Innovation in action: Solving real industry challenges

Prof Rob Dorrell
Prof James Gilbert

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Led by: University of Hull

In partnership with: Durham University, Loughborough University, Newcastle University, University of Sheffield

Funded by: UKRI Engineering and Physical Sciences Research Council, UKRI Natural Environment Research Council

Partnership & collaboration to meet industry challenges

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UNIVERSITY of HULL

HEY Hull and East Yorkshire Local Enterprise Partnership

SIEMENS Gamesa RENEWABLE ENERGY

ABP | ASSOCIATED BRITISH PORTS

EAST RIDING OF YORKSHIRE COUNCIL

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University of Sheffield

equinor

CATCH

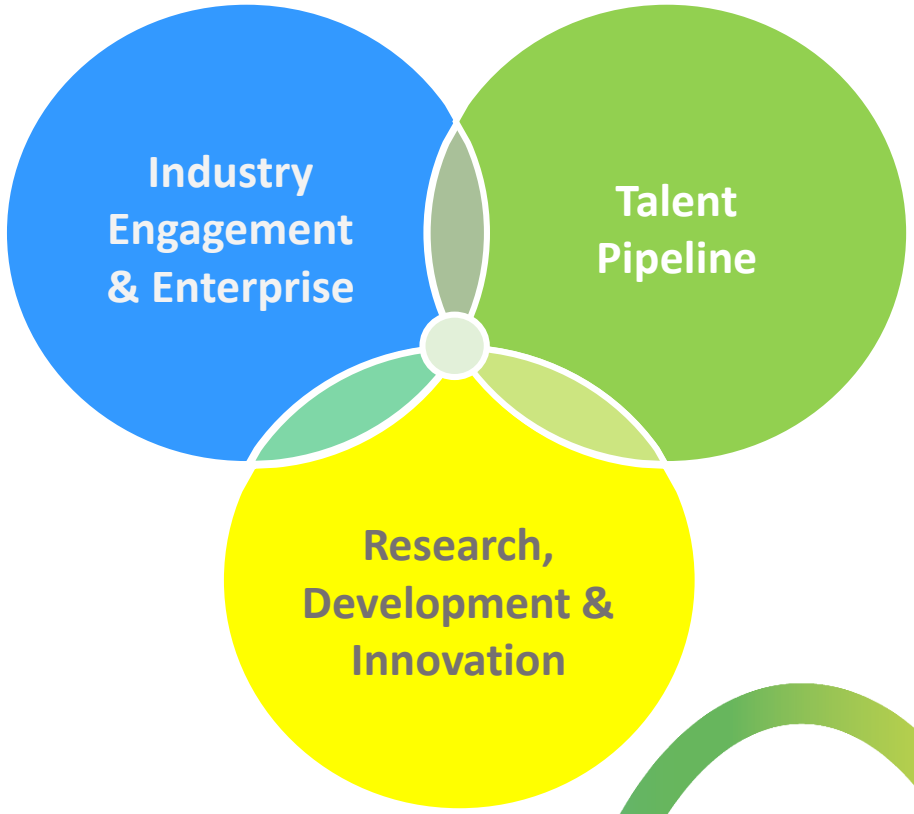
CATAPULT Offshore Renewable Energy

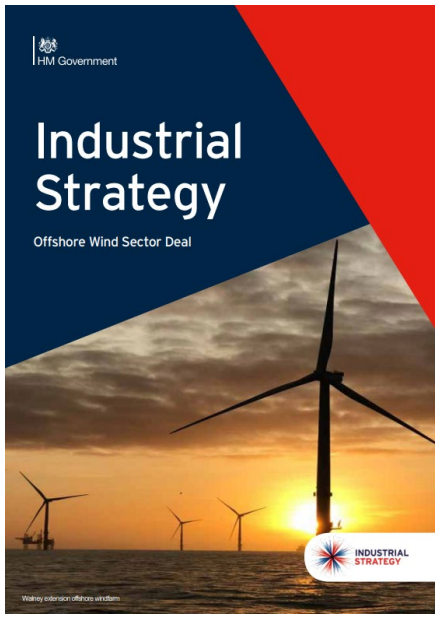
Durham University

greenporthull

ACCELERATE. INNOVATE. COLLABORATE.

