

Quick Reference

Please note that you must read the full Call document for guidance before submitting your proposal

EPSRC 2018 CDTs

Call type: Invitation for outlines

Closing date: 16:00 13 March 2018

Please note that an additional UKRI investment for Artificial Intelligence CDTs has been incorporated into this call since the call launched (17 January 2018). The outline submission deadline and outline panel dates associated with this investment differ from the rest of the CDT call. In addition to the call information below, please refer to the UKRI Artificial Intelligence CDT call page [<https://www.epsrc.ac.uk/funding/calls/ukriaicdts/>].

Funding Available: EPSRC expects to commit up to £492M to support around 90-120 Centres for Doctoral Training. Each CDT must support a minimum of 50 students, over five cohorts. The maximum studentship costs EPSRC will fund will be equivalent to 40 students.

How to apply: This call will be a two-stage submission. Successful outlines will be followed by invited full proposals.

Assessment Process: Outlines will be considered by expert panels. Invited full proposals will be sent to external reviewers followed by interview panels. The assessment of individual applications and the balance of the training landscape across the engineering and physical science remit will be taken into account when making decisions at both the outline and final stage.

Key Dates:

Activity	Date
Deadline for Outlines	13 March 2018
Deadline for return of institution allocation information	14 March 2018
Outline Panels	Week beginning 23 April 2018
Deadline for Full Proposals	No earlier than 31 July 2018*
Deadline for contextual information from project partners	End of September 2018
Interview Panels	w/b 05 November 2018
Funding decision	December 2018
New CDT cohort starts	2019/20 Academic Year

*This date is dependent on the communication date of the outcomes of the outline stage. Where possible, ten weeks will be given between outline decisions and the full proposal deadline.

Additional information: Organisations are required to limit the number of outline submissions as lead institution. See [Annex 1](#) for more details. Artificial Intelligence CDT applications will be exempt from this limit. Please also note that a minimum cash leverage is required on all applications.

Contacts: EPSRC CDT mailbox; Email: cdt@epsrc.ac.uk

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Related themes: All themes

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Please also see the priority area descriptions
[<https://www.epsrc.ac.uk/files/funding/calls/2018/2018-cdts-call-priority-areas/>].

1. Summary

Please note that an additional UKRI investment for Artificial Intelligence CDTs has been incorporated into this call since the call launched (17 January 2018). The outline submission deadline and outline panel dates associated with this investment differ from the rest of the CDT call. In addition to the call information below, please refer to the UKRI Artificial Intelligence CDT call page [<https://www.epsrc.ac.uk/funding/calls/ukriaicdts/>].

This call is for applications to support Centres for Doctoral Training focussed on **cohort-based doctoral training** in areas where both breadth and depth of research training are required to address UK skills needs at the doctoral level. EPSRC expects to commit up to £492M (subject to budget confirmation) to support in the region of 90-120 Centres for Doctoral Training (CDT) subject to quality across the Engineering and Physical Science landscape.

Applications are welcome from eligible institutions that are able to demonstrate the ability to host a CDT by meeting all the criteria detailed in the call; one aspect of which is a critical mass of supervisors (around 20-40) existing across the partnership of the application. **The number of outline submissions an organisation can submit as the lead institution is limited.** Artificial Intelligence CDT applications will be exempt from this limit. There is no limit as a partner organisation. For more information please see [Annex 1](#).

The call will run over two stages: an outline stage assessed by expert panels and a full proposal stage consisting of external peer review and an interview panel. Some details of successful outline proposals will be published to enable wider engagement with the user community ahead of the full proposal stage. Funding decisions are expected to be announced in December 2018 so that successful Centres can begin their preparations for student recruitment in 2019.

This is a dual-stream call. The call consists of the following:

- **A priority area stream** – for excellent proposals delivering against priority areas articulated within the call;
- **An open stream** – for excellent proposals in areas outside the identified priorities (but still predominantly within the EPS remit) which are best delivered through a CDT approach;

EPSRC reserves the right to move applications between priorities and streams.

Centres will need to support at least 50 students over the duration of the funding period and there is a requirement to meet a minimum level of additional funding. Where this minimum additional funding is not being committed by the eligible partnering institutions, those institutions will be required to underwrite this commitment. Please see the [additional funding section](#) for more detail.

2. Background

Through this call EPSRC will support centres of excellence in research training. These centres will deliver the next generation of internationally excellent doctoral researchers to meet the needs of academia, industry and other employers.

In particular we aim to:

- fund a balanced portfolio of CDTs that are aligned to identified skills needs for the UK in the Engineering and Physical Sciences, in partnership with others including other Research Councils;
- produce highly skilled and talented researchers, and future leaders, by funding world leading innovative centres that are aligned to major research strengths;
- support high quality doctoral research training environments led by robust leadership teams to train internationally competitive doctoral students through a cohort training approach.

This call is an important aspect of EPSRC's Delivery Plan 2016/17 – 2019/20 [<https://www.epsrc.ac.uk/newsevents/pubs/epsrc-delivery-plan-2016-17-2019-20/>] where EPSRC has outlined a commitment to providing recurrent resource to get the best from Grand Challenge investments (including CDTs) and partnering with business and other innovation funders to generate accrued benefits. In particular we seek to:

- ensure a forward-looking, ambitious portfolio of research training which makes a positive difference for the UK;
- protect the UK's long-term capability and foster an expansion of multidisciplinary research;
- secure leverage in order to maximise the benefit of public funds;
- train the next generation of UK leaders for industry, research organisations and elsewhere

CDTs are one of the three routes by which EPSRC provides support for doctoral training. The other routes are the Doctoral Training Partnership (DTP) and Industrial Case Studentships (ICASE). The three routes are complementary and we anticipate that much of the need for doctoral students will continue to be met by the DTP and ICASE.

The specific need for doctoral training through the CDT mechanism is a key feature of this call. In addition to a strong requirement for doctoral level skills training in an area, it is crucial that applicants are able to demonstrate that a CDT approach founded on cohort-based training is required and that providing both the depth and breadth in the research training proposed is necessary for fulfilling the identified skills need.

3. Dual stream call

Applications must be made against one of the two streams available. Applications may not be made against both the priority area and open streams. The priority area stream is for proposals delivering against priority areas articulated within the call while the open stream is for proposals in areas outside the identified priorities which are best delivered through a CDT approach. EPSRC reserves the right to move applications between priority areas or the two streams.

For all proposed CDTs, applicants are encouraged to consider both the National Importance of the doctoral training being proposed and how the training provision contributes to EPSRC's portfolio and strategies. For more information see our website [<https://www.epsrc.ac.uk/research/ourportfolio/>].

