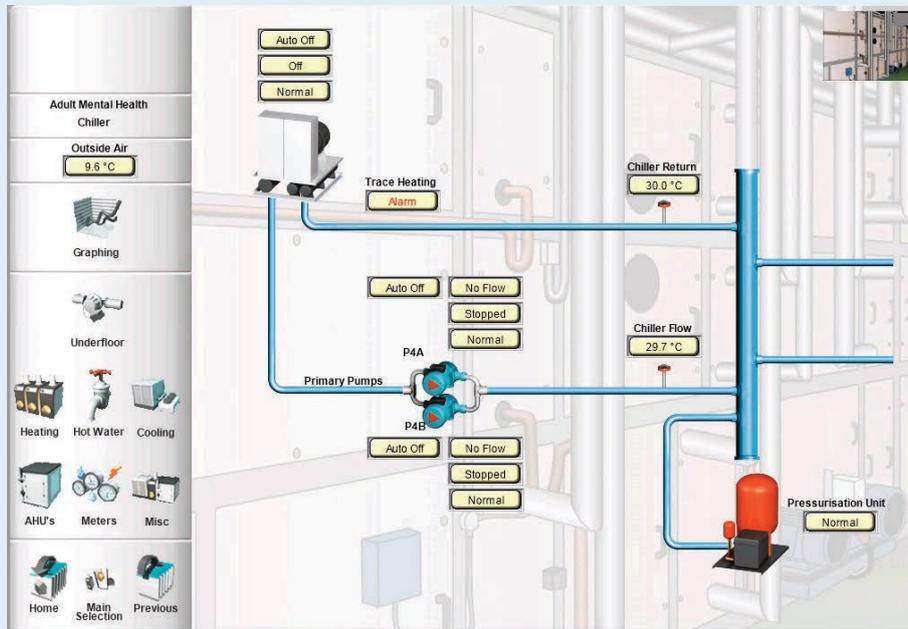
As a result of internal demands and external compliance needs, to monitor refrigerated blood products in the hospital pharmacy department. Subsequently this has been migrated over to the specialist scientific monitoring system called Tutela (also manufactured by Next Controls) which ensured changes in compliance regulations were adhered to.

The initial phase of the system implementation in the older parts of the hospital were installed on local servers, but all new build in the hospital has been enabled using Next Controls web-based technology as the system evolved.

The most recent project has been the monitoring of flow and return in the heated water circuit serving the wards to support a comprehensive anti-legionella strategy that will be rolled out further in stages.

Exterior temperatures are monitored via the Next interfaces to determine whether to raise temperatures internally, and to salt/grit exterior areas when its cold. This improves patient/visitor comfort and mitigates against accidents on-site, consequential injury and potential litigation.

# Continuous Monitoring Means Control Efficiency



Additional remote sensors were implemented on a variety of plant around the site and these produce a wealth of data. This data is captured and displayed in a web-based graphical user interface (GUI) tailor-made by Next Controls to meet the engineering teams specific control and management needs.

Using web-based dashboards and server-based GUIs the hospital's engineering team are able to monitor plant, in real time, at a glance. Remedial action can be taken rapidly to mitigate plant failure, and to reduce carbon footprint and ultimately costs.

Trend data allows the team to monitor plant energy usage across the whole site against pre-determined benchmarks which take into account expected behavioural patterns unique to an NHS facility. These performance trends indicate whether the plant is coping with its load or needs replacing or upgrading.

## Future Energy Management Extension

As the Next Controls system has achieved its objectives, the engineering and facilities team at the are looking to roll the system out to three community hospitals in an initiative to improve efficiency. By having all the outlying community hospitals monitored and linked to the central Next Controls dashboards on the main site, significant savings in resource and energy cost would accrue.

## Web-based Energy Management for Expandability

Key to this rollout plan is the capability of the Next Controls system for almost unlimited expansion because it is web-based. Utilising standard internet protocols, no third party software needs to be installed or maintained on local servers, the capacity of which would eventually limit flexibility.

This flexibility is enhanced by the brand and technology agnostic nature of the Next Controls system.

Additionally, Next Controls are approved to connect monitoring equipment directly to the NHS N3 network.

## Key Points

- Continuous remote monitoring enables greater operational and energy efficiency
- Web-based systems allow unlimited expandability
- Next Controls provide BeMS brand agnostic solutions
- GUI's and dashboards can be designed to meet specific needs
- Dashboards empower and inform the management team
- Web-based systems provide secure 24/7 access from any internet capable device

