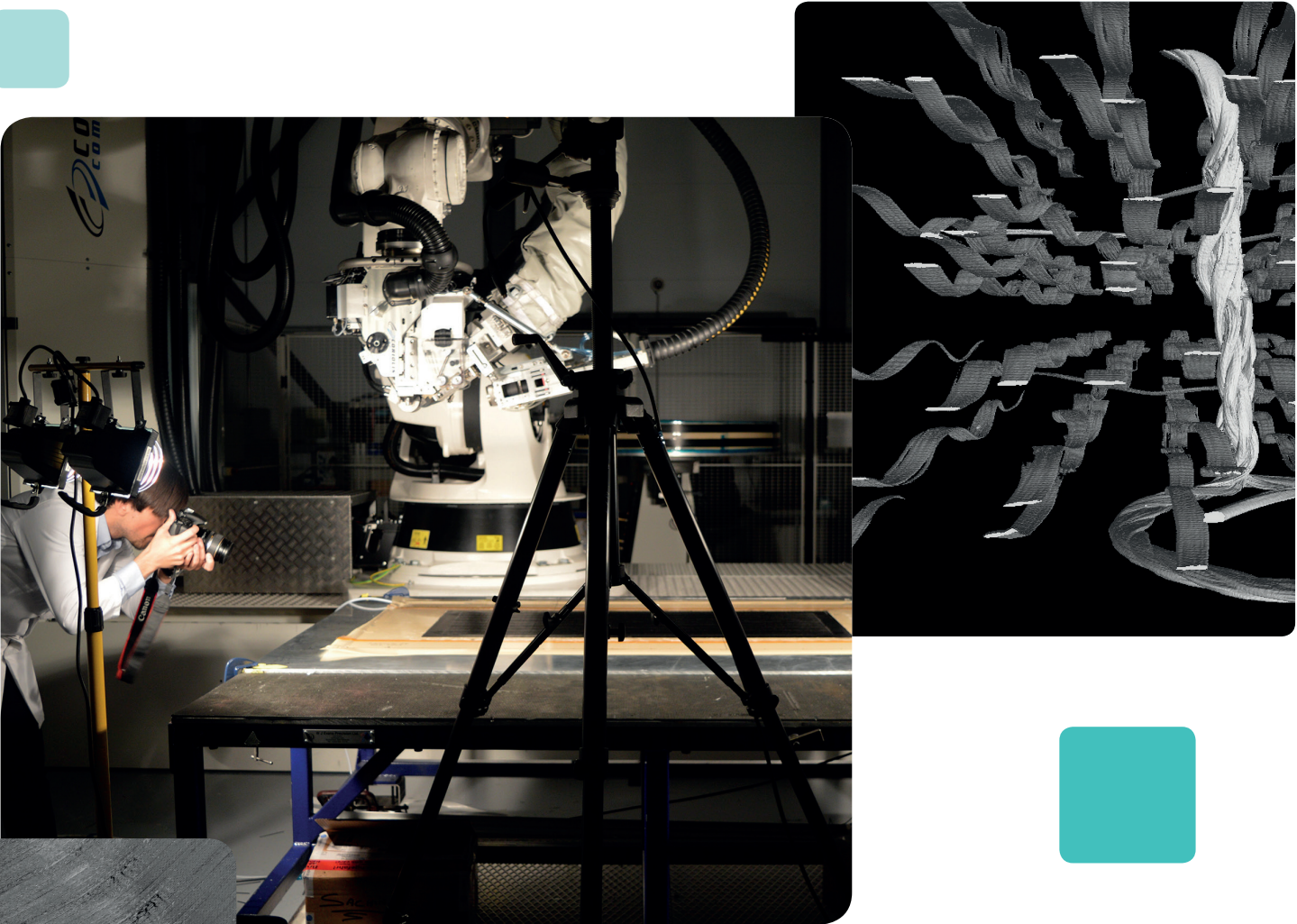


The Industrial Doctorate Centre (IDC) in Composites Manufacture



TRAINING ADVANCED INDUSTRY-SPONSORED RESEARCH ENGINEERS WHO ASPIRE TO KEY LEADERSHIP POSITIONS IN THE UK COMPOSITES INDUSTRY

The Industrial Doctorate Centre (IDC) in Composites Manufacture runs a four-year Engineering Doctorate (EngD) programme which aims to provide the UK composites manufacturing industry with Research Engineers equipped with the necessary advanced technical and leadership skills required for effective adoption of new knowledge and technologies in composites manufacture.