Applicants will need to indicate in their cover letter which stream is being applied against. For the priority area stream the individual priority areas will also need to be indicated. There is no limit on the number of areas that can be identified. However, proposals must significantly contribute to the delivery of the area vision and the training needs identified within the area description. It is therefore **expected that the majority of proposals within the priority stream will identify with one or two priority areas only**. The breadth of priority areas varies. For some priorities it is expected that all or most of an area's breadth is covered by the training provision proposed in individual CDT applications. Other priority areas are sufficiently broad that it is acceptable for individual CDTs to cover only part of the area. EPSRC will in some cases make multiple, complementary, investments in CDTs to achieve coverage across and within priority areas. Each area description indicates the breadth of coverage expected of individual CDT applications. See the separate priority area document for more information [<https://www.epsrc.ac.uk/files/funding/calls/2018/2018-cdts-call-priority-areas/>].

Subject to the quality and number of the applications, EPSRC expects the indicative balance of investment between the streams to be ~70% to the priority area stream and ~30% to the open stream. As such the open stream represents a significant level of investment and we encourage applications against this stream where a strong case for cohort-based training can be made.

4. Key features of CDTs

CDTs should provide a training environment that incorporates the following features:

- **Support a minimum of 50 students over five cohorts**
 - It is expected that each cohort will consist of a minimum of ten students.
- Support student cohorts on a four-year doctorate or equivalent, via a critical mass of supervisors (around 20-40) of internationally recognised research excellence and track record of doctoral supervision;
- Students must benefit from the cohort approach to training through peer-to-peer learning both within cohorts and across them. Centres should provide students with opportunities to benefit from such support throughout the lifetime of their doctorate, not just in the first year.
- All students should expect to undertake a significant, challenging and original research project leading to the award of a doctoral level degree in accordance with a university's (ies') standard regulations. Students should also expect that doctoral projects are designed/planned in such a way that (barring exceptional circumstances) they are able to submit their thesis within their funded period.

- Students should undertake a formal, assessable programme of taught coursework, which should develop and enhance technical interdisciplinary knowledge, as well as broadening skills;
 - Innovative methods of delivering the coursework and integrating it with the students' research activity are particularly encouraged.
- Significant commitment to and support for the training environment by the hosts and key partners including appropriate co-creation of the Centre;
- Centres should have appropriate user/employer engagement in the research and training;
- There should be mechanisms by which students funded through other routes can benefit from the training experience offered by the centre, and for the centre to reach out to the broader research and user community;
- If applying against [a] priority area/s a CDT application should incorporate the specific training features identified in the area description;
- In addition, CDT applicants should consider the aspects listed in the enhanced training section below.

4.1 Enhanced training

Responsible Research and Innovation

Students **must receive training in Responsible Research and Innovation (RRI)** [<https://www.epsrc.ac.uk/research/framework/>]. For example, students should gain an appreciation of social responsibility and the consideration of ethics as part of designing and conducting research. We would expect students to receive training in the general topic of RRI as well as in issues more specific to the scientific areas relevant to the Centre. Where there are specific requirements relating to a priority area this has been detailed in the area description [<https://www.epsrc.ac.uk/files/funding/calls/2018/2018-cdts-call-priority-areas/>].

Impact and translation

In addition to supporting students to maximise the impact of the research they undertake, students should be provided with an understanding of how research can be approached, and projects designed, to include considerations of context and impact pathways from the start. They should understand the pipeline to translation and end-use. In some areas such training could provide an understanding of the whole landscape within which the research fits, including intellectual property; developing people able to work with and across industry sectors, bridging sectors and applications within the landscape, and fostering new innovative approaches. Others require the understanding of regulatory and policy considerations. For research of relevance to the healthcare sector applicants must consider the Impact and Translation toolkit as part of CDT bids. [<https://www.epsrc.ac.uk/research/ourportfolio/themes/healthcaredtechnologies/strategy/toolkit/>]

User engagement

EPSRC encourages user engagement in all of its doctoral training. The extent of that engagement varies according to the nature of the research and training and may also vary with the size of the company or user. We encourage all forms of user engagement and contributions where this is beneficial to the training provision. The appropriateness of the support offered will vary depending on both the area, sectors, and type of partner. This should be demonstrated and will be assessed based on the added value of the engagement, not its monetary value.

Wider training experience

Enabling EPSRC sponsored research students to benefit from research experience outside their home laboratory can contribute to the wider training experience possible through a CDT. This can be in the form of industrial experience, public engagement activities, or a period of time spent in an overseas academic collaborator's laboratory for example. Funding for international placements, policy and industry secondments and Creativity@home [<https://www.epsrc.ac.uk/funding/applicationprocess/routes/network/ideas/creativityathome/>] activities can be included in CDTs. If placements or secondments are proposed, plans for ensuring the experience is beneficial to the research training of the individual should be clearly articulated in the full proposal.

Facilities and research tools

To carry out cutting edge engineering and physical sciences research, researchers need to be able to access and use a wide range of equipment, facilities and e-infrastructure (software and High Performance Computing). CDT students will therefore need to be trained in how to use the essential tools for their research. Students should benefit from the environment and accessibility of infrastructure at CDT hosting institutions and partners. Existing access to the necessary infrastructure is good evidence of the suitability of the bidding institution as a host for the CDT. If appropriate to their research, students should also have access to Large Facilities and EPSRC National Research Facilities (see [Annex 2](#) for details). It is not expected that Centres create bespoke training courses in the use of essential research tools if access to existing courses is available. Funding for students to attend these should be included in applications.

Computational and data-driven research

Acknowledged to be the "third leg" of scientific enquiry, alongside experiment and theory, computational and data-driven research cuts across the whole of science and engineering. It is therefore a certainty that many of the students being trained through the CDTs will be using computational and data techniques in their projects, and some may have projects aimed specifically at software development. It is essential that they are given appropriate training so that they can confidently undertake such research in a manner that is correct, reproducible and reusable such as data curation and management (this may need to include data protection and regulation).

For students who are required to adapt, extend, or develop software as part of their research we expect them to be given training in basic programming and

software engineering skills, including working collaboratively on code, testing, automation, and revision control.

