Facilities

We occupy 7,000 square metres in a recently-refurbished building shared with Civil Engineering. Our new Design Centre houses over 80 networked computers for computer-aided engineering including computer-aided design (CAD), computer-aided manufacture (CAM), finite-element analysis (FEA), computational fluid dynamics (CFD) and systems modelling (engine systems; 1-d gas dynamic). There are also facilities for group design work, two new RP3D printing machines complementing the existing Denford table top four axis Compact 1000 Pro CNC router and milling machines.

Our £2.5 million machining research equipment is housed in a single purpose-built laboratory, enabling us to complete research contracts with industrial partners involving aeroengine manufacture, new materials evaluation (including titaniums and carbon fibre composites) and micro-sensor development for a whole range of applications.

Our new £2.5 million engines laboratories are being used to research engines for hybrid vehicle power-trains in highly-realistic transient speed/load conditions, including the effects of very cold start and combustion air (from -20°C) on emissions and performance.

We also have a biomedical engineering laboratory within a Class 2 containment area, equipped with the latest electro-mechanical testing machines for evaluating surgical implants, enabling us to work with surgeons and with the healthcare industry. Our clean room houses nanotechnology equipment used to make micro-electro-mechanical systems (MEMS).

Related facilities

- **Bio-medical and micro engineering (/research/activity/mechanical-engineering/bio-micro/index.aspx)**
- **Vehicle technology (/research/activity/mechanical-engineering/vehicle-technology/index.aspx)**
- Micro Machining Centre