EPSRC Industrial Doctorate Centre in Composites
Manufacture 2012-2018
- focused on the National Composites Centre

Integral to EPSRC Centre for Innovative Manufacturing in Composites
http://www.epsrc-cimc.ac.uk

Presentation for ACCIS conference 2012

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New IDC launching autumn 2012

- New funding of £3.8M from EPSRC to support a cohort of 10 new UK Research Engineers (REs) p/a, for 3 intakes; **TRL 3-5** projects, 75% time within company, funded by the company
  - Complements, but different to, the PhD cohort already engaged on TRL1-3 projects within the EPSRC Centre for Innovative Manufacturing in Composites

- ‘Home-base’ at the NCC; taught component delivery centred there, also most dissemination events
  - Bespoke Taught programme, in 10-12 one week long modules delivered at the NCC
    - Will use University of Bristol assessment procedures

- Open to all UK composites industry and academia
  - **most appropriate company-RE-supervisor set**
  - **eligible** UK Research Engineers to be offered stipend of £20k p/a
  - company employees can join the scheme
Doctoral qualification routes

- 3 year PhD, TRL 1-3
- 4 year EngD, TRL 3-5
- 4 year PhD, TRL 1-3

Key:
- Red arrow: taught component;
- Blue arrow: lab based project;
- Green arrow: company based manufacturing project
Purpose behind the new IDC

- Significantly shorten development-to-application timescales across composites manufacturing field for significant impact on rate of progress

  e.g. ‘Real time cure monitoring by dielectric sensing’ - first PhD thesis 1991 ...EU/EPSRC... to commercial equipment installed at Airbus/NCC in 2011
  e.g. ‘Directed Carbon Fibre Preforming’ – first PhD thesis 1995....DTI... to employed by Aston Martin on DBS V12 2007

  ......and many other examples...

  Placing Research Engineers directly in the TRL gap, within practitioner companies

- Put manufacturing into postgraduate composites education provision in the UK

  Taught provision in the IDC initially to provide/complete M-level essential knowledge base for each Research Engineer;
  Accumulation of composites manufacturing specific knowledge to be the basis of an entirely new future MSc in Composites Manufacturing
Achieving feedback

**Key:**
- taught component;
- lab based project;
- company based *manufacturing* project

3 year PhD, TRL 1-3

4 year EngD, TRL 3-5

4 year PhD, TRL 1-3

IDC Composites Manufacture

ACCIS Composites DTC

Relevant questions

Generic knowledge

Relevant questions

Generic knowledge

3 year PhD, TRL 1-3

4 year EngD, TRL 3-5

4 year PhD, TRL 1-3
Research Engineer recruitment procedure

1: Suitable industrial project identified by industry partner organisation

- Contact IDC Director/Deputy Director directly idc@epsrc-cimc.ac.uk

2: List of potential projects from a number of partners assembled for matching with potential academic supervisors

Can be sourced from any suitable UK academic group, subject to collaboration/NDA/EngD agreements

3: Advertising and collection of applications

September – seeking 4+ new REs

CONTINUOUS RECRUITMENT PROCESS

4: Candidate shortlisting

5: Interviews

6: Appointment made

7: Induction procedure

- Company first, then the selected University

8: Join modular taught programme at convenient stage (as Visiting Student at UoB)
IDC in Composites Manufacture

- Who pays for what……

- EPSRC:
  - Advertising, recruitment, basic bursary, basic University fees, lap-top, course books, costs associated with the taught element of the course and transferrable skills training, access to specialist equipment, one Study Tour, one specialist elective module per RE

- The company:
  - Bursary top-up, fees top-up (if necessary), extra travel for attendance of specialist ‘elective’ modules - average no more than £20p/a per RE in cash
  - + THE PROJECT COSTS, including industrial supervisor commitment

- The host University:
  - Supervision, RE progress monitoring, additional transferrable skills training, library access, publishing costs, examination costs
IDC Management  September 2012

- Academic Director – Professor Ivana Partridge (UoB from 1/10/2012)
- Deputy Director – Professor Kevin Potter (UoB)
- Centre Manager (TBA)
  - Administrator (TBA)

- Existing overarching Management structure from EPSRC Centre for Innovative Manufacturing in Composites

- Now seeking collaborations with other IDCs
  - e.g. Joint Summer School with SYSTEMS IDC

- [http://www.epsrc-cimc.ac.uk](http://www.epsrc-cimc.ac.uk)