Centres requiring students to undertake computational research should set out a programme of training, tailored to meet the needs of the Centre students, and explain how this training will be provided. There is a significant amount of training available and centres should contact potential providers, as they may be able either to provide the training required, or to help with 'training the trainers' so that material can be delivered locally and at the most appropriate time (please see [Annex 2](#) for further information). Computational research training would be expected to include at least one of the following:

- Fundamentals of computing
- Basic data analysis
- Numerical analysis and algorithm development
- How to apply computational techniques and data analytics as research tools, in particular the design of experiments and the interpretation of results
- Targeted training in applying and using the standard codes for the particular research area of the CDT
- Matching problems with available and new hardware (desktop, cloud, HPC, GPUs etc.) and scaling up beyond the desk top

4.2 Qualifications

The design and management of Centres should aim to support the graduation of students with research doctoral qualifications. Universities are free to choose the type of research doctoral qualification that is offered to students. Some qualifications have their own requirements so Centres must ensure that students are able to meet these criteria if these are to be offered. Centres may choose to offer all students the same type of qualification or a mixture. For example, it is acceptable for Centres to offer all students an EngD or PhD doctoral award, or both as appropriate to the individual student, the research project, and the benefit to their future career. Centre bids will be assessed against the appropriateness of the training provision offered not the choice of qualifications to be awarded.

5. Funding available

Each centre must support a minimum of 50 students over five cohorts. Studentship and delivery support costs (e.g. coordination or management costs) for the Centre can be sought. Studentship costs include fees and stipends and appropriate research training support (e.g. travel and consumables). Tuition fees (EPSRC will not cover additional college fees) and stipends above the minimum published by RCUK can be sought. Fees cannot be higher than the fee charged by the university for UK/EU non-Research Council funded students on similar programmes. Any stipend enhancement should be fully justified in the context of the area of training and UK skills need. Funding for **studentship costs equivalent up to 40 students** over five cohorts **can be sought from EPSRC.**

This can be used flexibly but must support students at no less than 50% of their studentship costs. Additional support must be provided from non-RCUK sources to achieve the minimum student numbers.

Existing Centres are expected to cost less than new Centres as they will have much of the necessary infrastructure in place and will have carried out much of the preparatory work required for a successful CDT. Start-up costs will only be paid for new Centres.

5.1 Additional support

Both cash and in-kind support from other sources is encouraged. **As a minimum, 20–40% of the total studentships costs must accompany all applications and be provided by a non-RCUK funding source.** Studentship costs include fees and stipends, and appropriate research training support. **The additional support must include the fee and stipend costs equivalent to 10 students** (i.e. it cannot be solely for research training support). Typically it is expected that this leverage will be achieved through support from the applying institutions and/or project partners. Applicants can use the additional studentship costs flexibly. For example, dedicating full support for some studentships each year as part of a ten-student cohort, or spreading funding to partially support all the students. Some working examples are provided in [Annex 3](#).

While details of the cash contributions will not be required at the outline stage, it is imperative that the minimum additional support and student numbers are achievable. **Even if successful at the outline stage, applications will be rejected at later stages if it is found that these minimum requirements have not been met.** To ensure that CDTs support at least 50 students over their lifetime, **institutions must underwrite the minimum cash support needed**, over and above the funding sought from EPSRC, to deliver these; irrespective of the proposed source. See the [Guidance for host organisations](#) section for more information about document requirements.

5.2 Equipment

Equipment over £10,000 in value (inc. VAT) is not available through this call. At the full proposal stage, smaller items of equipment (individually under £10,000) should be in the Directly Incurred - Other Costs heading.

For more information on equipment funding, please see: <https://www.epsrc.ac.uk/research/facilities/equipment/>

6. Equality, diversity and inclusion

The long term strength of the UK research base depends on harnessing all the available talent. The Research Councils have together developed the ambitious RCUK Equality, Diversity and Inclusion (ED&I) Action Plan [<http://www.rcuk.ac.uk/funding/diversity/>]. As flagship investments, in addition to considering ED&I within the management of the CDT itself (such as recruitment processes), Centres are expected to take a leadership role in driving improved ED&I within relevant areas.

In line with the RCUK Diversity Principles, EPSRC expects that ED&I is embedded at all levels and in all aspects of research and training practice. We are

committed to supporting the research community in the diverse ways a career can be built with our investments. This should build on current good practice to make allowances for career breaks, support for people with caring responsibilities, flexible working and alternative working patterns. With this in mind, we welcome applications that support job shares, part-time contracts, and flexible working arrangements for both academics and students. Please see our Equality and Diversity webpages [<https://www.epsrc.ac.uk/funding/equalitydiversity/>] and the RCUK statement of expectations [<http://www.rcuk.ac.uk/documents/skills/equalitystatement-pdf/>] for further information.

7. Eligibility

For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide: <https://www.epsrc.ac.uk/funding/howtoapply/fundingguide/>

A list of eligible organisations to apply to EPSRC is provided at: <http://www.rcuk.ac.uk/funding/eligibilityforrcs/>

7.1 Demand management

It is expected that the CDT investment exercise will be in high demand. To reflect the level of investment available and manage the impact on the community in assessing the large volume of proposals EPSRC is limiting the number of outlines that can be submitted as **lead institution** (i.e. the organisation submitting the application through Je-S). There will be no limit on the number of applications that project partners or eligible institutions can partner on. Artificial Intelligence CDT applications will be exempt from this limit.

Only successful outlines will be invited to submit a full proposal. The success of an outline will be based on their performance against the assessment criteria and the balance of proposals across the set of outlines under consideration. The overall number of outlines allowed to proceed will be limited to ensure a robust assessment of full proposals is possible. Institutional quotas will not form part of the decision.

For more information on the demand management approach to this call please refer to [Annex 1](#).

7.2 New and existing centres

Applications to refresh existing centres are welcomed as well as applications to support new Centres. These applications will be considered together; they will be treated equally and assessed using the same assessment process and criteria. EPSRC will not set any expectation on the number of existing or new Centres that will be supported. Information about existing centres will not be made available to peer review by EPSRC; this includes the outcome of the mid-term review exercise.

7.3 Collaborative bids and international involvement

Applications are welcomed equally from single and multi-institutional teams. In assembling the Centre team, applicants must consider what is most beneficial to the Centre vision and associated training provision being proposed.

Individual CDTs must be at least 50% within EPSRC's remit. However, where justified within the context of the UK skills and doctoral training needs, we welcome applications which include other Research Council remit activity. EPSRC will share applications of possible interest with other Research Councils to consider co-funding of individual Centres. The Natural Environment Research Council (NERC) are pleased to confirm co-investment of up to £2.2M towards the Renewable Energy priority area in support of Centres working across the EPSRC/NERC interface. As with potential co-funding by any other Research Council, NERC will also consider applications outside of this particular priority on a case-by-case basis.

We also welcome CDT proposals which include elements of international engagement where they add value to the proposed centre. Support requested might include travel, subsistence and consumable costs for UK-based students undertaking training or research visits to overseas centres of excellence, or for leading researchers to visit the UK to contribute to the students' training experience. Where a formal, joint training partnership is proposed, the UK component must be able to stand on its own merits. Students registered at international institutions will not count towards the minimum cohorts, nor will the additional funding count towards the minimum additional support requirements of the call.