The EngD in Composites Manufacture provides a multi-disciplinary and academically rigorous education and training experience and involves the EngD Research Engineer conducting PhD-equivalent research sponsored and led by industry, while completing taught technical and business courses to inform and underpin the research. Relevant industry areas include

aerospace, automotive, marine, wind energy and construction.

Undertaken as a partnership between industry and academia, each EngD research project is designed around the sponsoring company's research priorities. Research Engineers spend 75% of their time at their sponsoring company carrying out the industrially focused research project, while the remaining 25% of their time is allocated to completing bespoke taught units. All IP generated as part of the EngD is owned by the sponsor company.

For further information on the EngD programme, please go to cimcomp.ac.uk/idc or get in touch via idx@cimcomp.ac.uk.

cimcomp.ac.uk/idc



THE UNIVERSITY OF NOTTINGHAM'S NEW £24M ADVANCED MANUFACTURING BUILDING WILL HOST THE HUB FROM NOVEMBER 2017.

Contact Us



Cimcomp.ac.uk



+44 (0) 115 951 3823



hello@cimcomp.ac.uk



[@EPSRC_CIMComp](https://twitter.com/EPSRC_CIMComp)

Prof. Andy Long
Hub Director
andy.long@cimcomp.ac.uk

Prof. Kevin Potter
Deputy Director for Exploitation & Partnerships
kevin.potter@cimcomp.ac.uk

Prof. Ivana Partridge
Director of the IDC
idx@cimcomp.ac.uk

Dr Thomas Turner
Deputy Director for Research and Operations
thomas.turner@cimcomp.ac.uk

Dr Lee Harper
Hub Manager
lee.harper@cimcomp.ac.uk

THE EPSRC Future Composites Manufacturing Research Hub

Underpinning the development of next-generation composite manufacturing processes



About & objectives



The Future Composites Manufacturing Research Hub offers the perfect platform to build upon the success of CIMComp to become the national centre of excellence in fundamental research for composites manufacturing. The Hub will drive the development of automated manufacturing technologies to deliver components and structures for demanding applications, whilst underpinning the growth potential of the sector by developing the underlying process science. We look forward to working with both academic and industrial partners to meet the needs and challenges faced by the UK composites manufacturing industry.”

Prof. Andy Long

Hub Director,
Prof. Andy Long

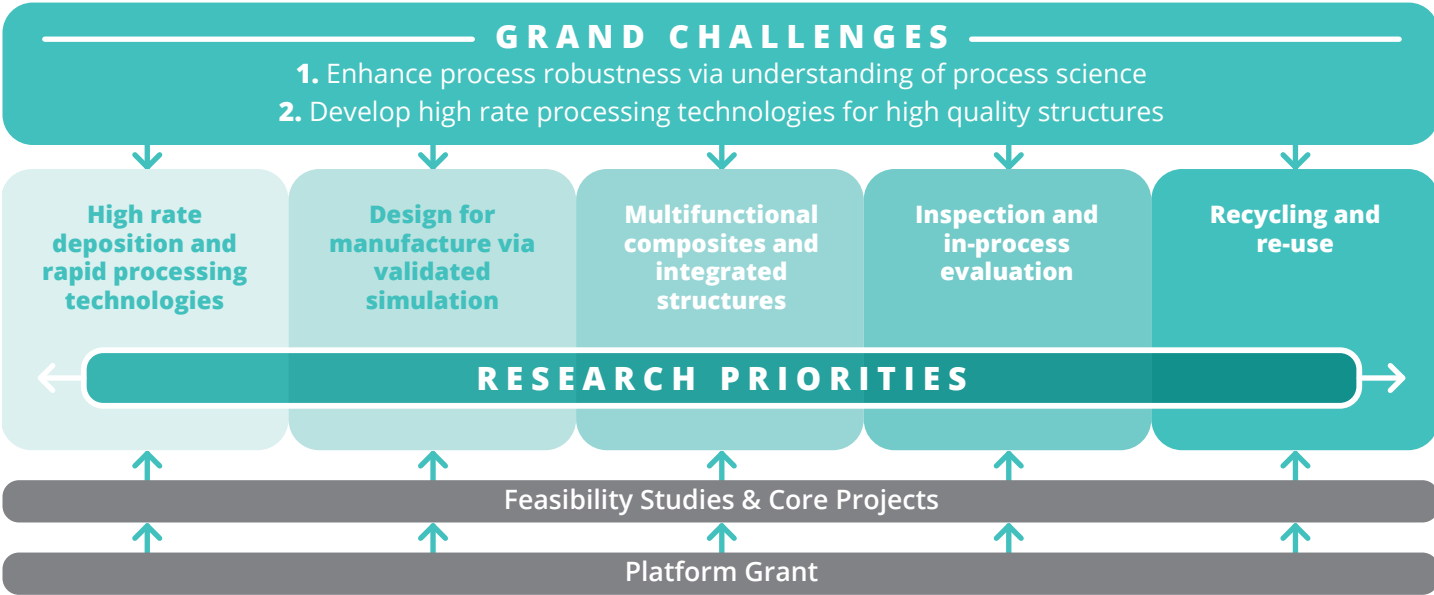
The EPSRC Future Composites Manufacturing Research Hub is a £10.3m investment to expand the national research effort towards delivering a step-change in the production of polymer matrix composites, whilst training the next generation of composite engineers.

