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Engineering and Physical Sciences Research Council

University of Nottingham
UK | CHINA | MALAYSIA

NATIONAL COMPOSITES CENTRE

Bristol Composites Institute

University of BRISTOL

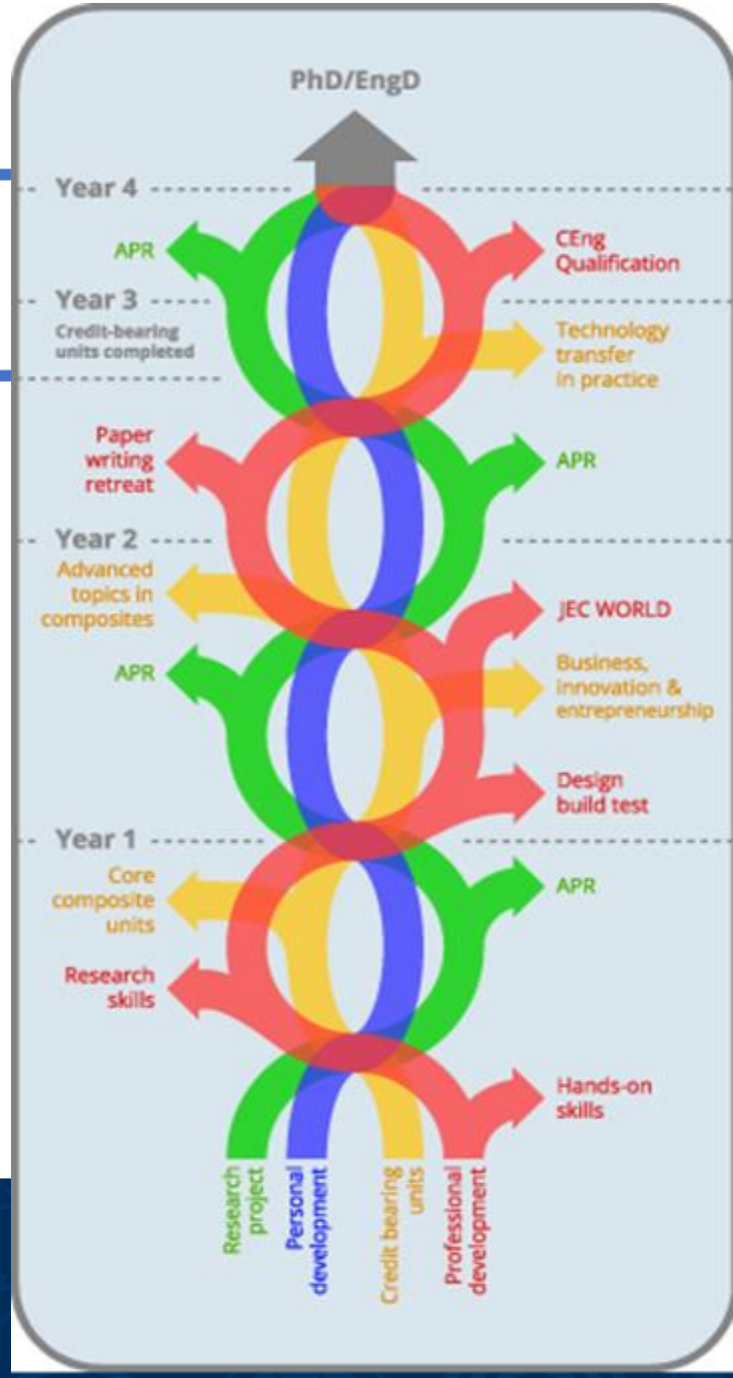
Creating an industrial/academic partnership for doctoral training

Vision

A partnership providing the advanced skills, knowledge, and science that will create innovative leaders capable of unlocking the full potential of composites to achieve a sustainable, Net-Zero future.

- Doctoral research project that includes industrial and academic mentoring
- Personal development that includes peer-to-peer mentoring as well as team building and outreach, enabling students to build a portfolio of skills tailored to their needs.
- Programme of credit-bearing units in the first three years of study
- Innovation-driven cross-cohort professional development to enhance technical and entrepreneurial competencies and build cohort interaction.

Seeking knowledge → Creating knowledge



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Partners – thanks for your ongoing support!

