EPSRC
Engineering and Physical Sciences Research Council

Quick Reference

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

EPSRC Centres for Doctoral Training

Call type: Invitation for proposals

Closing date: 16:00 31 July 2018

Funding Available: This call is **only** for applications that were assessed in the previous stage of this funding exercise and were subsequently invited to submit to this second stage.

If your application was considered through the UKRI Artificial Intelligence CDT 2018 call, you should refer to that call documentation [https://epsrc.ukri.org/funding/calls/aicdts2018full/].

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 forms the second half of a two-stage assessment process. An outline stage has already been held. **Applications will only be accepted from those who were successful at the outline stage** and have been invited to submit a full proposal.

Assessment Process: 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.

Key Dates:

Activity	**Date**
Deadline for Full Proposals	31 July 2018
Contextual information from invited partners	27 September 2018
Interview Panel	Week commencing 05 November 2018
Funding decision	December 2018
Grant start date	No earlier than 01 April 2019 No later than 01 October 2019
New CDT cohorts start	2019/20 academic year

Contacts: EPSRC CDT mailbox; Email: cdt@epsrc.ukri.org

Engineering and Physical Sciences Research Council

EPSRC Centres for Doctoral Training

Call type: Invitation for proposals

Closing date: 31 July 2018 at 16:00

Related themes: All Themes

Contents of this call document

Please also see the priority area descriptions on the call page [https://epsrc.ukri.org/funding/calls/cdts2018full/].

1. Summary

This call is **only** for applications that were assessed in the previous stage of this funding exercise and were subsequently invited to submit to this second stage. This Centres for Doctoral Training call, which runs over two stages, is focussed on supporting **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.

Please note that if your application was considered through the UKRI Artificial Intelligence CDT 2018 call, you should refer to a separate call document [https://epsrc.ukri.org/funding/calls/aicdts2018full/].

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.

This call is running over two stages. The first (outline) stage has concluded. Outline applications were assessed by expert panels and successful applicants informed. This call document provides further information for the second (full proposal) stage of the call. Applications may only be submitted by applicants who have been successful at the outline stage. There should not be substantive changes from the Centre described at the outline stage. All other applications will be rejected.

The full proposal stage will consist of external peer review and an interview panel. 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; based on the additional detail of scientific scope provided in the full proposal, this includes moving applications to different priorities compared to the corresponding outline application.

As part of the outline call document we advised applicants that individual CDTs must be at least 50% within EPSRC's remit, support at least 50 students over the duration of the funding period, and be accompanied by a minimum level of additional funding. These were not fully assessed at the outline stage, taking account of the limited information that could be provided. Despite being successful at the outline stage, EPSRC reserves the right to reject applications if these conditions are not met.

2. 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 with a 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 continue to consider the aspects listed in the enhanced training section of the outline call document [https://epsrc.ukri.org/funding/calls/epsrc-2018-cdts-outline/].

3. Centre requirements

Applicants are reminded that a large amount of information was provided as part of the outline stage which was not specific to the assessment of the Centre at that stage. In particular section 4 and annex 2 of the outline call document should continue to be considered. Please see the outline call document for more information [https://epsrc.ukri.org/funding/calls/epsrc-2018-cdts-outline/].

3.1 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/].

As was required in the outline stage, we once again require applicants 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://epsrc.ukri.org/funding/calls/cdts2018full/].

3.2 Cohort size

EPSRC's expectation is that over the lifetime of the Centre a minimum of 50 students are supported and that there should be a minimum cohort of 10 doctoral students per year over five intakes.

3.3 Studentship costs

Studentship costs consist of three elements: stipend, fee, and appropriate research training support (often referred to as RTSG). If you are using the UKRI published rates then you should use the 2018/19 rates without any allowance for inflation over the lifetime of the grant.

Stipend

As a minimum this should be the published UKRI rate for each full-time student. Applicants may offer an enhanced stipend. This can be sought from EPSRC or could be contributed by another source. Regardless of source, any enhancement

must be included as part of the stipend cost in the cost table (see Annex 1) and/or separate spreadsheet file available on the call page [https://epsrc.ukri.org/funding/calls/cdts2018full/]) and in the calculation of the required additional support (see later in this section for more information about the additional support).