For general queries on potential CDT international engagement activities please contact international@epsrc.ac.uk.

Partnership with Science Foundation Ireland

We are pleased to have agreed with Science Foundation Ireland (SFI) to extend our existing lead agency funding agreement [<https://www.epsrc.ac.uk/about/partner/international/agreements/sfireland>] to this call. As part of the Republic of Ireland (ROI)'s Research and Innovation strategy, Innovation 2020 [<https://dbei.gov.ie/en/Publications/Publication-files/Innovation-2020.pdf>], SFI is focused on enhancing doctoral opportunities by ensuring that world-class standards apply to the quality of postgraduate researcher education and training. As part of this, SFI wishes to support joint CDTs developed by UK universities in partnership with SFI's 17 Research Centres [<http://www.sfi.ie/sfi-research-centres/>]. Joint CDT bids are invited in which up to 5 students a year will be funded by SFI to be based at one of the SFI Research Centres and to be integrated into the CDT cohort and training programme.

It is important to note that all proposals will be subject to the same assessment process, managed by EPSRC on behalf of both partners. Should more high-quality joint proposals be submitted than SFI is able to support at the full proposal stage, EPSRC reserves the right to fund only the UK component of a joint proposal. For this reason the UK component must be able to stand on its own merits. The ROI students should be over and above the minimum UK-based

cohort and SFI funding will not count towards the minimum additional support for studentships required of all applications.

For guidance on the inclusion of ROI partners please see [Annex 4](#).

8. How to apply

8.1 Submitting an outline application

A single outline application should be submitted on behalf of all the partnering eligible institutions.

You should prepare and submit your proposal using the Research Councils' Joint electronic Submission (Je-S) System [<https://je-s.rcuk.ac.uk/>].

When adding a new proposal, you should select:

- Council 'EPSRC'
- Document type 'Outline Proposal'
- Scheme 'Outlines'
- On the Project Details page you should select the 'EPSRC 2018 CDTs Outline' call.

Note that clicking 'submit document' on your proposal form in Je-S initially submits the proposal to your host organisation's administration, not to EPSRC. Please allow sufficient time for your organisation's submission process between submitting your proposal to them and the call closing date. **EPSRC must receive your application by 16:00 on 13 March 2018.**

8.2 Guidance on writing an outline application

All attachments must be completed in single-spaced typescript in Arial 11 or another sans serif typeface of equivalent size, with margins of at least 2cm. For example, Arial Narrow is not an allowable font type. Text in embedded diagrams or pictures, numerical formulae or references can be smaller, as long as it is legible. Text in tables and figure labels not within embedded diagrams or pictures should be at least 11 point.

We recommend that all attachments are uploaded into Je-S as Adobe Acrobat files (PDF) as uploading word documents can result in layout changes to the document. Also, as EPSRC do not support all Microsoft Office Word font types, unsupported fonts will be replaced possibly resulting in layout changes to the document.

EPSRC reserves the right to reject applications that do not meet these requirements.

The following information and documentation will need to be submitted:

- **Je-S outline application form** for the relevant call;

- The names of Centres must be prefixed by “EPSRC Centre for Doctoral Training in ...”;
 - The summary section should contain an overview of the research area of the centre, the need for the doctoral scientists or engineers that the centre will produce, and the approach that will be taken in a clear concise fashion appropriate for a scientific generalist;
 - All other J-eS sections (Objectives etc.) should also be completed but note that project partner information should not be provided;
 - The duration of the grant should be 102 months;
 - In the “summary of resources required for project” section, place a “0” (zero) in the “directly incurred”, “directly allocated” and “indirect costs” and put the total requested from EPSRC under “exceptions”.
- **Outline Case for Support** – no more than four sides of A4. The case for support should cover all aspects of the assessment criteria. Please ensure that all documents are easily readable;
 - **Cover letter** – no more than 1 side of A4. This should:
 - Indicate which stream the application is applying against.
 - For the priority area stream, identify the areas contributing to.
 - There is no limit on the number but proposals must significantly contribute to the delivery of the area vision and the training needs identified within the area description. **It is therefore expected that the majority of proposals within the priority stream will identify with one or two priority areas only.**
 - Indicate, if necessary, where the proposal spans the remit(s) of other Research Council(s).
 - Inform EPSRC where Science Foundation Ireland funding is linked to the application.

This letter will only be seen by EPSRC and will not be shared with external parties. The Proposal Cover Letter should also be used to highlight anything that has been discussed and agreed with EPSRC staff beforehand.

Applicants should not use the Ethical Information section on the Je-S form at the outline stage. This information will be required at the full proposal stage.

8.3 Costings

At the outline stage all EPSRC contributions should be combined and indicated within the “exceptions” field of the Je-S form. The EPSRC contribution to eligible costs will be funded on awards at 100%. Estate and indirect costs will not be funded on these awards.

All costs (including stipends and fees) should be calculated at current rates with no inflation over the grant duration included. EPSRC will apply an indexation rate to successful applications when issuing awards.

Costs should not be included to support students outside the CDT cohort, supported by funding from other sources. Where a central cost is incurred by the CDT (such as developing a new training course principally for the CDT students) these 'aligned' students can (and are encouraged to) benefit from these. However, additional 'per student' costs such as conference fees, facility access fees, travel, and subsistence for these students should not be included. EPSRC expects such support to be provided from the source of the student's support e.g. the DTP or an industrial sponsorship award.

The costs requested from EPSRC should not increase more than 10% between the outline and full proposal stages unless approved by EPSRC in advance.

9. Assessment

9.1 Assessment process

Panel meetings to consider outline proposals and decide which applicants will be invited to submit full proposals are scheduled for the week beginning 23 April 2018.

The makeup of these panels will be decided once the population of outlines is known and include participants from a variety of disciplines. Panel members will be drawn from the academic and user base within the UK and internationally. They will be assigned to the most appropriate panel based on the coverage required.

Based on the strength of evidence provided against the assessment criteria, panels will be asked to rank outline proposals. Once the ranking has been finalised, the panel will be asked to separate the ranked list into a number of bands (groupings which represent proposals of a similar quality). In deciding which applications to progress, EPSRC will consider the number and balance of applications across the portfolio, starting with the highest band. While considering the balance, EPSRC may decide to progress an application banded lower than another providing a quality threshold is met. The ranking information may also be used to aid decisions. For example, to distinguish between applications from the same area and in the same band where it is not desirable to progress them all.

