

C-DICE: delivering net-zero, transforming postdoctoral development



The Centre for Postdoctoral Development in Infrastructure, Cities and Energy (C-DICE) provides a world-class postdoctoral development programme.



C-DICE is based around the Energy Research Accelerator (ERA) and UK Collaboratorium for Research on Infrastructure and Cities (UKCRIC) partnership of universities, which leverages the collective capability of 18 leading research-intensive UK universities, related research associations and institutes, and leading industries involved in Infrastructure, Cities and Energy.

C-DICE tackles two distinct but interrelated challenges, which clearly align with the government's 10 Point Plan for a Green Revolution, namely:

- How to build and sustain the advanced skills base required to create a pipeline of world-class talent for the Infrastructure, Cities and Energy sectors.
- How to accelerate progress towards a net-zero society by 2050, the achievement of which demands a massive interdisciplinary research effort.

C-DICE harnesses UKRI, university and industry investment in facilities and doctoral training, bringing together hundreds of postdoctoral researchers and ready-made impact pathways, provided by a network of partners, for sustained scientific and technological leadership.

The programme is supported through a £4m four-year investment from the Research England Development Fund, plus £3.4m in-cash and in-kind commitments from partners. It is led by the universities of Loughborough, Cranfield and Birmingham.

How C-DICE works

C-DICE consists of four main strands:

1. Training Strand

Providing training and development linked to partner facilities and expertise, and postdoctoral researchers' development needs.

2. The Development Strand

Providing fellowships, placements and secondments for postdoctoral researchers with partners.

3. The 'Sandpit' Programme

Bringing together researchers in multi-disciplinary teams to generate novel solutions to the net-zero challenge.

4. The Impact Strand

Delivering knowledge exchange events to maximise and disseminate the outcomes and benefits for researchers, policymakers, and business.



C-DICE partners

We have a range of partners in higher education, industry and research institutes across the UK. Together these provide an exceptional collaborative ecosystem of partners uniquely positioned to tackle the net-zero challenges.

Higher Education partners

C-DICE Core partners: University of Birmingham, Cranfield University, Loughborough University

Energy Research Accelerator partners: Aston University, University of Leicester, University of Nottingham, University of Warwick, British Geological Survey, Keele University (plus the C-DICE core partners)

UKCRIC partners: University of Bristol, University of Cambridge, University of Edinburgh, Heriot Watt University, University of Leeds, University of Manchester, Newcastle University, University of Sheffield, University of Southampton, UCL (plus the C-DICE core partners)

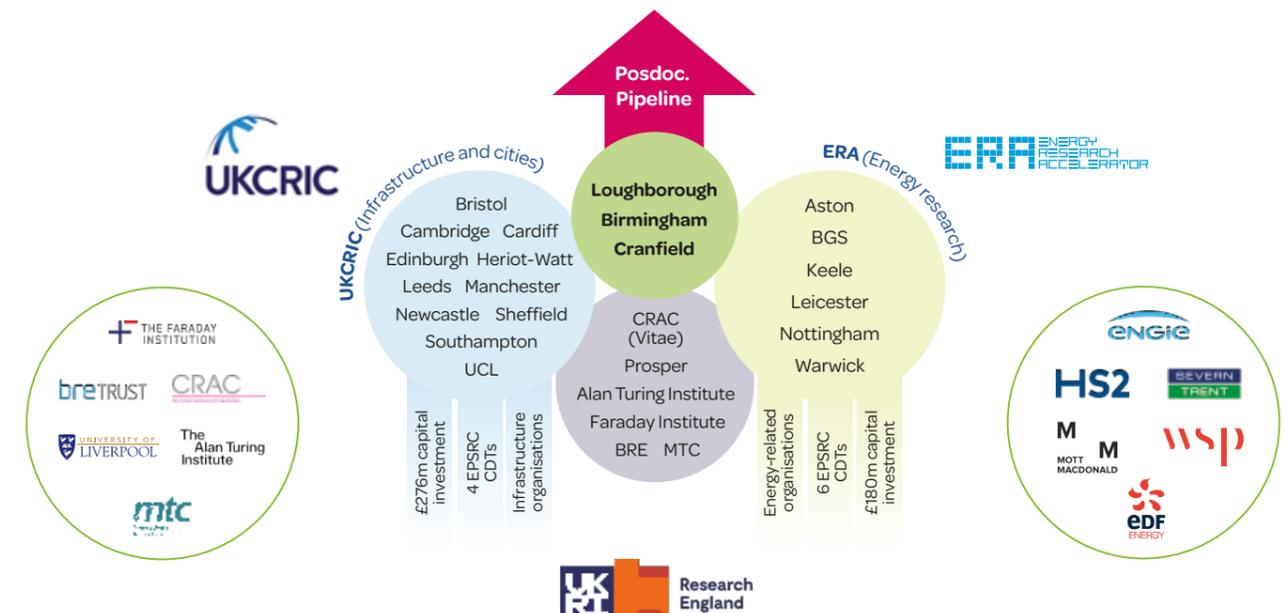
Industrial partners

Our industrial partners include the following blue-chip companies – EDF, ENGIE, HS2, Severn Trent, Mott MacDonald and WSP. We are always interested in meeting with other businesses that would like to partner with us.