Fee
Institutions should only charge fees at the home rate for doctoral-level students. This may be higher than the UKRI published figures but cannot be higher than the fee charged by the university for UK/EU non-Research Council funded students on similar programmes. College fees may not be sought. As CDTs are doctoral programmes, EPSRC would not generally expect to support students at rates higher than that for doctoral training, even if students will receive a Masters qualification as part of the programme (e.g. MRes).

RTSG
These costs are those specifically incurred due to the research project being undertaken by a student such as consumables and conference travel. It would also include facility access where this is linked to conducting the research of the project, or specialised training such as a summer school only being attended by a student due to their project. Training which forms part of the Centre's cohort training package (e.g. a course taken by a whole cohort or offered as a module as part of a student's training package) would be considered a centre delivery cost.

EPSRC studentship costs contribution
EPSRC will provide funds for studentship costs equivalent to 40 doctoral students over the centre's lifetime as a maximum. This is the amount of studentship funds you can request, not the number of students that can be supported. Where a student receives money from the EPSRC CDT grant towards their studentship costs, they must do so at no less than 50% total studentship costs (half the value stated in cell E7 of the cost table – see Annex 1). Beyond this, you may use the ESPRC studentship funding flexibly. For example, you could fully fund students, or partially fund students (min. 50%) which could cover all of some studentship elements and none of another (i.e. the stipend, fee, and RTSG do not need to be equally split between the funders supporting the student). You should consider how best use the available flexibility afforded in the context of the Centre's partnership arrangements and management.

Eligibility flexibility
UKRI eligibility to receive studentship funding applies. However, EPSRC allows universities to offer up to 10% of the new studentships in any one year (averaged across all EPSRC training grants for that institution) with open eligibility i.e. to support students who do not meet the UKRI residency requirements.

Where a student would normally be charged a higher fee rate than Home status students (e.g. international fees), but is in receipt of studentships funds from UKRI, the student must not be charged additional fees above the level paid by UKRI.

Additional support towards studentship costs
As a minimum, 20–40% of the total studentships costs must accompany all applications and be provided by a non-UKRI funding source. This equates to a

minimum of the studentship costs for 10 students (based on the minimum 50 students required). Applications will need to include evidence of the sources for additional funding.

The additional support must include the fee and stipend costs equivalent to 10 students (i.e. it cannot be solely for RTSG). Beyond this, applicants can use the additional studentship costs flexibly.

Typically it is expected that this leverage will be achieved through support from the applying institutions and/or project partners. To ensure that CDTs support at least 50 students over their lifetime, applicant institutions must underwrite the minimum additional cash support; irrespective of the proposed source. Please note that if the leverage committed to studentship costs exceeds this minimum, the institutions does not need to underwrite that additional support where it is being committed by another source.

3.4 Investigators and supervision

As stated in the outline call document, the investigators named on the Je-S application form should represent the **core management team** of the centre. We would generally expect **no more than 10 investigators to be named**. A strong justification will need to be provided for a larger core management team. Any requested funding for investigator time should reflect commitments to Centre delivery and should not include individual student supervision related to research projects.

In order to maintain a cohort of this size, it is necessary to have access to a suitable pool of potential supervisors. Experience of current centres demonstrates a need for 20 to 40 excellent supervisors. Applications will need to provide evidence of a suitable pool of potential supervisors. **You should not record supervisors on the Je-S application form.**

3.5 Responsible Innovation

All students **must receive training related to the Responsible Innovation Framework**. Responsible Innovation (RI) is a process that seeks to promote creativity and opportunities for science and innovation that are socially desirable and undertaken in the public interest. EPSRC introduced its framework and AREA approach for RI in 2013. Often described as Responsible Research and Innovation (RRI) which highlights the important role of research in the framework, here it is referred to as RI. This is to reduce confusion with the use of the RRI term developed by the European Commission which has an emphasis on broader thematic elements. Further details on the framework for RI can be found here on the EPSRC website [https://epsrc.ukri.org/research/framework/]. We would expect students to receive training in the general topic of RI as well as in issues more specific to the scientific areas relevant to the Centre.

The amount of training and consideration taken of RI should be a proportionate response to the Centre's vision and topic, the requirements outlined in a priority area description (if relevant), and individual student's projects. EPSRC expects that all CDTs are able to demonstrate that resources have been committed to activities relevant to RI. Please see Annex 2 for more information.

3.6 Equality, Diversity and Inclusion

CDTs should act as a beacon for equality, diversity and inclusion (ED&I) within the research and wider EPS community. The challenges associated with ED&I can vary and applicants are encouraged to consider what the specific needs are for the Centre, topic, and wider community of relevance to the Centre.

