Structronics

Complex structures with integrated electronics

A world-class interdisciplinary Research Centre backed by a £3.5M investment from the EPSRC to pioneer new "structronic" devices. Included are advanced "smart" materials and structures with integrated sensors and electronics. Applications include equipment health monitoring, integrated systems optimised for weight, cost and assembly and fully functional devices such as actuators that are made using purely additive manufacture.

Technological advantages

- Low cost printed electromechanical parts
- Intelligent integrated structures optimised for multiple design parameters
- Reduced or no assembly required

Technology roadmap

We have considerable experience in pioneering electronic devices, additive manufacture and in particular autonomous vehicles.

- 2008 Opening of £55m new clean room and nano fabrication facility
- 2009-2012- grant in excess of £750k awarded by EPSRC to DECODE, which constructs advanced design tools and uses them to design, build and unmanned air vehicles with full autonomous control systems.
- 2010-2011- flight of the world's first 3D printed aircraft SULSA (Southampton University Laser Sintered Aircraft) with wingspan of 2m and top speed of 100mph.
- 2012- Installation of new £300k state-of-the-art 3D printing facility. We are also home to new world class facilities for 3D printing and Laser Sintering of structures, one of Europe's largest Nanofabrication Centres with world class facilities including Lithography, FIB, Etching, Wafer and Chip bonding, thick film printing, ceramic substrates and wafer processing.

Collaboration opportunity

The centre is seeking to partner with industry in order to construct a long term strategy for exploitation and technology transfer in this area. We are seeking to identify a partner who has a strong interest in sponsoring this vision and helping to steer the technology towards a successful outcome.

Collaborations include sponsoring PhD students or technology transfer partnerships.

If you would like to know more please contact
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