Research Institutes

C-DICE is also linked into leading research institutes, including BRE Trust, CRAC (Careers Research and Advisory Centre), Alan Turing Institute, Manufacturing Technology Centre, The Faraday Institution.

C-DICE collaboration



C-DICE benefits

C-DICE offers a range of benefits for postdoctoral researchers, businesses and higher education partners. Whatever your requirements C-DICE can help you to achieve your objectives. Below is a summary of some of the ways in which we can support you.

Benefits for postdoctoral researchers

Be a part of a unique postdoctoral network

By participating in C-DICE, you will be a part of the largest postdoctoral network in the UK in the areas of Infrastructure, Cities and Energy. C-DICE will be able to provide access to a range of training and development opportunities designed around your needs, which you will be able to access via the C-DICE Inkpath Portal to map a pathway through your research and career development.

The C-DICE Sandpit series

The C-DICE Sandpits bring together postdoctoral researchers from across the partnership, with other partners and stakeholders, and are based around interdisciplinary problems relating to net zero in infrastructure, cities and energy, including technical and socio-economic elements. Promising solutions may be awarded seed-corn funding of up to £30k for further development of the idea and to further enhance the experience of the postdoctoral researchers participating.

Training and development

C-DICE is building a portfolio of training opportunities bespoke to postdoctoral researchers, which will enable the development of deep technical skills, research and analytical skills and professional skills. The intention is to enable researchers to access and develop their skills to enable growth within their current role, and to be beneficial for future careers. The benefit of C-DICE is that our training portfolio goes over and above what one employer could deliver and is tailored for the postdoctoral career stage. We also plan to build in accreditation pathways to help strengthen employability.

Recognising that postdoctoral researchers are highly skilled, we're also offering the opportunity for you to develop and deliver training to others via C-DICE. Our 'peer-to-peer' scheme will enable you to gain recognition for any training that you deliver to support others. As a C-DICE member you will have a record of your engagement and development to enhance your CV.

Access to world-leading facilities

Through our partnership with ERA and UKCRIC, we are able to offer researchers the opportunity to access numerous cutting-edge, world-leading facilities to support research in energy, cities and infrastructure.

Industrial secondments

As a postdoctoral researcher in the C-DICE programme you will have the opportunity to apply for secondments and placements in industry and other universities in order to gain additional experience. These will help with your career development, plus enable you to utilise your expertise to deliver research and innovation with partners, expand your network, mobility and flexibility.

C-DICE Development Fellowships

By participating in the C-DICE programme you will also be able to apply for a limited number of Fellowships. A Fellowship enables you to develop your own academic career and enhance your CV. Through a fellowship you can gain research independence contributing to the net zero challenge. The C-DICE Fellows will form a cohort with access to mentoring, training and other activities to help you advance your career.

Tracking your training and career development

C-DICE uses Inkpath as a portal for researchers to register for events, apply for placements and secondments, and book training. Inkpath is unique, because as a researcher it will also track your activities, allow space for reflection, and enable you to create a pathway for your own professional development and plan for your next career steps.

Benefits for universities and academic staff

Training and development for your researchers

C-DICE offers extensive bespoke training and development opportunities for your researchers, which will help to improve their skills, including technical and research skills, and advance their careers. Given the breadth of the collaboration and the expertise C-DICE has access to, it is a unique opportunity for the development of researchers and research. We also welcome input into the programme from senior academic staff, research managers and other university staff with an interest in postdoctoral development to help shape the content of the project.

HEI to HEI secondments

C-DICE also offers short-term (up to one month in duration) placements to universities and other Higher Education Institutions. C-DICE also offers a variety of opportunities, including longer-term secondment opportunities (with a particular emphasis on industry-HEI engagement), sandpits, hackathons and bespoke training courses.

Enabling new collaborations

C-DICE provides the opportunity for you to expand your network and build contacts with experts in the 18 ERA and UKCRIC universities and also a range of industrial partners. This may help to open doors for you to work with businesses and/or other HEI researchers, and bid for funding for collaborative research programmes.

Access to cutting-edge facilities

ERA and UKCRIC have between them invested in facilities, equipment and demonstration projects worth in excess of £300m. Many of these facilities can be accessed by researchers from across the ERA and UKCRIC partnerships, subject to agreement.