Outcomes of the outline process

Some details of successful outline applications will be published to enable wider engagement with the user community ahead of the full application stage.

Following the outline panels selected applicants will be invited to submit a full proposal. The call document will be updated with specific information on how to apply, full proposal assessment criteria, guidance, or specific requirements recommended by the panel. Only where directed to do so by the outline panel will successful applicants receive feedback specific to their application. We will not be able to provide feedback to unsuccessful applicants of the outline stage.

We anticipate that we will invite no more than twice as many full proposals as we expect to fund. The deadline for full applications is currently scheduled to be Tuesday 31 July 2018.

Full proposal process

Full proposals will only be accepted from invited applicants who have been successful at the outline stage. Full proposals must complete the 'Related Grant' field in Je-S to include details of the successful CDT outline application. Please use the option 'Successful Outline'. A single application should be submitted on behalf of all the partnering eligible institutions.

Full applications will undergo external peer review and applicants will have a chance to respond to reviewer's comments. Applicants whose proposals receive sufficient support from the reviewers will be invited to an interview. The interview panels will rank proposals based on evidence gathered through the proposal documentation, reviewer comments, PI response, and during the interview. It is expected that interviews will take place during the week commencing 5 November 2018.

Following interviews, applications will be tensioned across the various meeting lists to ensure that those ranked towards the top of each list represent equivalent quality. EPSRC will seek to ensure that the CDT portfolio is not overpopulated in specific areas and where possible that complementary investments within and between priority areas and the EPS landscape are made. If there are large numbers of high quality proposals in one area it is possible that some will be unfunded in order to maintain a balanced portfolio. EPSRC cannot guarantee that CDTs will be funded in every priority area.

9.2 Assessment criteria

Outline stage

Outline applications will be assessed against the following criteria (these are equally weighted):

1) National need for cohort-based doctoral training

A demonstrable UK doctoral skills need within the remit of the proposed centre. Definable benefits for addressing these skills needs and evidence of the need to meet these specifically through cohort-based training at the doctoral level. This should include evidence that the proposal will make significant contributions to, and complement, the existing landscape such as major UK/regional research activities, strategic investments or policies in areas of relevance to this national need. Also, evidence that there is a need for the volume of students and an absorptive capacity for the doctoral graduates.

2) Centre vision and leadership

A vision which defines achievable outcomes for the Centre with evidence that these fully address the skills needs identified. With justification that the aims and objectives of the Centre will successfully deliver this vision and maximise the benefits of the CDT approach. Where applicable, have appropriate

coverage of the priority area(s) in terms of the expectations laid out in the area description(s). A Centre with a recognised expertise, or unique ability, whose purpose places it in a position of leadership for research training in the context of the local, UK and international environment within the area.

3) Quality of the research training environment

A high quality environment in which students will train. Evidenced by the strength of an expert core team and key partners. A track record for members of the team for delivering significant research and training activity which has made recognised contributions to the global research landscape in areas of relevance to the Centre. Evidence that the involvement of the key partners and their co-creation of the Centre will result in a demonstrable enhancement of the training provision (partnerships between research groups, departments, institutions and/or project partners as applicable). Also, evidence of an existing critical mass for supervision suitable for doctoral training across the relevant areas, the availability of local cutting-edge facilities, and links to significant local research activity.

Full proposal stage

The factors that will be considered in the assessment of the full proposals are:

- 1) A high quality approach to the provision of research training. A strong programme of doctoral training that demonstrates the added value of the CDT approach and supports the development and maintenance of cohorts throughout students' training in the Centre;
- 2) The strength of the leadership team with expertise of relevance to the Centre and an ability to deliver research training;
- 3) Evidence that the Centre can fulfil a leadership role for research training in this topic in the context of the local, UK and international environment;
- 4) Demonstrable National Importance in terms of the impact of the creation of these highly skilled people on an identified UK needs, and the benefit of (and to) partner involvement in the Centre;
 - Please note project partners committing to a significant number of bids will be invited to provide EPSRC with contextual information on the set of the applications that they are partnering on. This information will be used to provide interview panel members with the context of the partner contribution to an individual centre. Please see [Guidance for project partners](#) for more information.
- 5) Clearly articulated plans for Pathways to Impact that support students to maximise the outputs of their research and training, including a user engagement approach relevant to the vision of the Centre.
- 6) Effective management and governance arrangements to deliver the CDT successfully;
- 7) Equality, diversity and inclusion. Evidence of building ED&I into the delivery arrangements of the Centre including the relationship with wider

organisational policies and effective plans for encouraging improved ED&I within the relevant communities;

- 8) Justification of the costs sought and evidence of additional support for the Centre.

10. Guidance for outline panel members

This investment exercise is to support cohort-based research training. Please read the assessment criteria carefully as they differ from the assessment of EPSRC research grants. The assessment focusses on the quality of, and need for, the training being offered through the Centres for Doctoral Training route, and the ability of the applicants to deliver this effectively in a high quality training environment.

There is a wide variety of approaches adopted by Centres to deliver cohort-based training. It is important to judge the strength of the offering in the context of the area of training being offered and the evidence provided that the applicants are best placed to deliver it.

11. Guidance for host organisations

Outline stage

Each institution leading more than one application will need to complete a SmartSurvey detailing the following:

- Information of the applications that have been submitted within the institution's allocation detailing the EPSRC grant reference number, title, Principal Investigator, and stream each application is applying against. For those submitted to the priority area stream the primary priority area/s should be indicated.
- Optional: Information about the strategy and process adopted for selecting the final set of applications (max. 5000 characters including spaces)

The SmartSurvey will be available shortly after the launch of the call through the CDT call page [<https://www.epsrc.ac.uk/funding/calls/epsrc-2018-cdts-outline/>] with a deadline for returns **by 16:00 14 March 2018**

Institutions will not be required to include information about applications falling within Artificial Intelligence.

Full proposal stage

Host organisational statements will need to be provided for each application. Universities will need to confirm their commitment to individual CDT bids for the lifetime of any award and beyond. This includes information on the alignment of the CDT to the University strategy and investments, and the availability of appropriate supervisors. Institutions should bear in mind the degree of commitment that hosting a centre over a period of about 10 years will entail.

12. Guidance for project partners

Outline stage

At this stage statements of support are not required. Instead, applications will need to detail the co-creation of the bid by the most significant partners (within and between institutions, and with project partners as appropriate) as part of the case for support. Applicants will not be able to record project partner details on the Research Councils' Joint electronic Submission (Je-S) System form at this stage.

Full proposal stage

More guidance on the expectations for project partner statements accompanying full proposal applications will be provided at a later date but brief information about requirements are indicated below.

