**Centre for Doctoral Training: mineral resources for energy transition**

Apply for funding to deliver a new Centre for Doctoral Training (CDT) in mineral resources for the energy transition to minimise the environmental impacts of responsibly securing required mineral resources.

You must be based at a UK research organisation eligible for UK Research and Innovation (UKRI) research funding.

You will train a community of interdisciplinary challenge-led researchers who will identify and deliver ‘real world’ integrated solutions across entire mineral value chains to address net zero challenges and deliver positive outcomes for business and the environment.

We will fund 24 notional studentships across three annual intakes.

This funding opportunity is open to applicants based at organisations that are eligible for UKRI research grant funding. This includes:

* higher education institutions
* research council institutes
* eligible independent research organisations and Catapult centres
* public sector research establishments (PSREs)

[Check if you are eligible for research and innovation funding](https://www.ukri.org/apply-for-funding/before-you-apply/check-if-you-are-eligible-for-research-and-innovation-funding/).

Organisations that are not eligible for UKRI research grant funding may act as collaborative partners. Information regarding the nature of this collaboration must be included within the application.

PSREs wishing to be involved in an application are required to choose whether they wish to do so either as a hosting partner or [CASE](https://www.ukri.org/what-we-offer/developing-people-and-skills/nerc/nerc-studentships/directed-training/nerc-case-studentships/) partner. An organisation cannot perform both roles within one application.

Each CDT must include an accredited higher education doctorate (meaning, PhD or equivalent) awarding body.

### Hosting partners

These are organisations that:

* are eligible for UKRI funding
* will provide the principal base (host) for students during the tenure of the award

The application should identify one of the hosting partners as the administrative lead partner (the administrative lead does not have to be a higher education doctorate award-making body).

Identification of the administrative lead should not be interpreted as recognition of a dominant partner which will host the majority of studentships.

### Collaborative partners

These are organisations that are one of the following:

* not eligible for UKRI funding
* eligible for UKRI funding but will not provide the principal base (host) for students during the award

Collaborative partners provide additional benefits to the students’ experience, such as:

* real-world experience
* training
* equipment
* facilities
* understanding
* opportunity

### Equality, diversity and inclusion

NERC is committed to achieving equity of opportunity for all funding applicants. We encourage applications from a diverse range of researchers.

We support people to work in a way that suits their personal circumstances. This includes:

* career breaks
* support for people with caring responsibilities
* flexible working
* alternative working patterns

Find out more about [equality, diversity and inclusion at UKRI](https://www.ukri.org/what-we-offer/supporting-healthy-research-and-innovation-culture/equality-diversity-and-inclusion/) and [NERC’s diversity and inclusion action plan](https://www.ukri.org/publications/nerc-diversity-and-inclusion-action-plan-2022-2025/).

### CDT priority area scope

NERC is seeking to invest in a CDT in mineral resources for the energy transition.

Mineral resources underpin all manufacturing and infrastructure development in the UK and are essential to achieve the global energy transition from fossil fuels to renewable energy (see [GOV.UK: the ten point plan for a green industrial revolution](https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution/title)).

Many of the minerals required for clean energy technologies, from the lithium, cobalt and graphite in electric car batteries to the rare earth elements in wind turbines, are designated critical. This is because of their importance and potential disruption of supply (see [British Geological Survey: UK criticality assessment of technology critical minerals and metals](https://www.bgs.ac.uk/download/uk-criticality-assessment-of-technology-critical-minerals-and-metals/)).

The UK’s role in resources is significant, as well as importing 40 megatonnes of metal per year: UK-listed companies are responsible for 50% of the world’s iron production and 30% of its copper. The London Metal Exchange handles $10 trillion in trade per year, and the UK has more than 5,000 companies in the mining value chain.

Global demand and international competition for technology-critical mineral resources is expected to quadruple by 2040. Current demand is already outstripping the rate of mineral production. We face a critical resource challenge in securing the supply and reducing the reliance on the minerals needed to achieve net zero and protect the future growth and resilience of the UK economy.