Commitment to the Researcher Concordat

All of the C-DICE HEI partners have demonstrated a commitment to the Concordat for the Career Development of Researchers and the HR Excellence in Research. We can help you to deliver this commitment by engaging with C-DICE, and by developing your researchers.

C-DICE and impact

C-DICE will celebrate and promote the impact postdoctoral researchers make, both to new research and innovation and the development of others. We will help to create greater impact through engagement with policy-makers and business. We will also gather evidence of the importance of supporting postdoctoral researchers to the UK's research and innovation, working with partners to realise new opportunities to enhance the postdoctoral experience.





Benefits for businesses

If you are a business, C-DICE can offer you unique opportunities to address some of your emerging challenges, while also identifying talent that could provide a positive impact to your business through research.

C-DICE will provide access to world-class academic expertise and facilities, affording membership of a unique network which is positioned to realise the net-zero challenge.

Equality, diversity and inclusion are at the heart of the C-DICE mission, and we will develop an inclusive environment within which diverse postdoctoral talent will flourish. By ultimately helping embed this diverse talent, C-DICE also hopes to contribute to enrich the partners and sector-wide diversity.

Postdoctoral secondments

C-DICE offers businesses the opportunity to draw upon a wide base of postdoctoral talent that can help your business, develop new products and processes or solve some of the business-critical challenges that you face.

Through our secondment programme, we will offer a range of postdoctoral secondments for business, which can be tailored to your needs. These are available from one week up to a year. We are happy to discuss your specific requirements with you and provide a bespoke financial quotation based on your specific requirements.

Access to training and world-leading facilities

With our links to 18 universities, businesses can access a range of training opportunities to enable your employees to develop the skills they need for their career development. We can also offer access to state-of-the-art, world-class research facilities across the ERA and UKCRIC partnerships. Together, our 18 university partners can offer access to facilities and equipment worth over £400 million.

Solving your challenges through Sandpits

Through our Sandpits, teams of researchers can work together to tackle specific real-world challenges. There is the opportunity for you to work with us to shape future Sandpits so that they align with your needs, and thereby helping to find solutions to key challenges facing your business.

Summary of C-DICE benefits

Activity	Benefits to Post-Doctoral Researchers	Benefits to universities and academic staff	Benefits to your business
C-DICE Membership	Part of largest postdoctoral network in infrastructure, cities and energy. Access to a range of training and development opportunities designed around your needs. Access to C-DICE toolkit to map a pathway through your research.	By joining C-DICE you will have the opportunity to help shape the future of the programme, and ensure it is aligned to the needs of postdoctoral researchers in your institution.	Shaping the next generation of research leaders that can have a positive impact for your business. Influencing the development of future skills. Accessing expertise and knowledge exchange. Part of an innovative network of postdoctoral researchers and partners.
Training	Access to a wide range of training and development opportunities and expertise. Access to training specific to UKCRIC and ERA facilities in infrastructure, cities and energy. Evidence of skills development and CPD.	C-DICE offers extensive bespoke training and development opportunities for your researchers, which will help to improve their skills, including technical and research skills, and advance their careers.	Opportunities for your employees to access training from leading universities as CPD. Ability to utilise state-of-the-art facilities in the UKCRIC and ERA networks.
Secondments	Opportunity to undertake secondments to other organisations to gain additional experience. Career development. Expand your network. Mobility and flexibility.	C-DICE offers placements to universities and other Higher Education Institutions. C-DICE also offers a variety of opportunities with a particular emphasis on industry-HEI engagement, sandpits, hackathons and bespoke training courses.	Address short-term and specific problems through secondees programme. Gain access to skills and expertise. Knowledge exchange.
Development Fellowships (a funded position)	Apply for a C-DICE fellowship. Career track record and developing independence. Build collaboration and address a key research challenge related to net zero carbon.	The C-DICE development fellowship provides outstanding researchers with the opportunity to develop their academic career.	Sponsor one or multiple C-DICE fellowships to address a research challenge aligned with your business priorities.
Sandpit series	Join an activity based around an interdisciplinary team solving complex, industry-based problems. Promising solutions awarded seed-corn funding for further development.	The Sandpit series provides the opportunity for your researchers to develop their skills by working in interdisciplinary teams which could lead to seed-corn funding for them to develop their ideas.	Work with C-DICE to define and run challenge(s) to benefit your business. Act as an industry mentor during the sandpit to ensure fit for purpose and impactful outcomes. Support the challenge solution with follow-on funding in case sufficient viability and benefit are demonstrated.



OVER
600
ACADEMICS

OVER
1400
RESEARCHERS



£4m
FOUR YEAR
PROGRAMME



OVER
£400M
INVESTMENT IN
RESEARCH FACILITIES



18
UNIVERSITY
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