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Advanced Engineering Centr (University of Brighton)

Advanced' construction enhances UoB's research and development

£14m / Project value January 2016 / The build commenced May 2017 / The build was completed

A "UK Centre of Excellence" for internal combustion engine research, the Advanced Engineering Centre (AEC) is a new three-storey building that has delivered vastly enhanced capacity for University of Brighton's (UoB) Faculty of Engineering. A two-stage design and build project, the BREEAM Excellent facility with a striking perforated metal mesh façade is a central component of UoB's £150m transformation programme of the Moulsecoomb Campus. Completed in 16 months, the advanced automotive research building with a GIFA of 2,770m² has expanded the existing Sir Harry Ricardo Research Laboratories through partnership with Ricardo.

The brief

A Two Stage Design and Build contract, UoB required an "inspiring environment" for its next generation of engineering students and researchers. As well as the construction of the new building, a complete fit-out was also a key element of the brief.



"Investment in such a fantastic building only aides the development of individuals and the UK as being an innovator for the future,"

President of the Women's Engineering Society

Benita Mehra

"The Advanced Engineering Building is opening in our 25th year as a university. It is a great addition to our facilities and an inspiring environment for the next generation of engineering students and researchers,"

Professor Debra Humphris University of Brighton Vice-Chancellor

The challenges

Situated within UoB's live Moulsecoomb Campus, with the surrounding roads, car parks and buildings in constant use during the works, our detailed construction methodology ensured that disruption was kept to a minimum throughout the project's duration. The resolution of issues relating to acoustics was also a challenge. Due to the nature of the research activities, test cells were arranged around the perimeter of the block to provide direct external access and reduce noise transfer through to the upper floor study areas.

The solution

Opened in May 2017 to coincide with UoB's 25th anniversary, the AEC has strengthened the University's "international reputation for producing innovative, future-facing research". The complex project has provided teaching facilities, a dedicated combustion engine research area, and cutting-edge research laboratories, as well as modernised engineering workshops to help postgraduate and undergraduate automotive, civil, electronic and mechanical engineering learning. Construction entailed the casting of pad foundations, suspended ground slab and reinforced concrete trusses to support the cantilever while the external steel cladding system was installed on the in-situ concrete frame. Giving the building its aesthetically pleasing appearance, the façade was meticulously designed around long stripped windows, with all connections evenly defined. The £14m scheme also included the technically challenging fit-out of the whole building, which included the installation of plant, finishes and specialist engineering infrastructure.

Outputs & Benefits

BREEAM: BREEAM Excellent

On Plan Delivery: The AEC was completed on time and on budget

Specialist Services: We installed specialist services including local extract, compressed air, gas supplies and liquid fuel supplies. The project also included specialist environmentally controlled laboratories and test spaces with thermostatic monitoring, air quality and waste management systems

Acoustics: The building was designed with exposed internal finishes, although to improve acoustics in certain areas suspended ceilings were installed

Carbon: A 50% reduction in embedded carbon was achieved thanks to materials utilisation

Research Positions: The success of the project has helped to generate over 30 extra research positions and will help provide an additional 60+ highly-trained engineering graduates per year





For more information on how we're delivering lasting impact:

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