Update: Manufacturing & Design

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Overview

• Today I don’t want to look at our basic, low TRL, research, but at some other aspects of our work -
  • The Phoenix IUK project
  • The NCC pull-through projects
  • The Skills work and HEFCE project
  • Year in Industry placement student activity
  • The LayupRITE University for Industry project
  • iCOMAT, winners of the UoB New Enterprise Competition
  • The IDC in Composites Manufacture – Queen’s Award for Enterprise: Innovation
The Phoenix Project

This is an Innovate UK project to develop a novel, long duration aircraft based on controlled buoyancy to achieve forward flight.

The University of Bristol and NCC collaborated with industry, the MTC, CPI and other academic institutions to design, develop and manufacture the prototype. Our remit was the fixed and rigid minimum mass composite elements of the design.
Skills work and HEFCE project

We have been doing some basic workforce modelling to identify the number of trained composites engineers needed to achieve and sustain the growth predictions in the National Composites Strategy. At graduate level we need to triple the number of graduates fully trained in composites - and increase the number familiar with composites by a factor of 10. We have funding from HEFCE to start the process of developing a Composites Curriculum to address these issues – in collaboration with a number of UK academic institutions and the NCC.
Year in Industry placement activity

This fully recyclable vase was made in a 'sustainable composites' project that two Year in Industry students, Sophie Myers and Wilf Stoddart worked on during the first few months of their placement at the NCC. The project is a continuation of an Artist in Residence project by Tom Metcalfe, supported by UoB, the NCC and the Watershed Arts Centre in Bristol and was displayed at the London Design Show.

Other Year in Industry students: Ted Mallett at Zodiac Seats and Angus Firth at the MTC are also working with composites.
LayupRITE UFI project

LayupRITE is based on many years of research into manual lay-up. It provides AR based training for laminators, and delivers data capture for both training and on the shop floor to:

- Reduce waste and defects
- Increase productivity
- Reduce costs

CAMX Award Finalist 2018
iCOMAT wins the UoB NEC

iCOMAT, led by Eric Kim and Evangelos Zympeloudis, won the UoB’s New Enterprise Competition on 9th Nov 2018

Their ambition is to commercialise a world-first, defect-free, carbon fibre steering technology, Continuous Tow Shearing, to open a new era of automated composite manufacturing.
We are delighted to be able to celebrate the achievement of a Queen’s Award for Enterprise: Innovation by Jo Bird, one of the supporters of our IDC in Composites Manufacture.

Laxman Sivanathan’s work in his EngD was a major factor in achieving the award, demonstrating the value of focused research - even in very small companies.
Conclusions

We do all sorts of things in the Manufacturing and Design team - which is what has made it a pleasure to lead it for the last decade.

But all things reach a conclusion and this is my last year in charge, so I would like to thank everyone that has supported us over many years – the academics, RAs and students, the technical and support services and all of our academic and industrial collaborators around the world.
Thanks for everything