FOCUS AREAS





"Aura is an exemplar of how a region can harness the industry, local enterprises, innovation providers and skills agencies"

2019 Industrial Strategy Offshore Wind

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A Collaborative Cluster Rooted In The Humber

University Technical College

Aura Innovation Centre

University of Hull

Aura Business Engagement Centre @ ERGO

O&M Centre of Excellence

Catch Training Facility

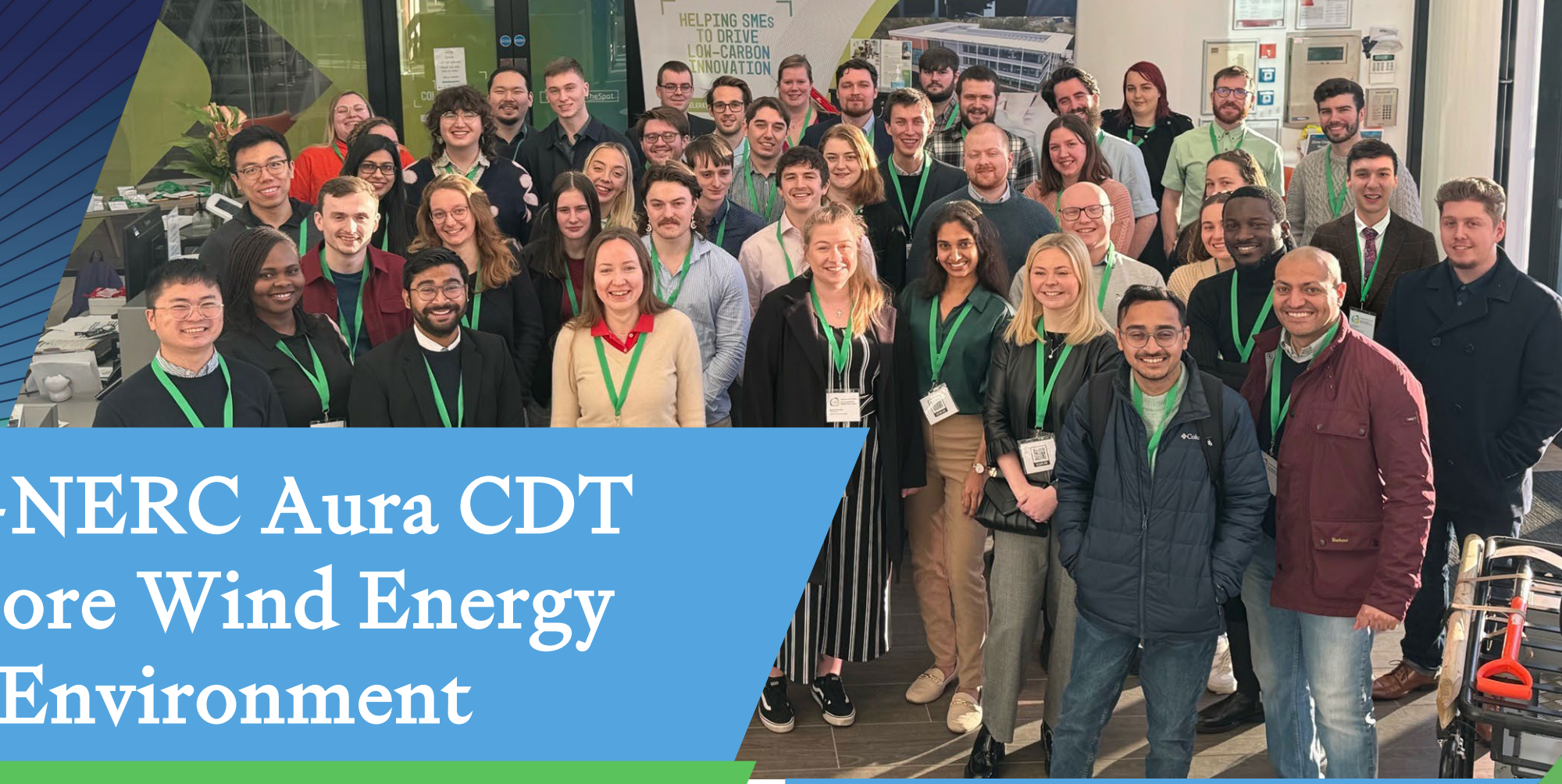
Hull

Humber Bridge

Grimsby

- Supply Chain Collaboration
- Apprenticeships
- Training
- STEM
- Smart Grid Research
- Big Data
- Virtual & Augmented Reality
- Economic Impact Assessment
- New Tech Deployment
- Digital Manufacturing
- Research, Development & Demonstration
- Specialised Offshore Wind Courses
- Business Incubation
- Industry Engagement

aura Doctoral Training



EPSRC-NERC Aura CDT in Offshore Wind Energy and the Environment

Unique focus on environmental and engineering challenges

auracdt.hull.ac.uk/cdt1

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EPSRC/NERC Aura CDT in Offshore Wind Energy and the Environment

Developed with stakeholders to serve industry needs:

- ***£12m funding from industry, government and academia***
- ***Over 65 PhD projects including 10 industry funded projects***
- ***Investing in Equity, Diversity and Inclusivity.***

Physics and Engineering of the offshore environment

Environmental impact, marine biology and aquaculture

Next generation materials and manufacturing

Operations, maintenance and human factors

Offshore wind energy integration

Big data, sensors and digitalisation

Our Panel

Louise Smith

Chair

Sarah Bee

Multi-task Learning for Engineering Dynamics Systems

Dax Blackhorse-Hull

Integration of wave and offshore wind energies

Sarah Dickson

Assessing echolocating cetacean (dolphin and porpoise) occurrence and behaviour in offshore development sites

Anna Weatherburn

Designing a Fracture & Fatigue Resistant Bio-mimetic Composite Materials for Wind Turbine Blades

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Sarah Bee

Big data, sensors and digitalisation

University of Sheffield

Dynamics Research Group

Project Title: **Multi-task Learning for Engineering Dynamics Systems**

- ***Now: Challenge is to see the bigger picture whilst working on innovation which is not yet ready for industry – events like this help.***
- ***Future: Ensuring that the next generation of graduates have the skills that the industry needs.***

Dax Blackhorse-Hull

Offshore wind energy integration

Durham University

Project Title: **Integration of wave and offshore wind energies**

- ***The offshore wind sector can harvest multiple renewable sources at the same place***
- ***Wave energy has the potential to be a stop-gap for wind intermittency***

Sarah Dickson

Environmental impact, marine biology and aquaculture

Newcastle University

Marine MEGA Fauna Research Lab

Project Title: **Novel passive acoustic monitoring system for cetaceans (dolphins and porpoise) at offshore development sites**

- ***Improve data quality, mitigate against data loss and delays, and lessen the costs associated with environmental monitoring.***
- ***Specifically, developing a novel, low-cost, real-time passive acoustic monitoring system for cetaceans.***

Anna Weatherburn

Next generation materials and manufacturing

Durham University

Project Title: ***Inspired by Nature: Designing a Novel Material for Wind Turbine Blades***

- ***Taking inspiration from materials in nature to improve the materials used in blades***
- ***Enabling the manufacture of larger and more resilient wind turbine blades***

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EPSRC Aura CDT in Offshore Wind Energy Sustainability and Resilience

Nurturing the next generation of talent for a diverse and vibrant offshore wind workforce

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Collaborative offshore wind research and innovation

- ***Over £17M funding from industry, government and academia***
- ***Commitment for 65+ Doctoral Students starting 2024-28***
- ***Over £60k CDT contribution, per project, to support your skills pipeline and address your R&I challenges***
- ***Industry partners already committed to 15 projects for cohorts 1 and 2***

Research Themes to Address Industry Need

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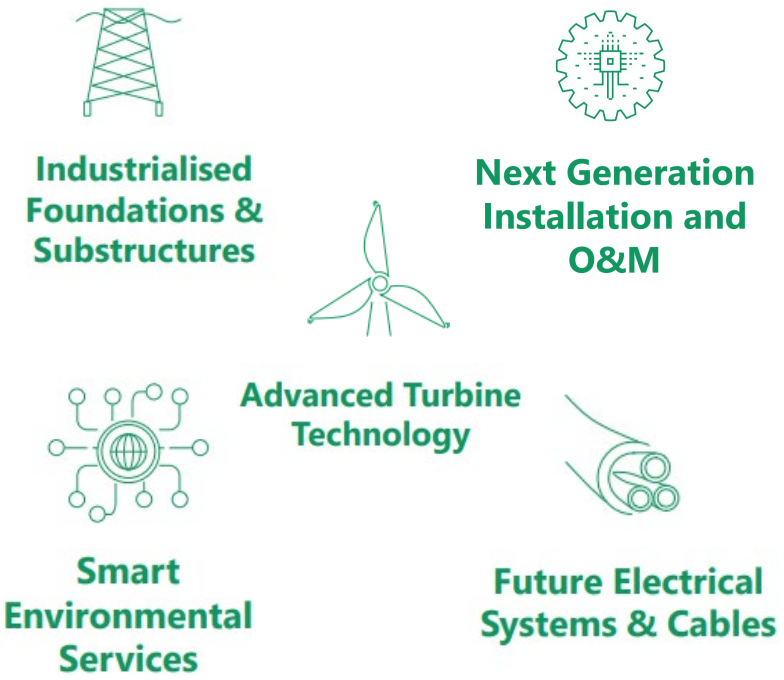
Continuing to meet the sector's challenges

IGP Priority Areas



CDT Research Themes

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Thank you! Come and talk to us to find out more or visit:

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