The Centre must have a dedicated ED&I plan, as a two-sided 'additional document' attachment submitted as part of the full proposal documentation.

Please refer to Annex 3 for more information.

3.7 Part-time students

Through this call, it is not possible for EPSRC to support centres where the majority of students wish to study part time. However, where it aligns to the Centre's ED&I strategy, students may be afforded this opportunity on a case-by-case basis providing they undertake study at a minimum of 50% time compared to the other CDT students. If offered, Centre management plans will need to consider how part-time students will be supported and recognised as members of the student cohort, benefitting from the cohort training and wider Centre activities in addition to working on their own research project.

The duration of the CDT application must remain 102 months. Where the part-time studies of a student will require them to work beyond the original end date of the grant, EPSRC will extend the grant to allow for this. There are other reasons why a grant may be extended but where it is for the sole purpose of supporting part-time students, expenditure will be restricted during the extension period. Spend will only be allowed on the studentship costs associated with the individual student (stipend, fee, and RTSG). No further expenditure will be allowed, even if this would not exceed the original award value.

Please note that extensions will not be given to allow applicants to manage underspend.

3.8 Science Foundation Ireland

At the outline stage of this call, applicants were invited to consider partnerships with Republic of Ireland (ROI)-based cohorts, to be funded thanks to an extension of the Memorandum of Understanding between EPSRC and Science Foundation Ireland (SFI). As part of the first stage of assessment the CDT outline applications had to indicate a partnership with an SFI Research Centre in the cover letter sent to EPSRC and the ROI host had to submit an expression of interest to SFI. Only applicants who successfully passed the outline stage and submitted an EOI to SFI may submit a full proposal which seeks funding for an ROI-based cohort. These applicants should refer to Annex 4 for guidance on the additional documentation and information requirements.

3.9 Handling Cost Duplication

It is recognised by UKRI that a number of applicants are duplicating costs across applications due to the uncertainty about which proposals will be awarded funding at the conclusion of this call, and guidance has been requested. UKRI understands that splitting costs across proposals could result in under-resourcing of a Centre should other applications not be funded, while others would be over-resourced where costs are not split but all the overlapping bids are successful.

CDT applications should be costed assuming no other bids will be successful. Whilst EPSRC will also be look across proposals to identify cost duplications, to best manage the duplication issue, applicants are asked to provide details in their cover letter of which costs are duplicated and what should be done in the event that multiple bids are successful.

Applicants should provide the following information:

- The grant reference number(s) of the other proposals(s) also containing these costs;
- The percentage reduction to be applied to the proposal should the other bids be successful
    - If there are a large number of proposals duplicating costs then you may wish to provide a number of scenarios e.g. 2-4, 4+, all etc., or a sliding scale.
    - We would generally expect the reduction to be similarly applied across the connected proposals. If different you should provide a justification for this in the cover letter.

This information will not be seen by peer review and you may wish to indicate such an arrangement as part of the Justification for Resources document. EPSRC will use the indications in the cover letter to modify funding requests as part of the offer development stage as necessary.

EPSRC reserves the right to make further modifications such as where further costs are identified as duplications or where peer review advice has been received.

3.10 Cash (direct) and in-kind (indirect) contributions

Both types of contribution are welcomed. In-kind contributions are those which benefit the Centre but where the cost of provision is not a direct result of the Centre's existence. For example, the loan or donation of existing equipment, staff salary for existing posts, or facility access. Cash contributions are those which require monetary expenditure such as studentships costs, the buying of equipment specifically for the Centre, or staff salary for a newly created post specifically associated with the Centre.

Please note that Estate and Indirect costs of the HEIs/institutes can be considered as a contribution. However, recognising that all universities/institutions will incur similar levels of these costs, they should not be included in the cost table (Annex 1). If applicants wish to capture these they should be stated in the host organisational statement.

4. How to apply

Please ensure that you read this section carefully and have included, with your application, all of the sections listed in the submission checklist.

Only Centres invited to submit a full proposal following the outline sift stage may apply.

