



## Major Upgrade to Existing Node for Major UK Telecommunications Company

### Case Study

As part of a nationwide expansion project focussing on existing infrastructure approaching capacity, Sudlows were appointed to undertake the full design and construction of an extended 400kW telecoms node within an existing, operational facility.

The facility, located in Belfast, Northern Ireland also housed several other primary nodes serving the area and a number of 3rd parties and so minimising disruption to both site operations and services was critical.

The project was split across two floors of the multistorey building, with an extended separate white space area of 400kW, and two dedicated A and B Power Plant rooms.

Sudlows included a wide range of technologies to enable the project to be delivered both in compliance with the customers bespoke specifications and with the highest levels of efficiency.

Power systems included both 380V DC and 54V DC power conversion and distribution systems complete with integrated battery storage to provide autonomy in the event of a grid failure. Alongside this, high efficiency static UPS Systems provided a similar resilience to the AC power stream.

Cooling systems varied by the particular environment/space with the primary high-density node being conditioned by highly resilient and efficient, high precision DX CRAC units in an N+1 arrangement, supplied from dual and diverse electrical supplies via ATS units. Conditioned spaces requiring a lesser degree of control and accommodating a lower density of load, were cooled via a direct air-cooling system, with an integrated inverter DX back up system, allowing the system to operate in full free cooling, partial free cooling, or a fully closed loop, DX mode.

New primary cable routes were identified and installed within the existing building, and new cable risers formed as required to facilitate power to the new submain panels while ensuring minimal disruption to site operations and no disruption to service.

Structural enhancements in the form of supporting steels were installed to the upper-level floor to accommodate the identified new equipment weights, and rooftop edge protection and screening erected around the condenser arrangement.

The complete project was designed and built 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.