



New 200kW Node for Flag Bearer UK Telecommunications Company

Case Study

As part of a nationwide expansion project focussing on existing infrastructure approaching capacity, combined with online digital content growing exponentially year on year, Sudlows were appointed to undertake the full design and construction of an extended 200kW telecoms node within an existing facility to provide additional capacity and support for the local network.

The project brief was to design and deliver a new telecoms node hosting a minimum of 38 network racks, to be built on the second floor of an occupied building close to the centre of a major UK city.

The new node was to have a Day 1 and ultimate equipment load of 200KW DC load. The DC power plant system selected to feed the network

equipment was an A+B system each located in their own power rooms with diverse separation between them and the equipment room. Each power room requires an N+1 cooling system to maintain the environment.

All equipment was deployed on a raised floor, complimented with 3x hot aisle containment pods, whilst utilising the ceiling plenum as a means for the return air. The FADX cooling units conditioning the space were in an N+1 configuration and with the fans and controls within these cooling units also supported by a separate UPS system housed within the power rooms. Diverse fibre cable routes were also identified back to the existing Node on the site.

A key challenge to this project lies with its city centre location, coupled with a second floor construction within an occupied and fully operational building with extremely limited hold down space. The co-ordinated planning of deliveries to site, combined with the logistics of movement of equipment and materials around site would be critical to the success of this critical project being delivered on time, and therefore a project execution plan was produced and observed with military precision.

A rigorous round of independent commissioning on all equipment and systems, followed by a client witnessed Integrated Systems Test using scripts compiled collaboratively between Sudlows and the Client Specialist Team, including the installation of 200kW of DC load banks to simulate loads in the white space, provided assurance that the solution could continue to function under numerous failure modes and conditions, and therefore met and exceeded the project brief.

The complete project was designed and built as a turnkey solution by Sudlows, supported by our multidisciplinary in-house Engineering Team and our highly experienced dedicated Telecoms Delivery Team who, through careful planning and close co-ordination with the Client Team, ensure that the project delivered the much needed increase in capacity, within the required timeframes, and without interruption or downtime.