The [UK critical minerals strategy](https://www.gov.uk/government/publications/uk-critical-mineral-strategy/resilience-for-the-future-the-uks-critical-minerals-strategy) sets out UK government ambitions to ensure that the minerals we will need to power our world in the future can be made available. These would be in the quantities needed, extracted in responsible ways, and supported by well-functioning and transparent markets. However, the skills base for minerals, particularly in areas such as mining and mineral processing, may be at risk.

Therefore, this is a critical time to ensure that a highly skilled research and innovation pipeline is available to meet the demand for interdisciplinary expertise across the whole mineral value chain.

A CDT investment will enable the UK skills base to realise the required step-changes and provide the interdisciplinary solutions needed. This will support domestic mineral industries and UK companies operating around the world to responsibly source the mineral resources required for the global energy transition. There is a need to:

* find, identify, and characterise the mineral resources we need for the energy transition, including in sensitive and extreme environments, and further our understanding of the processes which form concentrated mineral deposits
* extract required mineral resources using responsible methods with minimal environmental and social harm, including through the reduction of energy and water consumption across mineral value chains and the remediation of post-mine landscapes
* embed circular economy approaches within the minerals sector, including developing efficient processing and refining techniques, reducing or reusing waste, and designing products for end-of-life recovery
* increase transparency within global value chains to understand mineral flows and the impacts, vulnerabilities, and opportunities in the minerals sector in relation to trade, policy, security, and environmental leadership, including the development of new regulations, standards and frameworks to achieve truly sustainable approaches to securing, recovering, recycling and reuse of mineral resources

Mineral resource expertise in academia, policy, or industry, needs diverse and holistic training that develops and broadens skills and knowledge across multiple discipline boundaries. This approach is required to secure responsibly sourced resources to standards that have positive impacts on the environment and society.

The CDT will foster a community of interdisciplinary challenge-led researchers who will identify and deliver ‘real world’ integrated solutions, based on the strongest evidence, that put an environmental approach at their core.

There is NERC funding for a notional eight studentships a year (with three years of new student intake that is 24 studentships in total). An expectation is that this funding will be used to leverage additional investment (either cash or in-kind contributions) from multiple stakeholders including from government, business, and industry.

The CDT model is designed to support a translational approach by encouraging academic and non-academic partners to unite around common challenges. It is strongly recommended that the CDT should integrate end-user involvement from across the mineral value chain in developing and delivering the training required.

Innovate UK’s two year, £15 million [CLIMATES programme](https://www.gov.uk/government/news/15-million-funding-boost-to-strengthen-supply-of-critical-minerals), focused on circular critical materials supply chains for rare earth elements, is an advocate of this CDT opportunity.

The Innovate UK programme team would like to work with the successful bidders on an advisory basis, to ensure that this important skills and talent initiative is highlighted and supported by UK industry. NERC will facilitate post-award engagement between Innovate UK and the successful CDT.

### Training remit

Training provided by the CDT must be relevant to the ambitions to address environmental and net zero challenges. The training must also deliver positive outcomes for business and the environment that minimise the environmental impacts of consumption articulated within the [NERC delivery plan](https://www.ukri.org/about-us/our-vision-and-strategy/delivery-plans/) and [UKRI building a green future strategic theme](https://www.ukri.org/publications/ukri-strategy-2022-to-2027/ukri-strategy-2022-to-2027/).

The CDT will contribute towards building a strong interdisciplinary community of UK mineral resource expertise. Therefore, training should be at the interface between environmental sciences and other disciplines where the solutions to many major mineral resource research and innovation challenges exist.

Training delivered by this CDT must align with the areas specifically outlined in this opportunity but may:

* build on existing training infrastructure
* take advantage of the networks developed through existing and past relevant UKRI-funded interdisciplinary investments

The CDT will focus training on developing, and strengthening, interdisciplinary approaches to deliver new understanding of how mining can be revolutionised. Therefore, making it better, smarter and more reconstructive in its approach to secure mineral resources responsibly, with environmental, economic and societal benefits.