4.1 What can be applied for?

- A full case should be developed based upon the successful outline bid and any relevant feedback and costs may not be more than 10% higher than the costs indicated at the outline stage;
- UKRI will provide funds for up to 40 doctoral students over the five cohorts and the **studentship costs equivalent to 10 students must be provided from other sources** (not from other Research Council sources, such as DTG or ICASE although these can be aligned to the Centre);
- EPSRC's expectation is that there should be a **minimum cohort of 10** doctoral students per year, with **five annual intakes**;
- Centre delivery, coordination (including between a Centre and other parties if fully justified), and management staff costs can be requested. Costs associated with student supervision may not be included;
- No capital equipment can be requested (i.e. equipment at or greater than £10k). Where possible, researchers are asked to make use of existing facilities and equipment, including those hosted at other universities. Existing access to the necessary infrastructure is good evidence of the suitability of the bidding institution as a host for the CDT;
- 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. They should not request start up/set-up costs.

4.2 Submitting an application

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

A **single application** must be submitted covering all the institutions involved in the Centre. Applicants submitting separate but joint Je-S applications for different institutions will be rejected.

When adding a new proposal, you should select:

- Council 'EPSRC';
- Document type 'Standard Proposal';
- Scheme 'Centres for Doctoral Training';
- Call 'EPSRC Centres for Doctoral Training'.
- Create document

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 full application by **16:00 on 31 July 2018**.

4.3 Guidance on preparing the application

For general advice on writing proposals see: https://epsrc.ukri.org/funding/applicationprocess/preparing/writing/. Please note that this provides general information and may be superseded by the requirements laid out within this call document.

The following information and documentation will need to be submitted. Please note that any documents attached to applications that are not listed in the guidance below will be removed and not considered during the peer review process.

It is imperative that the document type indicated is used. **The 'Other document' should not be used unless explicitly invited to do so**. Using the incorrect attachment type could result in a return of your application, delaying assessment, or in evidence not being visible and considered by peer review. For the latter, proposals will not be re-assessed should this occur.

All attachments must be completed in single-spaced typescript in **Arial 11** or equivalent san-serif font (i.e. similar character limit per page – Calibri and Arial Narrow are not allowable), with margins of at least 2cm. 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.

A) Cover letter – 'proposal cover letter' document type, max. 1 side A4

This should **include the stream and if appropriate, the priority area(s)** being addressed, in order of relevance.

Applicants can use the Proposal Cover Letter to express any other information they feel is relevant to their application. Please inform EPSRC of any personal circumstances that EPSRC may need to consider in advance on the interview.

This letter will only be seen by EPSRC and **will not be sent to Peer Review**. For sensitive information the applicant should state clearly whether the information is confidential.

The Proposal Cover Letter should also be used to highlight anything that has been discussed and agreed with EPSRC staff beforehand. For example:

- Applicant is on maternity leave until a certain date;
- Declaration of Interest;
- Additional information about eligibility to apply that would not be appropriately shared in the track record;
- Conflict of Interest for EPSRC to consider in reviewer or panel participant selection

Where costs have been duplicated across bids these must be detailed in this document. For more information please see section 3.9.

B) Je-S application form

Please ensure you use the relevant call form described above.
The names of Centres **must** be prefixed by '**EPSRC Centre for Doctoral Training in …'**:

- **All sections of the Je-S form should be completed**, including the objectives and impact sections. 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 (applicants are also reminded that it is this section that is published on Grants on the Web [gow.epsrc.ac.uk] should the Centre be successful);

- The duration of the grant should be no more than **102 months** (8.5 years), to cover a maximum of five cohorts of 4-year studentships plus six months preparation time. Student cohorts should start in the 2019/20 academic year;

    - The start date for the grant may not be earlier than 01 April 2019 and no later than 01 October 2019.

- Under the related grants section please include the grant reference number (EP/S……../1) of the successful outline application;

- Je-S funding tables

    - The UKRI contribution will be paid at 100% FEC (including staff costs). The **total UKRI contribution** to the Centre being sought **must not be more than 10% higher** than the outline application.

    - The Summary of Resources table produces two headline funding lines

        - The 'Other' funding line total will pull through from the 'Non-FEC Other Costs' table completed in Je-S.

            - The 'non-FEC Other Costs table' should detail the co-ordination, delivery and other costs. For each line description please use "Delivery: …", "Coordination: …", or "Other Costs: …".

            - The total for 'Other' in the Summary of Resources should match cell J21 of the cost table (see F and Annex 1).

        - The studentship funding line will pull through the sub-totals for stipends and fees completed under the 'Student Totals' table in Je-S

            - A line for each institution should be provided in the 'Student Totals' table with an indicative student number for each.

                - As this relates only to the studentship costs sought from UKRI, only those students (i.e. max 40) should be included here. Round to the nearest whole student if necessary.

