

MANCHESTER
1824

The University of Manchester

Case study

The University of Manchester

Location Manchester, UK

Value £300,000

Site Size Over 40 buildings

Duration 6 Weeks



About

The University of Manchester, formed in 2004, is ranked as one of the top 5 Universities in the UK. They were England's first civic University and have one of the largest student populations in the UK. They pride themselves on their rich culture and by 2020 aim to be one of the leading Universities in the world. The University of Manchester has embarked on a £1 billion ten-year plan to create a world-class campus for students and staff. The Campus Masterplan 2012–22 will create a single campus for the University and involves constructing new student facilities and buildings for teaching and research.

The brief

The University itself is undergoing a huge refurbishment and development programme that is intended to ensure its position as one of the foremost academic institutions in the UK. Sudlows were commissioned to divert and install several critical fibre backbones of the University core network whilst ensuring there was no drop in the overall network performance. This was also combined with a series of challenging programmes to relocate the existing data centre and its active equipment along with a vital upgrade to all the key comms rooms.

The project was split up into 3 key phases and it was important to ensure a seamless and uninterrupted service in order to guarantee minimal disruption to staff and students.

The Solution

Phase 1 involved the relocation of the existing site wide blown fibre and conventional fibre optic cables from the Kilburn Building data centre to a new 8 rack facility network room, adjacent to the existing data centre, it was Sudlows responsibility to replicate the existing fibres within the data centre in the new network room to allow the new IT equipment to be migrated across with minimal disruption to the campus, when the existing network was replicated the site wide blown fibre cabling was relocated.

Within the new network room, Sudlows engineers installed 8no Eaton 42U 875 X 1000mm racks to house all the new and existing fibre cables and network equipment. The fibre optic link cables were presented within the new cabinets onto new 24 port LC duplex patch panels and were dressed into new fibre trays within the enclosure ready to be spliced through when the existing fibre optic cables were diverted.

To avoid cross patching within the cabinets and to link the IT equipment to the site a separate cabinet was used as a fibre patching field. This allowed all site wide fibre optic cables and IT equipment to be easily accessible from this isolated cabinet.



In total, 836 fibre optic cores were relocated to a new wall mounted splice enclosure (ODF) and 29 blown fibre tubes were either joined or relocated.

The main challenge of this project for the Sudlows Fibre engineers was that they had to disconnect anything from 1 to 7 buildings each night and then ensure to have them back up fully operational by 7am the next morning.

To achieve this target a meticulously scheduled migration plan was developed and implemented to make sure the changeover was as smooth as possible.

Phase 2 was slightly more challenging, as a bridge between two of the campus buildings, The Alliance Manchester Business School (Alliance MBS) and Crawford House, was set to be demolished. Sudlows replaced all the existing optical fibres that crossed the bridge linking the various buildings and cameras around the campus. A detailed 8 week survey was conducted and a comprehensive document was created in order to plan the works required. There was just 6 weeks left to carry out the works prior to the final demolition all achieved, whilst completing works on Phases 1&3.

Sudlows teams installed 2no 12 core blown fibre tubes from the business school building to the Kilburn data centre, 5no 12 core blown fibre tubes were also installed within the Alliance MBS building to replace those existing fibres that would soon be redundant. Once all the fibres were installed and tested, a changeover plan was developed in order for the fibres to be migrated and the old fibres stripped out from across the bridge.

Phase 3 was also worked on throughout the duration of Phases 1&2. Sudlows carried out work within the University's new 35 rack Co-Lo data centre facility. This project had many obstacles to overcome, the main being the timescale, as Sudlows only had 11 days to complete

a project that would typically take 12 weeks. This was achieved by having five teams of engineers working extensive shifts and bank holidays to ensure this critical project was finished.

In total over 700 Cat6A and 100 optical fibre cables were installed.

A short time after the above projects were completed Sudlows carried out a smaller but still complicated project. The existing network cabling within the IT department was fed from the Kilburn data centre, that was due to be refurbished, so Sudlows had to migrate the existing 280no Cat5e cables from the network racks within the data centre to a new temporary rack outside the new network room.

Conclusion

Darren Stephens, The University of Manchester Network & Telecomms Planning Officer commented;

"This project presented many challenges, especially time constraints, but Sudlows completed all phases on time, within the budget and with minimal disruption to the University. Sudlows dedicated team of engineers worked extremely hard in order to ensure the project ran smoothly and efficiently."



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