The Hub is led by the University of Nottingham and the University of Bristol and includes seven other Spokes:

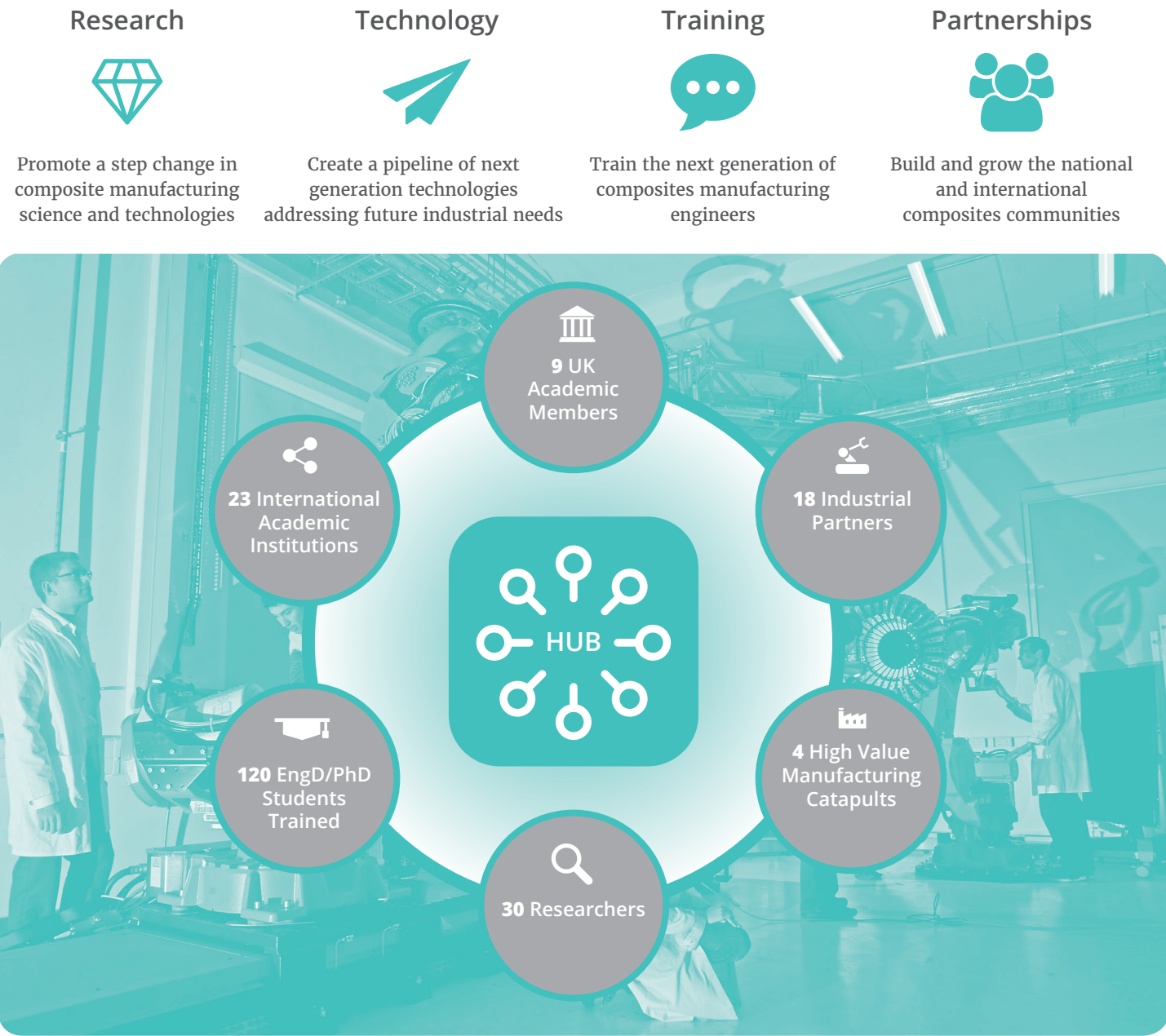
- University of Cambridge
- Imperial College London
- Cranfield University
- University of Manchester
- University of Edinburgh
- University of Southampton
- University of Glasgow

Supported by 4 HVM Catapult Centres and 18 leading companies from the composites sector – collectively offering a further £13m – the total Hub portfolio is worth over £23m.