                - RTSG should be included under fees

            - The total for the studentship funding line under the Summary of Resources should match cell J17 of the cost table.

    - In addition to the Je-S funding tables, a single **cost table for each CDT (detailed below) must be completed** and attached to your application as an '**additional document**'.

- Total contributions from project partners should be completed with breakdowns for in-kind and cash contributions as appropriate.

- Only the **core Centre management staff** (e.g. Director and Deputy Director/Manager) should be listed on the Je-S form. Details on the potential pool of supervisors should be included in the Case for Support, not the Je-S form.

    - **No more than 10 investigators should be named**. A strong justification will need to be provided for a larger core management team.

    - Any requested funding for investigator time should reflect commitments to Centre delivery and should not include individual student supervision related to research projects.

- The names of **five nominated reviewers** should be included, at least three of these should be international (preferably more if possible).

- Use the **most appropriate discipline classification** for routing the proposal, recognising that they may not map on to the EPSRC training priority areas.

- CVs should not be included.

C) Case for Support – 'case for support' document type, max. 15 sides A4

All of the assessment criteria should be addressed by the case for support. The level of detail included should take account of additional documentation requirements specifically focussed upon certain criteria. The case for support must clearly describe the scientific scope of the centre, provide sufficient detail of the proposed model, and reflect the "key features of CDTs"

listed in section 2. Details of the training courses and environment, and details of the potential pool of supervisors should be included within this page limit.

It would be usual to include some track record information. Applicants are asked to do so for core team members only.

D) Pathways to Impacts – 'pathways to impact' document type, max. 2 sides A4

This statement should detail the activities and mechanisms that will be employed by the Centre to help realise the potential economic and societal impacts of the full range of activities undertaken by the Centre (including training and skills development activities). In addition to outlining the strategy for maximising the potential impacts of the centre itself, the statement should describe how students will be supported to accelerate the impact of their individual research projects. The statement should **not** be used to describe the value of funding a Centre in the specific area, and the Impact Summary section of the Je-S form should be used to outline the likely potential impact of the Centre in terms of who might benefit and how. The pathways to impact document should explicitly detail the process being implemented to increase the likelihood of realising these impacts.

Applicants are encouraged to consider what resources are required to support this strategy and these can be included as part of the Centre costs on the proposal.

Further information on preparing your Pathways to Impact document can be found on the EPSRC website: [https://epsrc.ukri.org/funding/applicationprocess/preparing/writing/resourcesimpact/] or the UKRI website [https://www.ukri.org/innovation/excellence-with-impact/].

E) Equality, Diversity, and Inclusion strategy – 'additional document' document type, max. 2 sides A4

This should detail the strategy the Centre will employ to support its staff, students, and wider community to improve ED&I. Please see Annex 3 for more information.

F) Cost table – 'additional document' document type, max. 1 side A4

In addition to the funding table on the Je-S application form, you should also complete a financial statement as described in Annex 1. A single cost table for the CDT. It must be included as it provides a greater level of cost information, capturing the direct costs of the students and the Centre beyond the costs UKRI will contribute.

G) Justification of Resources (JoR) – 'justification of resources' document type, max. 2 sides A4

This should explain why the resources you are requesting are required, in order to help reviewers make an informed judgement about whether the resources requested are appropriate for delivering the training described in the application.

H) Statement of support from the institution(s) – 'host organisational statement' document type.

One letter, signed and on headed paper, from **each University/institution** involved in the Centre should be included. This should include:

- The alignment to the institution's strategy and evidence of strategic investment by the institution in the priority area.
- Confirmation of the underwriting of the minimum leverage (to achieve support of 50 students for five cohorts).
- The institution's commitment to the Centre for the lifetime of the award and beyond; this should reference the provision of appropriate and timely support for the PI from core university functions essential to its operation but not directly funded by the CDT, e.g. contracts, finance, postgraduate admissions office.
- Institutions invited to submit multiple bids must provide a common additional statement detailing the management approaches they will put in place to coordinate/support all the Centres, should multiple bids be successful, and how they will share best practice and get best value from the multiple Centres at their institution;
- Details on how the Centre will approach supporting a diverse population of students.
- The signatory should hold a sufficiently senior position to authorise the commitments detailed on behalf of the organisation.

Multiple documents **can** be uploaded as this document type but only letters from the universities will be accepted.