Research and training skills that this CDT will deliver are needed to provide greater knowledge of the implications and potential feasibility (environmental, economic and otherwise) of exploration and mining of new environments (for example, ultra-deep subsurface, polar and submarine).

This will also require the development of new technology and data driven approaches (such as geophysics and earth observation), and new methods of extraction to revolutionise the location, mining and refining of mineral resources.

Improved methods of mineral processing and recovery are urgently needed to reduce waste and achieve effective management and efficient use of mineral resources, including through increased reuse and recycling of mineral stocks already in circulation.

Harnessing big data approaches to allow mineral flows to be tracked across value chains (meaning, from extraction through each subsequent stage of highly complex life cycles) will generate new evidence, understanding and technological advances. These will catalyse innovative circular economy approaches and enable more transparent, more resilient and more responsible international markets.

The mineral sector needs to transition towards a reconstructive approach, net positive for nature and delivering sustainable post-mining landscapes from projects with exemplary environmental, social and governance credentials. To achieve this, it is necessary to develop transparent regulation, policy, standards and frameworks alongside new technologies and techniques to secure, recover, recycle and reuse mineral resources.

Critically, this requires a step-change in the capability of the UK’s interdisciplinary resource community and in collaborative working to break down barriers between academic disciplines, and between science, industry and policy.

The CDT will create a highly skilled workforce with expertise that can be used across the wider energy and environment sectors, as well as filling skills gaps in the minerals sector. This will equip the industry with the skills needed to reduce the environmental impact of mineral exploration and extraction.

Production, stewardship and use of mineral resources requires a wide range of skills including, but not limited to:

* geology
* geochemistry
* geophysics
* mining
* metallurgy, including extractive metallurgy and geometallurgy
* ecology, including natural capital and ecosystem services
* environmental sciences, including monitoring and managing environmental impacts
* chemical engineering or refining
* material science
* manufacturing
* finance
* law and governance
* economics, including value chain analysis
* environmental informatics, data collection, data management and data analysis including distributed ledger technologies (such as Blockchain), resource analysis and modelling
* remote sensing
* biotechnology
* sustainable development, including relating to artisanal and small-scale mining
* ethics
* social sciences, including societal change dynamics such as principles of behaviour, community change and social justice

Applications must outline a coherent training programme through which students will both undertake individual research projects and receive cohort-level training, in cross-cutting skills relevant to the areas above. You should design and justify an appropriate programme for your CDT, there is no expectation that all students should receive training in all areas.

While the development of a skilled research community is core to this training need, this community must apply the acquired knowledge and use holistic approaches developed to deliver ‘real world’ solutions across entire mineral value chains as a key training and output of a CDT.

Training opportunities are therefore required in innovation uptake, and the ability to take on secondments, interdisciplinary exchanges and technology transfer opportunities must be provided.

Individual student research projects need to be interdisciplinary with a focus that is at least 50% NERC remit. Through the wider training programme all students must be exposed to techniques, perspectives, and context from all the relevant disciplines to gain an interdisciplinary training experience.

### Other training requirements

In addition to the research training remit identified above, there are a number of transferable professional, technical and personal development training requirements that must be delivered by the CDT funded through this opportunity:

* access for all CDT students to placements, internships or other relevant work experience opportunities (this includes UKRI policy internships). This does not mean that all students must complete a placement, but that these opportunities must be available to all, and training programmes should be designed with the flexibility to enable students to undertake such work experience opportunities if they wish to do so
* explicit careers training and continuous professional development relevant to both academic and non-academic career trajectories. Careers training must take place suitably early in students’ training to enable it to inform their choice of training opportunities
* strong end-user involvement with all levels of CDT training
* dedicated professional skills, and innovation or translation training available to all CDT students
* access for all students to appropriate data skills training
* opportunities to network across Doctoral Training Partnership (DTP), CDT and research council cohorts and gain multidisciplinary perspectives
* training needs analysis or equivalent for all students at the outset of training, and the opportunity to discuss individual training requirements throughout their doctorate
* discussion of training needs and available opportunities
  + these should take place with end-users as appropriate and be placed within the context of potential future careers
* clear guidance and training on mental health awareness as part of CDT induction process for staff and students, outlining how to access support for mental health issues encountered during the doctorate
  + it is important to show how this will be implemented and managed by the CDT across hosting partner institutions

### Funding opportunity requirements

#### Capability to deliver

You must provide evidence within your applications that you offer sufficient high quality research capacity to deliver training in the areas specified in the remit of the priority area. You should also justify your choice of partnership which can include international collaborative partners as appropriate to deliver the objectives of the training programme.