Individual CDT applications

At the full proposal stage, project partner commitments should be detailed on the Je-S form and reflected in statements of support from each partner. Statements of support should detail the importance of the research training provided by a CDT to the partner as well as how the involvement of the partner benefits the training experience of the students.

Contextual information across multiple applications

In addition to the support letters for individual applications, project partners committing to a significant number of bids will be invited to provide EPSRC with contextual information on the full set of applications that they are partnering on. This will be used by panel convenors to provide the interview panel members with the context of the contribution for an individual centre. No information about the other applications will be introduced to the panel.

Once partner information is received at the full proposal stage, EPSRC will contact partners with involvement in a significant number of applications to invite submission of contextual information via a SmartSurvey. A deadline for receipt will be provided at that time but is expected to be end of September 2018.

13. Mid-term review

Successful centres will be required to undergo a mid-term review which will determine whether they receive funding going forwards.

14. Moving forward

Submissions to this call will not count towards the Repeatedly Unsuccessful Applicants Policy. Further information about the policy can be found at: [<https://www.epsrc.ac.uk/funding/howtoapply/basics/resubpol/rua/>]

More detailed information for the full proposal stage will be provided to successful outline applicants once the outcomes of the outline stage are known.

15. Key dates

Activity	Date*
Deadline for Outlines	13 March 2018
Deadline for return of institution allocation information	14 March 2018
Outline Panels	Week beginning 23 April 2018
Deadline for Full Proposals	No earlier than 31 July 2018 ⁺
Deadline for contextual information from project partners	End of September 2018
Interview Panels	w/b 05 November 2018
Funding decision	December 2018
New CDT cohort starts	2019/20 Academic Year

*EPSRC aims to adhere to the key dates as published, however there may be exceptions where the deadline, meeting, or interview dates may have to change due to panel member availability.

⁺This date is dependent on the communication date of the outcomes of the outline stage. Where possible, ten weeks will be given between outline decisions and the full proposal deadline.

16. Contacts

For any queries on the process, Email: cdt@epsrc.ac.uk

For questions relating to using Je-S, Email: JeSHelp@rcuk.ac.uk; Phone: +44 (0) 1793 44 4164.

For queries about alignment to specific priority areas please contact the Portfolio Manager closest to your research interests. Information can be found within the EPSRC Theme contact pages on the EPSRC website [<https://www.epsrc.ac.uk/>]

For general queries on potential CDT international engagement activities please contact international@epsrc.ac.uk.

17. Change log

Name	Date	Version	Change
Christina Turner	15/01/2018	1.0	N/A
Christina Turner	02/02/2018	2.0	<p>Amended expected full proposal deadline to 31 July from 10 July to reflect additional AI CDT activity.</p> <p>Added in wording and links to the AI documentation.</p> <p>Added in the exemption of AI CDT applications from Demand Management and updated Host Organisation SmartSurvey requirements.</p> <p>Clarified that all Je-S form sections (except project partner information) should be completed.</p>

Annex 1: Demand management

It is expected that the CDT investment exercise will be in high demand. To reflect the level of investment available and manage the impact on the community in assessing the large volume of proposals EPSRC is limiting the number of outlines that can be submitted **as lead institution**. There will be no limit on the number of applications that project partners or eligible institutions can partner on. Artificial Intelligence CDT applications will be exempt from this limit.

Only successful outlines will be invited to submit a full proposal. The success of an outline will be based on their performance against the assessment criteria and the balance of proposals across the set of outlines under consideration. The overall number of outlines allowed to proceed will be limited to ensure a robust assessment of full proposals is possible. Institutional quotas will not form part of the decision.

Institutional allocations

All eligible institutions are welcome to submit one outline application as the lead organisation to the CDT 2018 call, with no restriction on applications as a partner.

The organisations listed below have been informed that they are able to submit more than one outline application as lead organisation. This follows consideration of both their EPSRC research income and their staff capacity in engineering and physical sciences areas. Allocations are given on a per institution basis and it is up to those organisations to consider how best to utilise it. EPSRC will not accept submissions over and above this. Institutions do not need to fully utilise their allocation. These institutions will also be asked to supply EPSRC with details of the outline applications submitted within their allocation. Further information on this requirement can be found in the [guidance for host organisations](#).

Aston University,	Queen's University of Belfast,
Brunel University London,	Royal Holloway, Univ of London,
Cardiff University,	Swansea University,
City, University of London,	The University of Manchester,
Cranfield University,	University College London,
Durham University,	University of Aberdeen,
Heriot-Watt University,	University of Bath,
Imperial College London,	University of Birmingham,
King's College London,	University of Brighton,
Lancaster University,	University of Bristol,
Loughborough University,	University of Cambridge,
Newcastle University,	University of Dundee,
Northumbria University,	University of East Anglia,
Queen Mary, University of London,	University of Edinburgh,

University of Exeter,
University of Glasgow,
University of Hertfordshire,
University of Huddersfield,
University of Kent,
University of Leeds,
University of Leicester,
University of Liverpool,
University of Nottingham,
University of Oxford,

University of Reading,
University of Sheffield,
University of Southampton,
University of St Andrews,
University of Strathclyde,
University of Surrey,
University of Sussex,
University of Warwick,
University of York.

Data notes

- 1) Staff capacity has been determined using HESA data accessed through Heidi Plus data. The sum of Engineering and Physical Sciences academic staff (cost codes 113 to 122 inclusive) at the full person equivalent value for the 2015/16 academic year has been used. Institutions were included in the modelling if they had 20 or more EPS staff. This was for modelling purposes only and does not affect an institution's ability to apply.
- 2) EPSRC research income is based on a comprehensive profile of competitively won EPSRC research grants and fellowships (as lead institution) live on 01 April 2017. The proportional value of eligible grants has been used. This is based on the proportion of a grant duration remaining. Other training grants, large capital, and institutional awards (such as Impact Acceleration Accounts) have been excluded.
- 3) For modelling purposes only, the total number of outlines was limited to 400.
- 4) To receive an allocation greater than one an institution must be in receipt of at least as much proportional EPSRC research income as the current CDT holders. Current CDTs are considered to be those supported through the 2013 and cybersecurity calls.
- 5) Once in receipt of one outline, the remaining outlines were distributed to institutions eligible to receive more based on a 2:1 weighting of EPSRC research income: staff capacity. An adjustment was applied to enable all holders of current CDTs to submit at least twice the number of outlines as CDTs they hold (as lead institution), and to ensure the total outlines remained at 400 upon rounding calculations to whole numbers of applications.

