

Case Study: Workspace Technology Design and Install New Energy Efficient Edge Micro Data Centre at the Royal Derby Hospital

Derby Teaching Hospitals 
NHS Foundation Trust



Officially opened in April 2010 by Her Majesty The Queen and His Royal Highness The Duke of Edinburgh, the Royal Derby Hospital provides healthcare services for over 600,000 patients a year. The state-of-the-art healthcare facility is situated in the East Midlands and is part of the Derby Teaching Hospitals NHS Foundation Trust. Over £350 million has been invested into this establishment by the Trust to provide the best possible healthcare services for its patients in a modern environment.

The Challenge

It was recognised by the Trust that modern ICT infrastructure, underpinned and supported by a specialist Hybrid Data Centre Facility, is essential to support the hospital's objective of continuous improvement in the provision of innovative, caring and contemporary public healthcare. An intelligently thought out compliance criteria was set by Royal Derby Hospital's IT Department for the data centre.

Workspace Technology was required to deliver the stated criteria within its project proposal that needed to go through a public tender process. The decision was made to appoint Workspace Technology based on our power efficient high performance Edge Micro Data Centre technology which provides an economic solution without technical compromise.

The Solution

Data Centre Solutions



The complete project was managed entirely from the early design stage through to installation and commissioning.

The initial stage was the construction of the 'white space' to house the critical IT Design Overview infrastructure. This was formed using a modular composite panel system, that provides 60 minutes of fire protection, along with the installation of raised access flooring throughout using heavy grade computer room tiles.

A complete end-to-end electrical installation was designed including Schneider Electric LV Switchgear, critical and mechanical power distribution. The technical infrastructure saw the deployment of 12 x Schneider Electric NetShelter SX multivendor equipment racks along with metered rack PDUs and Cat6A I/O rack-to-rack cabling links.

Workspace Technology installed DencoHappel's latest generation high efficiency perimeter DX cooling technology. This latest generation CombiCool cooling system provides close climate control of all IT equipment within the data centre, delivering robust high energy efficiency, complete with a low carbon footprint. Combined

with Workspace Technology's FlexAisle® aisle containment system, the CombiCool cooling technology delivers a highly efficient cooling infrastructure with a PUE of <1.2.

The Royal Derby Hospital also opted to take advantage of our After Sales Support, Planned Preventative Maintenance, Break Fix Call Out and Optimisation services to ensure that their edge data centre infrastructure operates at optimal efficiency.

The Benefits

Due to a robust project delivery plan being drawn up in collaboration with all the stakeholders prior to commencement on site, the plan was executed seamlessly by the combined Workspace Technology and Royal Derby Hospital's Project Team. Contributing heavily to the overall success of the construction and commissioning phase was the regular reporting and 100% achievement of all milestone dates.



Workspace
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The close control 'hands on' approach ensured that the project was completed within budget, on time and without disruption to hospital staff or patients.

"We chose Workspace Technology because of their proven experience in deploying Micro Edge Data Centre solutions. You cannot afford to get decisions on who you choose for this type of infrastructure wrong. Workspace Technology delivered exactly what they said they would through pain-free project execution resulting in an efficient, resilient hybrid data centre, on time and on budget!"

Paul Reed, Capital Project Design Advisor at Royal Derby Hospital

Compliance Criteria

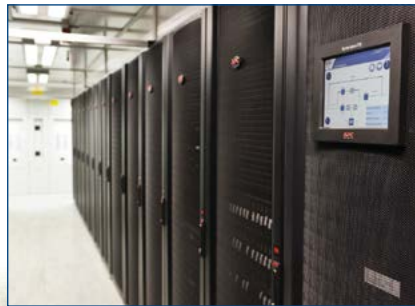
- **Cost Effective** - Maximise investment to reduce OPEX and CAPEX costs.
- **Effective as Hybrid Data Centre Facility** - ability to work effectively with both physical and cloud based services.
- **Highly Energy Efficient** - delivering IT infrastructure that operates at industry leading Power Usage Effectiveness (PUE) levels.
- **Future-Proofed** - Modular design with 'builtin' agility to allow for future deployment of new compute technologies.
- **Resilient** - Redundancy and resilience built to ensure system availability.

- **Greenhouse Gas Efficient** - Minimise carbon emissions.

- **Easily Maintainable**

Design Overview

- Secure Modular Composite Panels
- Raised Access Flooring
- Electrical Switchgear
- Power Distribution
- Schneider Electric NetShelter Equipment Racks
- Schneider Electric Symmetra Modular UPS
- DencoHappel CombiCool Downflow Cooling Units
- FlexAisle® Aisle Containment
- Fire Suppression Systems
- Structured Cabling
- Emergency Systems & Lighting



Emergency Room



Interested in finding out more?

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