While research capability is an important aspect of a successful CDT, the assessment process will balance this against the full assessment criteria for the opportunity.

#### Collaboration with end-users and non-higher education institution (HEI) partners

Collaboration with a variety of non-HEI partners is vital for:

* delivery of excellent multidisciplinary training
* framing research questions to ensure production of research outputs with real-world applications of direct relevance and use to the environmental science community as a whole

Collaboration with end-users and other non-HEI partners must therefore form a significant part of the CDT’s training programme, at both the design and delivery stage. Successful applications will demonstrate clearly how students will benefit from engagement with multiple types of organisations, on both an individual and a cohort level, via a variety of mechanisms.

In outlining their approach to engaging with stakeholders, applications must evidence a track record of collaborative working and describe a coherent strategy for engaging with multiple stakeholders.

An expectation of the CDT is that the NERC funding will be used to leverage additional investment (either cash or in-kind support) from multiple stakeholders.

In addition, applicants:

* should ensure that a number of studentships offered by the CDT are CASE or ‘collaborative’ studentships (see the following ‘CASE studentships’ and ‘Collaborative (non-CASE) studentships’ sections)
* must embed collaboration with end-users through mechanisms in addition to CASE (for example, placements, training courses or site visits) for all doctoral students within their wider training programme

You must demonstrate clearly within their applications how this will be achieved.

#### CASE studentships

The CDT must ensure that a minimum of 25% of the notional studentships are delivered as formal [CASE studentships](https://www.ukri.org/what-we-offer/developing-people-and-skills/nerc/nerc-studentships/directed-training/nerc-case-studentships/) with a broad range of eligible partners. It is important that these requirements are adhered to, and compliance will therefore be monitored via reporting processes. You must demonstrate in your application the mechanisms you will use to ensure the CASE conversion requirement is met.

CASE studentships must be delivered in collaboration with non-academic partners from industry, business, public and the third or civil sectors. Organisations eligible to receive research grant funding will not be eligible to act as a CASE partner. This includes research institutes and independent research organisations (IROs).

Check eligible [research institutes, IROs and Catapult centres](https://www.ukri.org/apply-for-funding/before-you-apply/check-if-you-are-eligible-for-research-and-innovation-funding/).

As an exception to the above, public sector research establishments (PSREs) are eligible to act as CASE partners. As already noted, PSREs wishing to be involved in an application are required to choose whether they wish to do so as either a hosting partner or a CASE partner.

#### Collaborative (non-CASE) studentships

In addition to CASE studentships, any number of CDT studentships may be ‘collaborative’ (meaning, have no formal partnership requirements or project partners not eligible to be CASE partners).

These collaborative studentships will also be monitored and recorded through reporting processes and will be formally recognised as a success metric as part of the monitoring of CDT performance. Applications must describe how such collaborative relationships will be developed and maintained, and the benefits they will provide to students’ training.

#### Management

The CDT must have strong leadership and management. It should have both a lead operational manager and steering committee or management board.

The steering committee or management board should be comprised of all hosting CDT partners and must also have representation from relevant end-user organisations and from both NERC and Innovate UK. It will have overall responsibility for the effective governance of the CDT and its relationship with NERC and provide a strategic needs framework to aid the prioritisation and development of doctoral projects.

The CDT must demonstrate that robust and transparent governance arrangements will be in place from the outset of the CDT, which may include the development of formal partnership agreements, communication plans and systems for monitoring the CDT’s overall progress and success.

Applicants are strongly encouraged to incorporate CDT students into the management and running of activities within the CDT. Where appropriate, formal partnership agreements must be in place ahead of the start of the first student cohort.