Annex 2: Facilities and enhanced training for computational and data-driven research

Where a CDT proposal includes significant training on computational and data-driven research, or the use of large facilities and EPSRC National Research Facilities, EPSRC expects applicants to liaise with the appropriate contacts throughout the development of the outline application in order to secure commitment from the facility or trainer.

Computational and Data-Driven Research

A list of training courses is provided below. These courses cover both the tools (“how”) and the methods (“why”) for computing.

- **Research Software Engineers Association**
 - <http://rse.ac.uk/events/>
- **Software Sustainability Institute and Software Carpentry:**
 - <http://www.software.ac.uk/Training-For-CDTs>
 - <http://www.software.ac.uk/software-carpentry>
- **National HPC Service training courses:**
 - <http://www.archer.ac.uk/training/>
- **Edinburgh Parallel Computing Centre (EPCC):**
 - <http://www.epcc.ed.ac.uk/training-postgraduate/>
- **Hartree Centre:**
 - <https://www.hartree.stfc.ac.uk/Pages/Training.aspx>
- **Digital Curation Centre**
 - <http://www.dcc.ac.uk/>
- Training via the **EPSRC Tier-2 HPC facilities** will be available in the future. Details will appear here:
 - <http://www.hpc-uk.ac.uk/>

Large Facilities and EPSRC National Research Facilities

The science enabled by the Large Facilities (ISIS, Diamond Light Source, Central Laser Facility, ESRF and ILL), the EPSRC National Research Facilities [<https://www.epsrc.ac.uk/research/facilities/access/currentmidrangefacilities/>] and the Research Complex at Harwell [<http://www.rc-harwell.ac.uk/home.html>] are strongly aligned to the EPSRC’s remit. It is therefore anticipated that a significant number of Centre proposals will focus on research areas for which students will require access to these facilities as a core aspect of their research.

In order to train the next generation of high quality facility users, it is desirable that students obtain a broad perspective of the range of capabilities a particular facility or technique can offer. The Large Facilities themselves recognise the importance of training students and are actively seeking to build capability in facility use through mechanisms such as joint CDT summer schools (which cover

core concepts of the techniques available and showcase applications of these techniques in topics relevant to the CDTs). CDTs can include such courses as part of their training credits if required.

Centres requiring significant interactions with facilities should describe how they will ensure the students receive an excellent grounding in the appropriate experimental techniques for their research and what plans they have to ensure that students are provided with the opportunity to access the relevant facility. Applications requiring access should be developed in conjunction with the relevant facility.

Letters of support from the large facilities are required at the full proposal stage. You should contact the following people at the facilities for discussion prior to submitting your application:

ISIS – Philip King (philip.king@stfc.ac.uk)

Diamond Light Source – Laurent Chapon (laurent.chapon@diamond.ac.uk)

Central Laser Facility – John Collier (john.collier@stfc.ac.uk)

Research Complex at Harwell (RCaH) - If centres wish to access this applicants should contact the RCaH Director (director@rc-harwell.ac.uk) or Operations Manager (zuzanna.lalanne@rc-harwell.ac.uk) to discuss their proposal and decide if RCaH facilities are available and appropriate.

EPSRC National Research Facilities - Centres requiring access to these should ensure the appropriate training is provided by contacting the relevant NRF directly. Details of these facilities in the subsequent table.

Name	Location	Contact
National X-ray Crystallography Service	University of Southampton	http://www.ncs.ac.uk
EPSRC Electron Paramagnetic Resonance National Service	University of Manchester	http://www.chemistry.manchester.ac.uk/our-research/facilities/epr
X-ray Photoelectron Spectroscopy Service	Cardiff University	http://www.cardiff.ac.uk/harwell-xps
SuperSTEM	University of Leeds	http://www.superstem.com
EPSRC National Mass Spectrometry Service	Swansea University	https://nmsf.swan.ac.uk
XMAS: High resolution and magnetic single-crystal diffraction	University of Warwick	https://www2.warwick.ac.uk/fac/cross_fac/xmas
The UK 850MHz Solid-State NMR Facility	University of Warwick	https://www2.warwick.ac.uk/fac/sci/physics/research/condensedmatt/nmr/850
National Chemical Database Service	RSC	http://cds.rsc.org
Free-Electron Laser (FELIX)	FELIX	http://www.lightsources.org/facility/felix
European Magnetic Field Laboratory	EMFL	http://www.emfl.eu/home.html
EPSRC National Centre for III-V Technologies	University of Sheffield	http://www.epsrciii-centre.com/working-us/facilities
Ion Beam Centre	University of Surrey	https://www.surrey.ac.uk/ion-beam-centre
National Dark Fibre Infrastructure Service	University College London	http://www.ndfis.org

Annex 3: Working examples of additional support

Studentship costs include fee and stipend, and appropriate research training support. As a minimum, 20–40% of these costs must accompany all applications and be provided by a non-RCUK funding source. This additional support must include the fee and stipend costs equivalent to 10 students (i.e. it cannot be solely for research training support). To ensure that CDTs support at least 50 students over their lifetime, institutions must underwrite the minimum cash support needed, over and above the funding sought from EPSRC, to deliver these; irrespective of the proposed source.

Each centre must support a minimum of 50 students over five cohorts and funding for studentship costs equivalent of up to 40 students over five cohorts can be sought from EPSRC. The funds from EPSRC can be used flexibly but must support individual students at no less than 50% of their studentship costs.

It is not necessary to provide a version of the cost table below within your application. These tables are provided to help illustrate how to calculate the additional support requirements and ensure they meet the call requirements.

Example 1

This Centre will support 50 students over five cohorts. As part of their commitment, the project partners will fully fund ten students over the lifetime of the award (2 students per cohort). Additionally, the university will commit to fully fund 1 student per cohort. They have chosen to provide students with the minimum RCUK stipend and charge the published RCUK fee. The average research training support (RTS) across the students will be £4k pa.

	Source	Stipends and fees	RTS	Total value	Equiv. students	% costs
Min. 50 students	EPSRC	2,624,720	560,000	3,184,720	35	70%
	Partners	749,920	160,000	909,920	10	20%
	University	374,960	80,000	454,960	5	10%
	<i>Total</i>	<i>3,749,600</i>	<i>800,000</i>	<i>4,549,600</i>	<i>50</i>	<i>100%</i>
Additional students	Partners	0	0	0	0	0
	University	0	0	0	0	0
	<i>Total</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Checks:

- Minimum of 50 students supported: Yes
- EPSRC studentship costs is equivalent to max. 40 students: Yes
- 20-40% leverage of studentship costs from non-RCUK source: Yes
- Leverage includes stipend and fee costs equivalent to 10 students: Yes
 - Equivalent stipend and fee costs for 10 students in this case = £749,920
- Each EPSRC supported student is at least 50%: Yes
 - In this case 35 are 100% EPSRC, and 15 are not funded by EPSRC at all
- Value to underwrite by the university (to ensure min. 50 students): £909,920

Example 2

This Centre will support 60 students over five cohorts, all of whom will receive partial support from a project partner and an enhanced stipend of £17k per year. They request costs from EPSRC equivalent to the minimum published RCUK stipend and fees and £5k per year in research training support (RTS), for 40 students. The remaining studentship costs have been committed by the project partners.

