

Sector: Education

Robertson business: Robertson Engineering

Client: Middlesbrough College

Value: £1.5m

Contract dates: Jan 2015—July 2015

Location: Middlesbrough College



STEM Centre for Excellence, Middlesbrough

Building skills in an industrial heartland

Middlesbrough College built a £20million Training Centre specialising in Science, Technology, Engineering and Mathematics (STEM). It simulates an industrial working environment to deliver training and qualifications.

The STEM Training Centre is part of a drive to transform Teeside's industrial heartland and help the workforce in the area build the skills and knowledge they need for their careers. These include manufacturing, various engineering disciplines, oil and gas, digital warehousing and logistics.

Training courses are offered for people already employed who want to improve their skills, as well as those with no prior experience but who are looking to get a job in the industrial sector.

Services installed

Robertson Engineering Services' scope was to design and install the mechanical, electrical and plumbing services, with a focus on renewable energy.

The electrical system had to accommodate high specification equipment in several manufacturing workshops and engineering training areas, and included specialist systems such as compressed air.

Mechanical services installed include: LTHW heating, hot water generation, hot and cold domestic services, gas flues, natural gas, compressed air, mechanical and natural ventilation, smoke extraction and, BMS controls.

Electrical services installed include: distribution boards and circuits; internal, external and emergency lighting; fire detection, intruder alarm, access control, CCTV, disabled WC alarm system, induction loop, photovoltaic system, wind turbine and lightning protection.

During the construction period, several site visits were arranged for the students of Middlesbrough College.

Resolving the challenges of environmental performance

In the pre-construction phase, during design development of the client's brief, there were challenges in achieving the required performance for the intended BREEAM rating, the thermal model and the fire strategy.

Robertson designers worked proactively with the client team and reran the thermal model on several occasions, concentrating on the fine detail of the mechanical and electrical installation in order to reach a solution.

The fire strategy was achieved with the introduction of additional smoke dampers, which allowed safe egress routes from all areas of the building.

The project is on course to achieve a BREEAM Very Good rating.



"Robertson have been very good to work with, they've sorted out a very tricky design. I'd like to work with Robertson again on the next project, wherever that may be."

Jim Wanless
Contracts Manager
Esh Build