The CDT must also commit adequate support for appropriate administrative resource, and applications must be explicit about how administrative structures will be managed and funded.

#### Equality, diversity and inclusion (EDI)

We must ensure that we support the most talented students whatever their background and regardless of where and when they undertook their first degree.

To ensure that this happens, we require that EDI principles are embedded at all levels and in all aspects of research and training practice in the CDT. You should refer to [NERC’s best practice principles in recruitment and training at doctoral level](https://www.ukri.org/publications/recruitment-and-training-at-doctoral-level-best-practice-principles/). The successful CDT will be expected to implement these best practice principles.

NERC expects applicants to think imaginatively and demonstrate in their applications their strategy for EDI to enable wide participation and promote postgraduate research to a diverse base of talented graduate students. In particular, consideration should be given to training programme flexibility and the ability to address individual students’ needs. This aspect of the application will be assessed through the Partnership Operational Management criterion.

The successful CDT’s strategies and commitments in this area will be reviewed regularly through a reporting and monitoring programme. It will be mandatory for the successful CDT to collect and report on the characteristics of the applicant and student population.

Read about [UKRI’s work on EDI](https://www.ukri.org/our-work/supporting-healthy-research-and-innovation-culture/equality-diversity-and-inclusion/).

### Funding

NERC will award eight notional studentships a year for three years.

A notional studentship consists of sufficient funds to meet the annual UKRI minimum stipend and fee levels, plus additional research and management costs as outlined below, for four full years of doctoral study.

It is expected that individual students will undertake training over a variety of timeframes (between three and four years as appropriate, depending on the discipline, project and the student’s experience and knowledge).

The indicative funding per notional studentship is provided below. The student stipend and fees are indicative estimates only, based on the 2022 to 2023 figures multiplied by four, and excluding London allowance (at the time of award, stipend and fees will be indexed to accommodate rises in the minimum stipend and fees levels over the lifetime of the award).

The research training support grant (RTSG) and management costs are fixed:

* student stipend: £70,672
* fees: £18,384
* research training support grant: £11,000
* management costs: £1,500
* total: £101,556

CDTs will have flexibility in how they use the funding awarded (subject to the normal UKRI terms and conditions of training grants), as long as the minimum numbers of students are supported each year (the minimum being the number of notional studentships awarded).

Read about [meeting UKRI terms and conditions for funding](https://www.ukri.org/apply-for-funding/before-you-apply/your-responsibilities-if-you-get-funding/meeting-ukri-terms-and-conditions-for-funding/).

Given the flexibility in use of funding, it will be possible for the CDT to use the training grant to support more than the minimum number of students each year.

This could be achieved by having students undertake training over a variety of timeframes and by co-funding students from other sources. Students must be funded at least 50% by a NERC training grant to be classed as a NERC student.

It is strongly recommended that, wherever possible, co-funding from non-UKRI sources is used to co-fund students (rather than wholly fund individual students) so that all CDT students have equal access to the opportunities available to UKRI-funded students and can be registered on Je-S (with NERC, UKRI) for reporting purposes.

In situations where it is not possible to part-fund students, the CDT must ensure suitable measures are in place to ensure those students’ training experiences are comparable and all relevant data are provided outside of Je-S reporting.

#### Implementation and delivery

The CDT award will provide funding for three years of new student intake. This is six years of funding in total, from the start of academic year 2024 to 2025.

#### Legacy and impact

CDTs are supported with the intention of developing a legacy of training excellence from a directed investment. Applications must demonstrate consideration of the legacy and impacts of the CDT beyond the lifetime of UKRI investment.

#### Data management

It is NERC policy to increase the visibility and awareness of environmental data and to improve their management as a resource.

The CDT funded through this opportunity should therefore ensure that relevant NERC Environmental Data Centres are aware of significant datasets generated, or to be compiled, under the award so that their long-term stewardship can be planned.

Read about [NERC environmental data centres](https://www.ukri.org/councils/nerc/facilities-and-resources/find-a-nerc-facility-or-resource/).