	Source	Stipends and fees	RTS	Total value	Equiv. students	% costs
Min. 50 students	EPSRC	2,999,680	800,000	3,799,680	36.3	60%
	Partners	1,239,320	200,000	1,439,320	13.7	23%
	University	0	0	0	0	0%
	<i>Total</i>	<i>4,239,000</i>	<i>1,000,000</i>	<i>5,239,000</i>	<i>50</i>	<i>83%</i>
Additional students	Partners	847,800	200,000	1,047,800	10	17%
	University	0	0	0	0	0%
	<i>Total</i>	<i>847,800</i>	<i>200,000</i>	<i>1,047,800</i>	<i>10</i>	<i>17%</i>

Checks:

- Minimum of 50 students supported: Yes
- EPSRC studentship costs is equivalent to max. 40 students: Yes
- 20-40% leverage of studentship costs from non-RCUK source: Yes
- Leverage includes stipend and fee costs equivalent to 10 students: Yes
 - Equivalent stipend and fee costs for 10 students in this case = £847,800
 - It is higher than the previous example because of the stipend enhancement
- Each EPSRC supported student is at least 50%: Yes
 - In this case all 60 students will be 60% EPSRC: 40% project partner.
- Value to underwrite by the university(ies) (to ensure min. 50 students): £1,439,320

Example 3

This Centre will support 55 students over five cohorts, each with a stipend of £16k per year. As part of their commitments the project partners have committed £800,000. There are three university partners and each has committed the equivalent costs for three full studentships over the lifetime of the centre.

The calculations are based on the current minimum RCUK fee, and £4.5k pa in research training support (RTS) at current rates:

Source	Value	%	Equiv. Students
EPSRC	3,743,880	68.9	38
PP	800,000	14.7	8
University	889,020	16.4	9
<i>Total Studentship Costs</i>	<i>5,432,900</i>	<i>100.0</i>	<i>55</i>

Checks:

- Minimum of 50 students supported: Yes
- Maximum 40 students from EPSRC: Yes
- 20-40% leverage of studentship costs from non-RCUK source: Yes

The following shows one method for splitting this funding between cost type to meet the conditions of the call and minimise the level of underwriting required of the university partner(s).

	Source	Stipends and fees	RTS
Min. 50 students	EPSRC	3,231,200	512,680
	PP	0	306,100
	University	807,800	81,220
	<i>Total</i>	<i>4,039,000</i>	<i>900,000</i>
Additional students	PP	403,900	90,000
	University	0	0
	<i>Total</i>	<i>403,900</i>	<i>90,000</i>

Checks:

- Leverage includes stipend and fee costs equivalent to 10 students: Yes
 - Equivalent stipends and fees for 10 students in this case = £807,800
- Project partner commitment to be underwritten by university(ies): £306,100
- Each EPSRC supported student is at least 50%: Maybe
 - The CDT will need to ensure it manages individual studentships to ensure this condition is met. In this example, any student receiving money from the EPSRC grant (towards their studentship costs) will need to receive a minimum of £49,390. The Centre could choose to fully fund students, or combine multiple funding sources, provided this minimum is maintained.

Annex 4: Partnership with Science Foundation Ireland

SFI recognises the importance of the cohort structure of the CDT and the enhanced student experience that this provides. By providing resources for travel and subsistence, as well as for innovative and flexible learning and research models, CDTs involving ROI- and UK-based partners can maintain this cohort approach and further offer the opportunity to UK- and ROI-based doctoral students to experience international collaboration and to build their wider network from the outset of their research careers. The ROI-based students would be registered in the relevant Irish university and some features of the joint application might include:

- Collaborative research exchanges between the partners, including the opportunity for placements in the partner institution to access expertise and infrastructure;
- Participation of ROI-based students in training provided by the CDT in the UK;
- Participation of UK-based students in training in the ROI, for example, through the hosting of summer schools;
- Irish Investigators may also contribute to the training material development for all students, and a flexible approach could be taken to the delivery of such training, including options for online training in line with the norms of the CDT approach.

Permitted costs for the ROI component of a joint bid may include the following:

- Student stipend;
- Student fees;
- Materials and consumables costs;
- Costs for hosting incoming UK students;
- Student training costs including placements for research infrastructure access, industry and international placements (by provision of a mobility allowance);
- Start-up costs including course development;
- Operational / management staff costs.

Guidance for joint proposals

At the outline stage please clearly indicate in the case for support that the centre is proposed in partnership with a named SFI centre. Please also include this information in the proposal cover letter. No financial details for the ROI contribution or letters of support are required by EPSRC at the outline stage. However, the Irish lead applicant is required to contact SFI at the email address given below to confirm their joint application.

For shortlisted proposals further guidance will be provided on how to capture the ROI partnership, including details of the financial information required.

For enquiries regarding the EPSRC submission requirements for a joint UK-ROI proposal please contact international@epsrc.ac.uk. For queries related to SFI participation in this call and permissible ROI costs please contact partnerships@sfi.ie.

Annex 5: Check Lists

Key requirements

Requirement	Mandatory/Optional
Individual Applications:	
Min. 50 students over five cohorts supported	M
Max. support from EPSRC equivalent to 40 students	M
Additional support from non-RCUK sources of 20-40% studentship costs	M
Inclusion of Responsible Research and Innovation training	M
Appropriate consideration of: computational and data-driven training; facility/course access	O
Priority area stream only – appropriate coverage of the area and inclusion of the specific training requirements	M (not applicable for 'open stream' applications)
Host Organisation:	
No more applications as lead than outline allocation specified	M
Return via SmartSurvey detailing use of outline allocation	M
Underwriting of the minimum additional support for all applications	M

By submitting an application both the applicant team and their host institutions are confirming that these requirements have been met.

Je-S attachments

Outline stage

In addition to the Je-S form itself you should provide the attachments indicated below.

Attachment Type	Maximum page length	Mandatory/Optional
Case for Support	4 sides A4	M
Cover letter	1 side A4	M

Please ensure you adhere to the attachment requirements when submitting your proposal. Any missing, over length or unnecessary attachments may result in your proposal being rejected.