The vision for the Hub is to enable Moore’s law for composites – a doubling in production capability every two years for high performance polymer composites. Five research priority areas have been identified with the help of industry partners and the broader composites community, in order to meet two over-arching Grand Challenges:



Collaboration

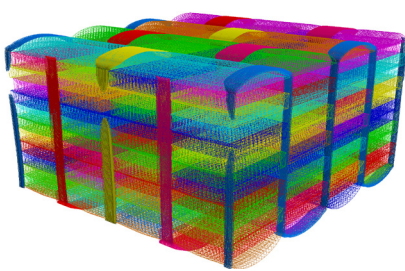


The Hub is continually looking for opportunities to work with companies, researchers and students.

WAYS TO GET INVOLVED

- Industrial**
- Sponsor an EngD student (typically £20k pa for 4 years)
 - Sponsor a PhD student (typically £18k pa for 3 years)
 - Collaborate with a UK academic to develop a new Feasibility Study proposal
 - Support a Core Project
- Academic**
- Submit a Feasibility Study proposal to one of the open calls
 - Develop a successful Feasibility Study into a follow-on Core Project
 - Supervise a PhD/EngD student affiliated to an existing Hub funded project
 - Apply for an Innovation Fellowship
- Student**
- Apply for an EngD or PhD and work on an industry relevant project with leading academics

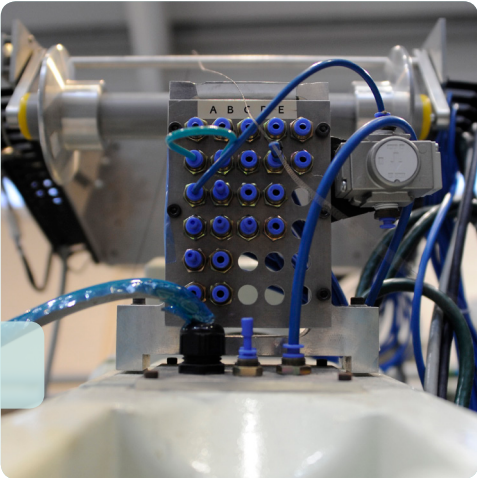
Research



The Hub employs a flexible funding model, ensuring a timely response to opportunities highlighted by technology roadmapping, industry or the UK Composites Leadership Forum. This structure enables the feasibility of high risk and ambitious concepts to be established through short-term (6 months) projects leading to the possibility of follow-on funding through longer-term (up to 3 years) Core Projects. Examples of current projects include:

CORE PROJECTS

- NEW MANUFACTURING TECHNIQUES FOR OPTIMISED FIBRE ARCHITECTURES**
Establishing a computational framework for textile preform optimisation (**Manchester, Nottingham**)
- MANUFACTURING FOR STRUCTURAL APPLICATIONS OF MULTIFUNCTIONAL COMPOSITES**
Exploration, development and evaluation of manufacturing processes for multifunctional composite structures (**Imperial, Bristol**)
- TECHNOLOGIES FRAMEWORK FOR AUTOMATED DRY FIBRE PLACEMENT (ADFP)**
Establishing novel material delivery systems for advanced control of dry fibre distribution (**Bristol, Nottingham**)



FEASIBILITY STUDIES

- Thermoplastic Matrix CFC / Metallic Joint Framework Structure Manufacture (**Cranfield**)
- Active control of the RTM process under uncertainty using fast algorithms (**Nottingham**)
- Simulation of forming 3D curved sandwich panels (**Nottingham**)
- Manufacturing Thermoplastic Fibre Metal Laminates by the In-Situ Polymerisation Route (**Edinburgh**)
- Strain-based NDE for online inspection and prognostics of structures with manufacturing defects (**Southampton**)
- Multi-Step Thermoforming of Multi-Cavity Multi-Axial Advanced Thermoplastic Composite Parts (**Glasgow**)
- Can a composite forming limit diagram be constructed? (**Cambridge**)
- Layer by layer curing (LbL) (**Cranfield, Bristol**)