#### NERC facilities

Funding for NERC services and facilities cannot be requested as part of a training grant application. Students wishing to use NERC services and facilities must fund the costs of doing so using RTSG funds or gain access to facilities through other routes.

Anyone wishing to use a NERC service or facility must contact the facility to seek agreement that they can provide the service required.

Read about [NERC’s facilities, ships, aircraft and stations](https://www.ukri.org/councils/nerc/facilities-and-resources/).

#### Reporting requirements and monitoring

There will be mandatory annual reporting requirements for the CDT, in addition to the standard studentships information captured through the Je-S studentship details functionality.

This information will be used to report on the success of our training investments to the government and other partners.

Information provided will also be used to provide assurance that the CDT is being managed appropriately and is progressing in accordance with its original funding application and the aims and expectations outlined in this funding opportunity.

This additional reporting will take the form of an annual return.

Indicative reporting headings include:

* information regarding student recruitment (including demographics of unsuccessful applicants)
* information regarding the CDT student population, including those funded by alternative sources to the CDT award
* CASE studentships and other collaborative partner engagement
* information regarding partners’ in-kind investment and co-funding
* cohort-level training activities
* cross-CDT and DTP training activities
* CDT-level success stories and impacts (individual student research outputs will be captured through Researchfish)

In addition to annual reports, NERC will conduct regular visits to the CDT. The CDT will also be expected to respond to other reporting requirements when requested.

### Responsible innovation

Through our funding, we want to make a positive contribution to society and the environment. We will achieve this through research outcomes and the way in which research is conducted.

If you are successful, you will need to adopt responsible research practices, as set out in [UKRI’s responsible research policy](https://www.ukri.org/about-us/policies-standards-and-data/good-research-resource-hub/responsible-innovation/) and the [NERC responsible business statement](https://www.ukri.org/publications/nerc-responsible-business-statement/).

Responsible research is defined as reducing harm/enhancing benefit on the environment and society through effective management of research activities and facilities. Specifically, this covers:

* the natural environment
* the local community
* diversity and inclusion

Grant holders should consider responsible research context of their project, not the host institution as a whole. Further, grant holders should take action to enhance their responsible research approach where practical and reasonable.

### Notification of intent

A notification of intent to submit a full application must be submitted by 5 June 2023 at 4:00pm.

[Submit a notification of intent](https://reg.nerc.ac.uk/cdt-mret-noi/)

Tell us the organisations that are expected to be involved as hosting and collaborative partners, and include a title and abstract of your planned work. The abstract will not be assessed, but we will use the information to plan the application assessment.

Full Je-S applications submitted without a prior notification of intent will be rejected.

### Full applications

You must apply using the [Joint Electronic Submission (Je-S) system](https://je-s.rcuk.ac.uk/JeS2WebLoginSite/Login.aspx).

You can find advice on completing your application in:

* the [Je-S handbook](https://je-s.rcuk.ac.uk/Handbook/index.htm)

We recommend you start your application early.

Your host organisation will also be able to provide advice and guidance.

Before starting an application, you will need to log in or create an account in Je-S.

### Submitting your application

When applying:

1. Select ‘documents’, then ‘new document’.
2. Select ‘call search’.
3. To find the opportunity, search for: CDT July 2023.

This will populate:

* council: NERC
* document type: studentship proposal
* scheme: doctoral training
* call/type/mode: CDT July 2023

Once you have completed your application, make sure you ‘submit document’.

You can save completed details in Je-S at any time and return to continue your application later.

### Deadline

NERC must receive your application by 27 July 2023 at 4:00pm.

You will not be able to apply after this time. Please leave enough time for your application to pass through your organisation’s Je-S submission route before this date.

You should ensure you are aware of and follow any internal institutional deadlines that may be in place.

### Attachments

Your application must also include a completed ‘application and case for support form’, which is available to download from the ‘supporting documents’ section under ‘additional info’.

The case for support section of the form must not exceed 14 pages of A4 in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size to Arial 11), with margins of at least 2cm.

Please note that Arial Narrow, Calibri and Times New Roman are not allowable font types and any application which has used either of these font types within their submission will be rejected.

