Bristol Composites Institute (BCI)

Our mission is to be a world leading institute for composites research and education, addressing the overarching grand challenges of sustainability and Net-Zero.

Co-directors:

Prof. Ole Thomsen Prof. Stephen Hallett

Three research themes:

- Manufacturing and Design (M&D)
- Structures
- Materials

1. Dr Dmitry Ivanov (M&D)
2. Prof. Fabrizio Scarpa (Structures)
3. Prof. Giuliano Allegri (Materials)

Bristol Composites Institute (BCI)

32 Academic staff members

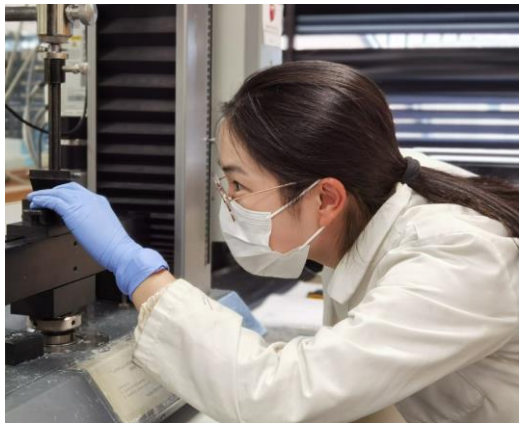
ca 60 Research Associates

140 PhD students

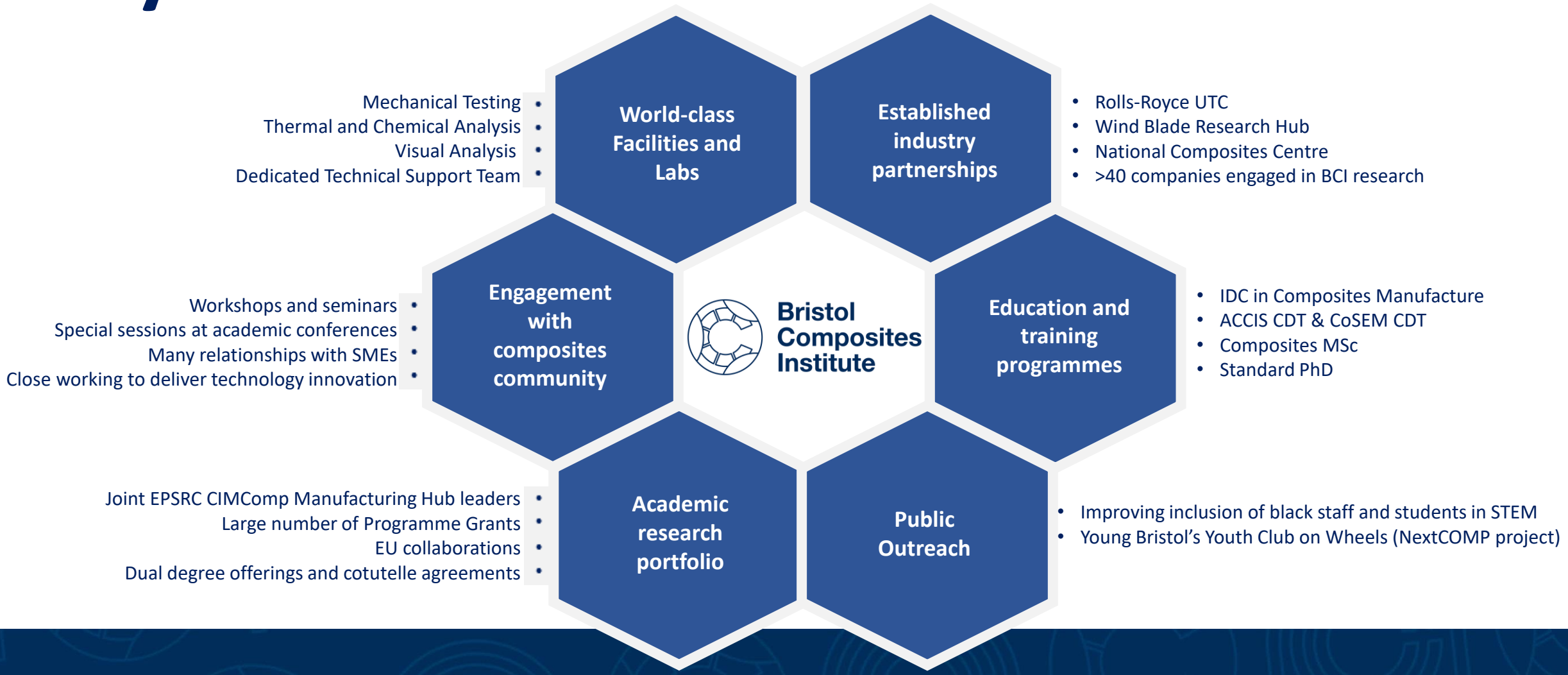
World-leading fundamental composites research and education