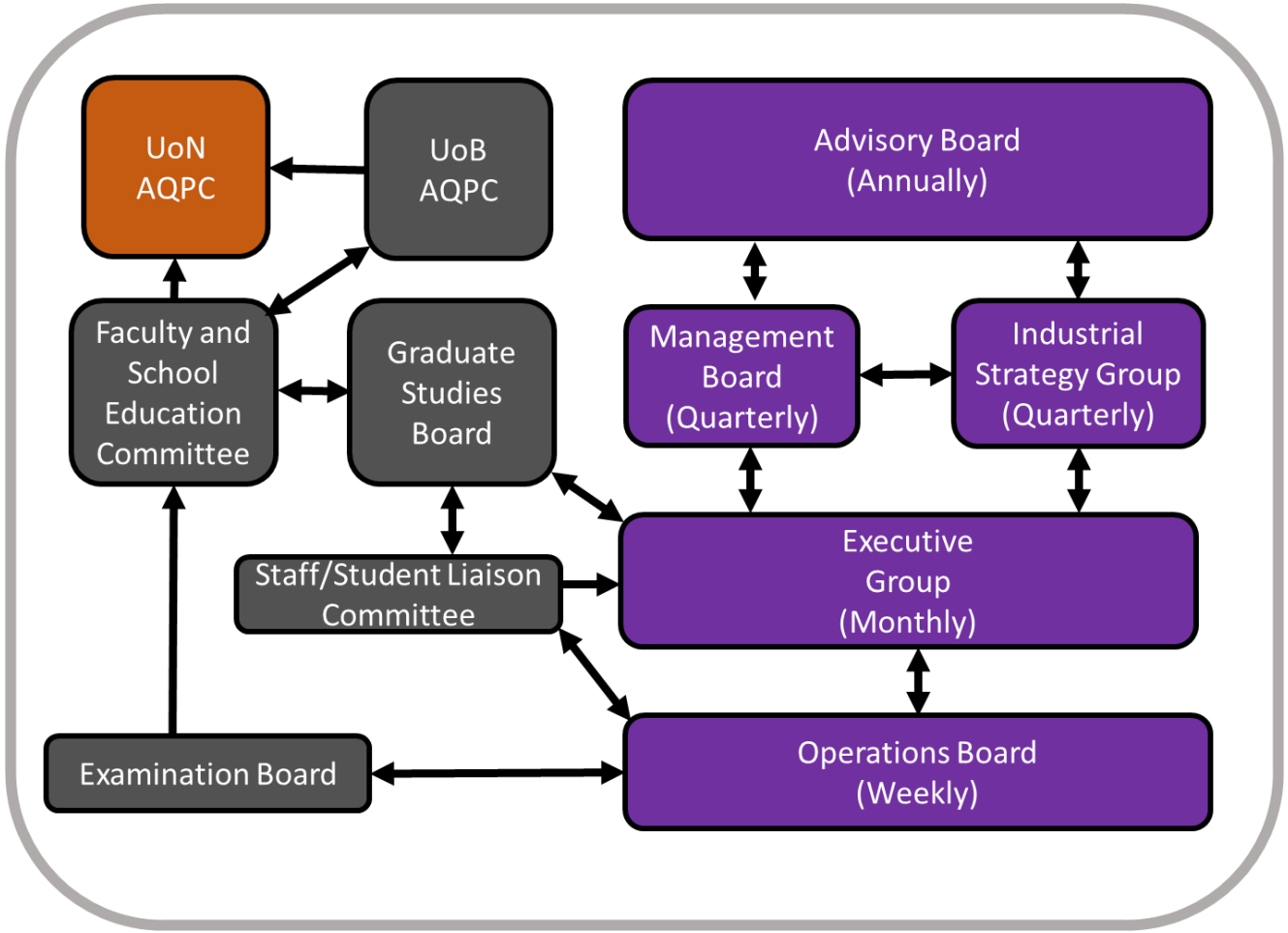
- Aerospace (Airbus, Rolls-Royce, Dowty, Leonardo, GKN),
- Defence (QinetiQ, AWE, BAE Systems),
- Automotive (Gordan Murray, JLR),
- Wind Energy (Vestas, EDF-Renewables),
- Marine (Tods),
- Rail (Network Rail)
- Oil and Gas (Magma Global),
- Hydrogen (Luxfer)
- Material suppliers (Hexcel, Syensco, iCOMAT, SHD),
- Design and manufacturing companies (Pentaxia, Actuation Lab, LMAT, Carbon ThreeSixty),
- RTOs (NPL, NCC, Royce, HVMC).
- NCC are major support and will supply 19 studentships over the CDT

Status

- Ambition is to train 67 doctoral students over 8 years
- Total cash value of ca £12M EPSRC ca £5M; note there is significant industrial and UoB/UoN support plus in-kind support from industry making the total value close to £20M
- To attract the best students all will receive an enhanced stipend ca £25k per year
- 2024/25 recruited 5 students student starting 9th September 2024 with 6 more to be recruited in January
- 2025/26 onwards 15 students per year

