Aston University

Case Study

Intelligent electrical and mechanical installations

For more than a decade, npower Business Solutions's (nBS's) Technical Services Team has been working with customers and building contractors – as well as directly with organisations of all types and sizes – to deliver a wide range of mechanical and electrical installations.

From combined heat and power (CHP) plant to intelligent temperature control systems, from energy efficient building controls to security and access systems, nBS's experienced team of engineers, project managers and technicians can advise on, design and install all types of electrical and mechanical projects – both new build and retro-fit – to meet specific requirements.

Each job is approached as a bespoke project, with the aim of delivering the most efficient, cost effective and future-proof outcome. nBS can advise on new energy efficient technologies and how best to organise building infrastructure to reduce energy spend and carbon emissions.

nBS's scope of work is broad and includes:

- New connections and power distribution
- Data and building management systems
- Heating, air conditioning and ventilation
- Lighting

Aston University, Birmingham

Working with BAM Construction, nBS's team was responsible for the electrical, temperature regulation and security aspects of a major refurbishment of the university's library.

The three-storey building had been constructed in the 1970s and was in need of updating and modernising, including some new build work to construct a glass entrance and atrium, plus a new lift system and stairs.

As well as handling all the power distribution requirements, nBS's team installed a new lighting system, underfloor and trench heating, air conditioning and ventilation, security and fire monitoring, audio facilities, plus a central plant room and controls. nBS's plumbing experts also installed above-ground drainage and managed the relocation of the toilet blocks on each floor.

"nBS delivered the project on time while maintaining continuity of the building services during the project works," says BAM's Construction Site Manager. "This meant the university could continue to use the facility, which was an ideal outcome."

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Oxford Brookes University

Case Study

Oxford Brookes University

Like many of the UK's leading universities, the popularity of Oxford Brookes meant that it needed to offer more student accommodation. nBS's Technical Services Team was asked to handle all the electrical and mechanical installations for two new accommodation blocks, which together offered 318 ensuite bedrooms along with communal areas.

"Fundamental to this development was improved access, security, safety, and facilities for the students, so working with the university and its consultants allowed the team to design with the end users at the forefront of their thinking," explains Richard Spencer, Head of Technical Services and Operations at nBS.

The nBS team's role included the design, build and installation of all power, heating and lighting, water, plumbing and sanitary facilities, plus fire, security, data and access controls.

"The building design also aimed to reduce energy costs by maximising energy efficiency measures," says Richard. "Our plan included the creation of an 'Energy Centre' that contained combined heat and power (CHP) plant. This on-site self-generation technology helps to reduce energy usage by providing usable heat as a by-product of electricity generation."

The buildings also made use of other energy-saving and environmentally-friendly technologies. For example, passive infrared (PIR) lighting and heating controls that are motion activated, so they only switch on when a room is occupied and 'green roofs' made of grass and small plants were incorporated into the building design. "These have a number of benefits compared to traditional roofs, such as thermal and sound insulation and an extended lifespan, due to vegetation absorbing water and protecting the roof below," explains Richard.

All these measures have helped to ensure the new accommodation blocks are environmentally friendly and cost effective to run, while still providing secure and comfortable accommodation for students.

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