I) Statement(s) of support from all project partner(s) – 'project partner letter of support' document type, one document per project partner

Each centre application must have a statement of support from each project partner (or cluster of users if this is more appropriate) involved in the co-creation and co-design of the centre to:

- Outline the benefits the project partner hopes to achieve from participating in the Centre;
- Explain how their involvement enhances the quality of the Centre and the training provided, and where appropriate, how they are engaged in current doctoral training provision;
- Demonstrate how the partner's involvement will take place and detail how they have been involved in the development of the bid,
- Include an indication of the level and nature of resource they are willing to put into the Centre (this should reflect the in-kind and cash contributions detailed on the Je-S application form).
- All statements of support should be signed, dated, with dates within 6 months of the call closing date, and on letter headed paper.

- The signatory should hold a sufficiently senior position to authorise the commitments detailed on behalf of the organisation.

Only statements of support from partners specifically contributing to the Centre in some way should be included. Letters expressing general support for an area or the Centre will not be accepted. We do not require letters confirming membership of a CDT advisory board.

Where a partner cannot be formally recorded as a project partner due to financially benefitting from the grant, the specific contributions of these partners can be captured using the 'letter of support' document type. A maximum of three such letters are allowed.

For more information on project partner letters please see section 6.

J) Science Foundation Ireland additional document – 'Other attachment' document type

There are a number of requirements for additional information to be included in the documents already detailed.

There is a requirement to include one additional document on proposals with an associated ROI-based cohort. This should be a single PDF document containing:

- SFI Application Form
- A detailed budget breakdown
- Detailed ROI budget justification (in addition to the Justification of Resources section of the Je-S application)

Templates for the above documentation will be made available to SFI applicants directly. Please also refer to Annex 4 for guidance on including the SFI partnership in the Case for Support and Justification of Resources sections of the proposal. You should refer to Annex 4 for more information.

K) Facilities – 'technical assessment' document type

Optional - For facilities listed on Je-S where access costs or time units are being sought, the facility must provide a technical assessment reflecting these costs/time allocation. Costs for this access will provided directly to the facility. For the STFC large-scale facilities i.e. CLF, Diamond, ESRF, ILL and ISIS, which are free at the point of access, enter "0" for cost, units and proposed usage (a technical assessment is not needed in these cases).

For facilities not listed, costs can be included in the training grant cost headings and detailed in the Justification of Resources. The grant holder will be responsible for paying the facility. A letter of support ('letter of support' attachment type) from the facility should be included in the application reflecting the costs requested. They should not be recorded as a project partner.

For the National Research Facilities (with the exception of the National Epitaxy Facility), please **do not** select the facility from the list on Je-S as the access costs will not be provided directly to the facility. Include costs in the training grant heading as for non-listed facilities and include a 'letter of support' as described above. Details of the NRFs can be found here: [https://epsrc.ukri.org/research/facilities/access/nationalresearch/]

For contact details of the most relevant facilities to EPSRC please see Annex 2 of the outline call document.

5. Assessment

5.1 Minimum requirements

These are a number of mandatory conditions that will be checked by UKRI staff. Proposals not meeting these will be rejected without further assessment.

- The proposal is at least 50% within EPSRC's remit;
- A minimum 20% contribution towards the total studentship costs (stipends, fees, and RTSG) is being made from non-Research Council sources:
    - As a minimum, a proportion of this additional support must be spent on stipends (equivalent to 10 students' stipend for four years) and fees (equivalent to 10 students' fees for four years);
- At least 50 students will be trained on a four-year programme which delivers a doctoral-level qualification upon successful completion;
- UKRI is being asked to contribute no more than the studentship costs equivalent to 40 students;
- The training programme includes Responsible Innovation training;
- The UKRI contribution is no more than 10% higher compared to the UKRI request at the outline stage.

5.2 Assessment process

All invited CDT applications meeting the minimum requirements will be sent to anonymous expert peer reviewers for their comments against the criteria listed below. Applications that receive sufficiently supportive comments will be considered competitively at specially convened panel meetings, at which applicants will be interviewed. The panel will be asked to assess the applications against the criteria given in this document and make a recommendation about whether they should be considered for funding. In addition to considering the recommendations across the interview panels, EPSRC will consider the coverage across the streams, across/within priority areas and of disciplines in the set of applications when making funding decisions.