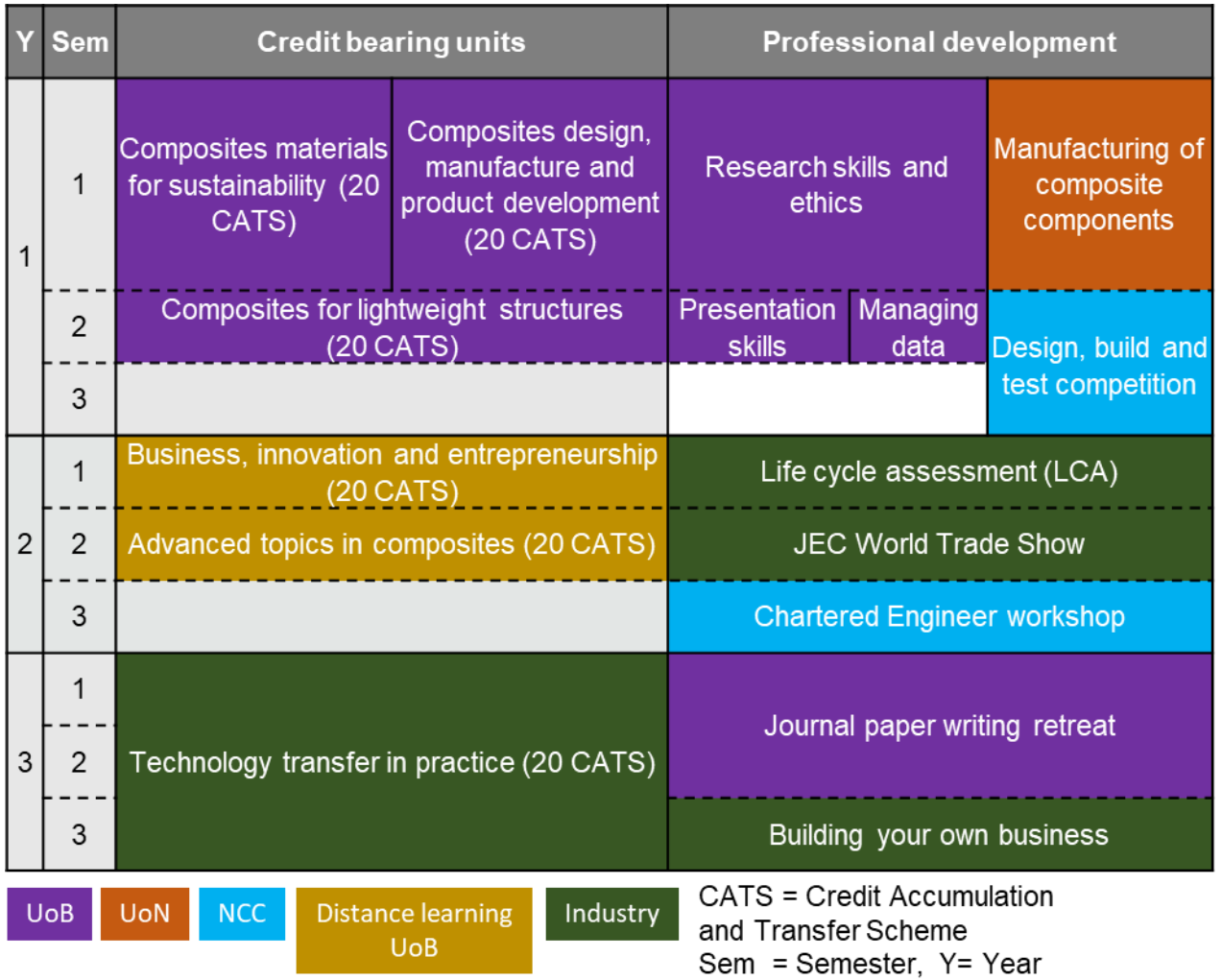
Governance

- AB chair appointed – **Professor Faye Smith** – 7 external members being appointed mix of international, industry, academia not associated with the CDT
- Management Board (investigator team and AB chair)
- ISG – Membership industrial partners – rolling membership - Dr Lee Harper and NCC representative Co-chairs
- Executive group – Director, Dep Director, Research co-directors, Manager
- Operations Board – Manager and director - others as required



Taught component

- Credit bearing units over 3 years 120 credits
- Non-credit bearing innovation driven professional development portfolio – including peer to peer mentoring, team building, outreach
- Year 1 in-person at UoB
- Year 2 distance learning
- Students in existing CDTs will support and integrate into ICSE CDT
- DBT trial underway joint NCC/UoB



The Research – EngD or PhD?

- All students will follow the same taught/professional development programme
- EngD students will spend 75% of their time based in industry –broad portfolio
- PhD students will be based at UoB or UoN – focused topic
- Recruitment will be research project based – each studentship is advertised – academic and industrial supervisors devise advert/project plan work together

People and skills created

GOALS

- Embed industrially-relevant research and training in learning
- Enable a unique, flexible blended doctoral training approach
- Provide competencies and qualifications that are shaped to demand and responsive to new and future needs
- Secure demand for learning opportunities by aligning research and innovation activities with the pipeline of future skills.

OUTCOMES

- Remove barriers to industrial engagement with academia
- Develop scientific, innovative, entrepreneurial skills
- Increase mobility in education and industry
- Create an agile and resilient workforce able to respond to new challenges and changing requirements
- Accelerate and increase industry take-up of innovation
- Create a cohort of industry-ready future leaders trained to doctoral level

THANK YOU FOR YOUR ATTENTION

Janice Barton

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