References and footnotes should also be at least 11 point font and should be in the same font type as the rest of the document. Headers and footers should not be used for references or information relating to the scientific case. Applicants referring to websites should note that referees may choose not to use them.

Please note that on submission to the council, all non-PDF documents are converted to PDF. The use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document.

Additionally, where non-standard fonts are present, and even if the converted PDF document may look unaffected in the Je-S system, when it is imported into the research council’s grants system, some information may be removed.

We therefore recommend that where a document contains any non-standard fonts (scientific notation, diagrams and so on), the document should be converted to PDF prior to attaching it to the application.

You will need to provide details under the following headings:

* capability to deliver
* training excellence
* multidisciplinary training environment
* partnership operational management

You must provide evidence of any financial or in-kind commitment agreed by partners. This may take the form of a statement in the case for support or a signed letter of support (up to two sides of A4 per organisation).

Only letters of support outlining agreed commitments (financial or in-kind) to the CDT will be accepted (no other attachments will be accepted).

A single application should be submitted by the administrative lead partner.

Applications will be assessed by an assessment panel, consisting of independent experts in postgraduate training provision and the research areas of the opportunity.

Applications will be assessed against the following equally weighted criteria:

* capability to deliver
* training excellence
* multidisciplinary training environment
* partnership operational management

### Assessment criteria

The scoring definitions to be used by the assessment panel are available to download from the ‘supporting documents’ section under ‘additional info’.

#### Capability to deliver

Key aspects for an outstanding CDT:

* ability of the team to deliver the CDT including the appropriateness and role of the organisations involved with the bid
* critical mass of relevant researchers, teams or projects within the specific remit of the opportunity to allow students to be supported effectively
* strategy for engagement with end-users, appropriate to the scope of the CDT, in all aspects of training from the outset of the CDT

Factors and evidence that might be discussed:

* evidence of the UK’s current capacity to deliver high quality training in the proposed area is provided
* number of active NERC-funded research projects and principal investigators at host research organisations, specifically within the remit of the opportunity
* Research Excellence Framework profiles relevant to the remit of the opportunity. Standing in the appropriate academic community (for example, national, international)
* institutional commitment to research excellence, specifically within the remit of the opportunity
* amount of NERC research income in research areas specific to the opportunity

#### Training excellence

Key aspects for an outstanding CDT:

* students are part of an active research and training community and managed as a cohort
* excellent scientific training and transferable or professional skills development opportunities
* excellent training and support for supervisors
* challenging and relevant, but feasible, projects
* co-development of projects and training programmes with end-users to ensure research and skills are tailored to their needs from the outset
* timely access to world-class facilities, direct experience of cutting-edge techniques, technologies and up to date methodologies
* the training and training environment includes scientifically excellent and original research within the NERC remit

Factors and evidence that might be discussed:

* integration of students into the relevant teams, projects, departments or schools
* mechanisms for supervision, supervisor training, and monitoring of both student and supervisor
* how generalist and specialist development needs of individual students will be identified and addressed
* personal, professional, career learning and development that students will receive
* collaborative opportunities and end-user engagement in training programmes, which may include training delivery, internships, industrial placements, overseas studies and co-supervisory arrangements if appropriate
* mechanisms to ensure the development of independent researchers and world-leading scientists
* access to, and encouragement of, peer-to-peer learning and support  
  completion rates, publication and first destination data for students hosted within CDT institutions
* employability of graduates
* leveraged support for the CDT (either in-kind or financial)

#### Multidisciplinary training environments

Key aspects for an outstanding CDT:

* training is embedded in multidisciplinary research environments
* excellent opportunities to network with researchers and students from other disciplines
* excellent opportunities for collaborative projects involving end-user partners, including CASE studentships, internships or placements, and end-user co-supervision
* end user engagement in all aspects of training, from individual projects to cohort-level specialist and transferable skills training. Students will gain value from interaction with a wide range of end-users, and leave equipped with skills applicable to the environment sector and relevant to policymakers and regulators, industry and business, and non-governmental organisations and charities

Factors and evidence that might be discussed:

* how students will be made aware of the context of their research and how it relates to other disciplines, and its application outside of academia
* supervisory or wider advisory team engagement in research outside the relevant disciplines
* ability to expose students to different disciplines via, for example:
  + interaction with cohorts from different disciplines beyond the CDT through transferrable skills training, seminars or conferences. and networking opportunities
  + placing students within multidisciplinary research teams
  + opportunities to attend specialist training courses in other disciplines where appropriate

#### Partnership operational management

Key aspects for an outstanding CDT:

* diversity, equity and inclusion principles embedded at all levels and in all aspects of research and training practice throughout the lifetime of the CDT
* robust mechanisms to promote postgraduate research to a diverse base of talented graduate students across the UK, with all studentships offered on a full or part-time basis through an open and transparent selection process. CDT programme and processes are sufficiently flexible to enable them to be tailored to individual needs
* robust and transparent governance arrangements and strategy for managing partnerships between or within organisations
* agreement by all parties of a robust mechanism for aligning ways of working and sharing resources and finances between different organisations (including non-academic partners)
* adequate dedicated administrative resource
* clear strategy for engagement with end-users, appropriate to the scope of the CDT, in all aspects of training from the outset of the CDT
* well-considered mechanism for planning, managing and monitoring training. This includes strategic and systematic approaches to project selection and attracting and selecting the best-fit students for projects. Student recruitment is designed to enable wide participation and prioritises potential for excellence in studentship outcomes (what an individual can bring to a project and the graduate they will be as a result of the CDT’s training)
* well-defined legacy of the CDT beyond the lifetime of any UKRI investment, including research and training outcomes and impacts, and opportunities to maximise the UKRI investment

Factors and evidence that might be discussed:

* demonstration of a strategy for embedding diversity, equity and inclusion principles in all aspects of the CDT:
  + selection processes to be open and transparent, and enable the potential of the candidate to be assessed whether they are applying on a full- or part-time basis, whether they have prior research training or not, and regardless of their demographic
  + all studentships to be available on a full or part-time basis and the availability of part-time awards to be clearly set out when advertising funding opportunities
  + opportunities for NERC-funded studentships to be actively publicised both within and beyond the host research organisations
  + careers training and continuous professional development that emphasises the full range of potential career pathways open to students of the CDT
* evidence of support available to all students to protect their physical and mental health and wellbeing and clarity across hosting partners on the steps to be taken by a student to access appropriate support
* management and governance structure, including mechanisms for agreeing management arrangements and monitoring CDT’s overall progress and success
* representation of different parties (including students and end-users) within the CDT’s management structure
* amount of dedicated administrative resource
* strategy for engaging with end-users and other collaborators
* systems and processes for assessing the suitability of supervisors and projects
* mechanisms for allocating studentships within the CDT and recruiting the best-fit students
* processes for student induction, progression, monitoring and submission
* demonstration of success stories
* establishing cohorts beyond the UKRI-funded students by using the CDT as a magnet or nucleus for research and training activities
* arrangements for management of data generated by studentship projects, and for returning accurate and timely data on studentships to UKRI

The types of evidence that may be considered are provided as examples only. You should develop your application in whatever way you feel is most appropriate to address the requirements of the opportunity and provide appropriate evidence to support your proposed training programme and any claims made within the application.

The assessment panel will use this criteria as a guide when assessing applications but will not expect all applications to include all types of evidence listed within this criteria, nor will they ignore additional evidence of excellence or innovative approaches to addressing the requirements of the opportunity.

### Process

The assessment process includes an applicant presentation and interview with the assessment panel. We will try to provide early notice of an invitation to attend, but you should note that the assessment panel meeting is currently planned for the week commencing 25 September 2023.

Following the panel meeting, feedback for all applications will be provided.

We reserve the right to modify the assessment process as needed.

### Principles of assessment

UKRI supports the San Francisco [declaration on research assessment](https://sfdora.org/read/) and recognises the relationship between research assessment and research integrity.

Find out about the [UKRI principles of assessment and decision making](https://www.ukri.org/publications/ukri-principles-of-assessment-and-decision-making/).