Strong industrial links for exploitation and technology transfer

£25M grant funding portfolio



Key activities



- Mechanical Testing
- Thermal and Chemical Analysis
- Visual Analysis
- Dedicated Technical Support Team

- Rolls-Royce UTC
- Wind Blade Research Hub
- National Composites Centre
- >40 companies engaged in BCI research

- Workshops and seminars
- Special sessions at academic conferences
- Many relationships with SMEs
- Close working to deliver technology innovation

- IDC in Composites Manufacture
- ACCIS CDT & CoSEM CDT
- Composites MSc
- Standard PhD

- Joint EPSRC CIMComp Manufacturing Hub leaders
- Large number of Programme Grants
- EU collaborations
- Dual degree offerings and cotutelle agreements

- Improving inclusion of black staff and students in STEM
- Young Bristol's Youth Club on Wheels (NextCOMP project)

Innovative Spinouts

- iComat (https://www.icomat.co.uk)
  - Novel rapid, defect free tow shearing technology
- Lineat (https://lineat.co.uk)
  - Aligned short fibre composites using HiPerDiF technology
- Molydyn (https://www.molydyn.com)
  - Launched Atlas, to support modellers to simplify and accelerate their LAMMPS workflows
- Actuation Lab (https://www.actuationlab.com)
  - Founded to rid industries of outdated hardware using origami methodology

Industrial Doctorate Centre (IDC) in Composites Manufacture

- 31 students have graduated with 20 at various stages in their studies.
- 7 new students sponsored by NCC recruited, with 3 more to be recruited for next year.
- We are seeking more industrial partners, so if you are interested in sponsoring a student for the IDC please get in touch.
- It is planned to grow the IDC with the support of more industrial partners.
- Brochure in your packs describes the benefits to companies of partnering with the IDC.
- We ran a successful showcase event in September with over 60 delegates; many of being our current industrial partners.
- We have developed a new programme of professional and personal development for our students, supported by our industrial partners.

Centre for Doctoral Training (CDT)

- All 5 cohorts of students recruited onto the Composites Science, Engineering and Manufacturing (CoSEM) CDT
  - 52 students CoSEM CDT in total
  - 2 students from the previous ACCIS CDT still to graduate
- We would like to thank all industrial partners who have financially supported the students
  - We are still interested in industrial visits, seminars and prize sponsorship
- Final cohort (CDT 2023) consists of 11 students.
  - Students are now undertaking their taught courses and will be choosing projects this coming year, and into next.
  - We are still able to accept some industry funded projects
- The first CoSEM CDT student has recently submitted their PhD thesis!
- Students have been taking part in outreach (e.g. SS Great Britain) demonstrating composites.

Future research strategy

- **Sustainability**

  Novel sustainable materials (bio based), recycled materials, Repair and End of Life, Life Cycle Assessment …

- **Net Zero**

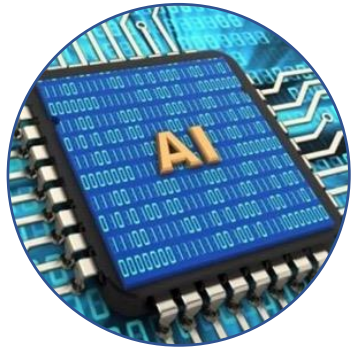
  Hydrogen storage, light weighting, renewable energy, novel material and manufacturing solutions, …

- **Digital Composites**

  Advanced numerical tools for integrated manufacturing and design, Optimised efficiency to contribute to Net Zero, …

- **Materials in extreme environments**

  Nuclear, defence, …



Delivering inherently sustainable composites solutions for the benefit of society and the global community.

Work with us

composites-institute@bristol.ac.uk

- Extend your R&D
- Patenting/ licensing
- Spin-outs
- Secondments and placements
- Fund a PhD student working on your dedicated project
- Summer internships
- Collaborative research – new funding opportunities
- Propose Masters and undergraduate student projects
- Use our lab facilities
- Knowledge Transfer Partnerships
- Impact Acceleration Projects
- Tap into the academic expertise
- Engage with our Doctoral training centres

bristol.ac.uk/composites

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University of BRISTOL

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