

Case Study: NHS Data Cabinet Refresh Wireless Programme

Case Study: NHS Healthcare

Client: Stockport NHS Foundation Trust









Sector: Healthcare

Site: Stepping Hill Hospital

Budget: £2.9 Million

Completed: October 2024

Services Used

-  Project management
-  Mechanical Engineers
-  Electrical Engineers
-  Fibre Optic Engineers
-  Data Network Engineers
-  Fire Stopping
-  Asbestos Survey & Removal
-  Specialist Cleaning Team



Enabling the Trust to deliver its digital strategy with enhanced networking and seamless Wi-Fi coverage.

Project Aims:

A high-speed data infrastructure, including a robust Wi-Fi network, is essential for the smooth running of a Hospital and Health Trust. Computers, telephones, and medical and clinical devices require a fast digital network to function efficiently.

The project solved the problems associated with the existing older network, replacing the existing 350 access points with over 1,800 state-of-the-art access points, including 50 external points providing seamless wireless network coverage across the entire site.

Contract Arrangements:

Meel Group was awarded the work as an NHS SBS Framework supplier, and we also have a long working relationship with Stockport NHS Foundation Trust.

Project Overview:

The scope of the project involved designing and implementing:

- New switches throughout, and all data cabinets were replaced or upgraded.
- New CAT6 cabling to all Wi-Fi access points.
- Fibre optic cabling upgraded or extended as required.
- Over 1800 new Wi-Fi access points to provide seamless internal and external coverage.

Data Cabinets

To implement this system, we needed to replace many outdated data cabinets across the hospital campus, either refurbishing the existing data rooms or building new rooms to house the replacement switches and cabinets.

The connecting fibre optic network was extended and repaired as required to form a robust infrastructure. We installed new CAT6 cabling to supply each of the Wi-Fi points.

Benefits of new data infrastructure:

The scheme supports the Trust's 'Wi-Fi First' policy with Wi-Fi connectivity throughout the campus. The seamless network will increase the capacity for diagnostic machines to be connected to Wi-Fi within clinical areas and continue to work while moving around the hospital.

We designed a robust, modern network infrastructure to accommodate future needs and growth. The network has improved safety and security, and each upgraded data cabinet has UPS battery support.



Scope of Works:

The new switch cabinets were sited in multi-purpose or fully dedicated cabinet rooms.

Dedicated Cabinet rooms

The project involved working on over 70 cabinet rooms; some required refurbishing, others needed decommissioning and new rooms constructed. Each room was provided with either AC, Active Cooling or Ventilation as required. The rooms also contained a UPS (uninterrupted power supply units), fire retarding and security doors.



Containment and Cabling

The project required re-cabling and extending the network as needed, with new Cat6 cables going to all 1,800 Wi-Fi access points. The cabling was held in new containment and tray systems and generally sited above suspended ceilings. Working on a live site often required cabling work to be carried out at night when the hospital was least active.

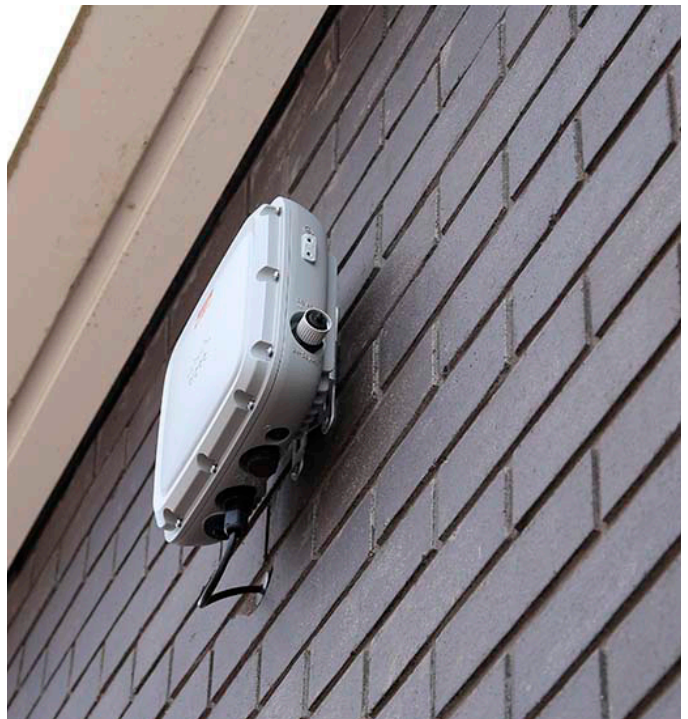


Wi-Fi Access Points:

The seamless coverage utilises new wireless access points conforming to the Wi-Fi 6 standard. The Wi-Fi 6 means faster speeds, increased spectrum, lower latencies and a large capacity of clients per access point.

Advantages to the hospital

- Allows monitoring equipment connection while a patient is moved through the hospital.
- Enabling 'future forward' clinical communications systems.
- Internal and external network coverage of the entire hospital campus.



Project Challenges:

Our agile and flexible working approach to this project overcame seasonal access restrictions, bed pressure restrictions, and ward closures due to Covid and Norovirus. We worked closely with service leads and the Trust throughout the project and utilised a 'live-bed' working strategy to maximise windows of opportunity to perform work in restrictive areas.

For long periods, our teams often worked at night and at weekends to cause minimum disruption. Meel Group worked closely with Infection Prevention teams to ensure that our work did not add any risk to patients. We coordinated with the cleaning teams, which was essential to ensure areas were ready for hospital use when we completed our work.

Results:

The Project was delivered on time and within budget. There were no health and safety incidents, accidents or near misses. The fully operative system provides seamless and robust coverage of the hospital buildings and external areas.

Client feedback:

"Stockport NHS FT first approached Meel Group during quarter 3 of 2022/23, following an internal 'change readiness' review of the Trust's network and wireless infrastructure.

The review was part of a significant programme of change and digital transformation to implement a number of clinical and operational systems to improve service performance and quality standards, but ultimately to improve patient experience. I would personally endorse the Meel Group for programmes of a similar nature and complexity in both a public and private sector setting."

Chris Hudsmith

Senior Digital Transformation Portfolio Manager
Stockport NHS Foundation Trust