- The panels will comprise up to 5 members with a range of backgrounds and expertise.
- Applicants invited to interview will be asked to submit a written response (max. two pages of A4) to the anonymous reviewer comments which they will receive in advance of their interview.
- Each Centre will be invited to send up to three members of the Centre team to the interview in order to respond to questions from the panel. A presentation from the Centre will not be included as part of the interview session.

    - Where a Republic of Ireland based cohort is being supported by Science Foundation Ireland as part of the application, one additional member of the bid may attend. They **must** be a representative of the ROI-based cohort component.

- The panel will use the performance at interview (informed by reviewers' comments and the applicant's response to them) as their primary source of reference to inform their recommendations on any given proposal, but will also consider any contextual information from project partners (see section 6 - guidance for project partner). The panel will be able to ask Centre representatives for additional information and clarification, concentrating primarily on the fit to the priority landscape (where appropriate), the assessment criteria and the ethos of the centre approach to doctoral training.

- The interview session will be expected to last around 40 minutes.

- Applications will be tensioned against other Centres to ensure consistency and equivalent quality across interview panels.

- **It is expected that interviews will take place during the week commencing 5 November 2018.**

- Outcomes of the interviews will be announced by December 2018.

5.3 Assessment criteria

Quality of the training approach (primary)
Evidence that a high quality, defined research training programme will be in place in terms of the:

- Originality, relevance, and effectiveness of the training approach to address the training needs identified (training needs identified by the applicants and where applying to a CDT priority area, also the needs identified in the priority area description) and to support students to accelerate research impact;

- Demonstrates the added value of the CDT approach (compared to other doctoral funding routes) and maximises the benefits of the cohort model throughout students' training;

- Quality and capacity of the research and training environment, team, supervisors, and facilities.

National Importance of the CDT (primary)
Demonstrable National Importance for the doctoral skills created by this specific Centre within the topic proposed including the:

- Effectiveness of the CDT model to address the skills need(s) and an absorptive capacity for the graduates;

- Ambition and viability of the vision and defined outcomes to develop highly skilled people and have a positive national impact; contributing to the desired future state of UK skills capabilities;

- Ability of the Centre to fulfil a leadership role with links to national and institutional strategies, relevant partnerships with internationally competitive research groups (UK and abroad), and complementarity/alignment to existing research and training activity (inc. international).

Partnerships and Engagement (secondary)
Evidence of a high quality approach to relationship management including the:

- Ability of the proposed partnerships to enhance the quality of training experience
- Effectiveness of the partner commitments to support student training and the defined aims of the partnerships
- Quality and effectiveness of the strategy and approach to sustain, maximise, and evolve partnership development over the lifetime of the Centre

Equality, Diversity, and Inclusion (secondary)
Evidence that the Centre can adopt an active leadership role and has an effective ED&I strategy that:

- Identifies and addresses challenges relevant to the topics and communities of the Centre (academic and sectoral as necessary) with defined progress indicators;
- Improves the ED&I culture and associated practices (adapting strategies if necessary), taking account of long-term challenges and associated culture change;
- Supports diverse recruitment and flexible support of staff and students with a range of backgrounds and personal circumstances, and is integrated into the Centre's management and monitoring plans as well as wider organisational policies.

Management and Governance (secondary)
Demonstrable effective management and governance arrangements in terms of the:

- Ability of the team to lead/manage a large, complex investment with sufficient support, infrastructure and resources for the day-to-day running of the Centre;
- Effectiveness of the management strategy to support student training across a broad range of environments and/or topics, monitor progress/performance, and link to the institution's governance and quality assurance procedures;
- Quality of the plans for the independent advisory structure(s) and the effectiveness of the role(s) in overseeing and advising the Centre.
    - All Centres are required to have routes for receiving advice which is independent from the organisations involved (both the academic institutions and project partners)

Value for Money (secondary)
A high quality approach to delivering the Centre that will maximise the benefits of the investments the Centre receives (from whatever source) including:

- Evidence that the Centre will maximise the cash and in-kind contributions from partners (both institutional and project partners);
- Demonstration that the costs sought from UKRI represent good value and are fully justified;
- Evidence of maximising the benefits that can be achieved beyond the Centre's core students and staff.

5.4 Feedback

The majority of the feedback will be considered to be the reviewer comments shared with applicants prior to the interview panels. Some feedback resulting from the interview panels may be provided. This will accompany results notifications where possible.

5.5 Confidentiality

The content of applications will only be shared with UKRI staff and peer reviewers. Expert peer review comments will be kept confidential, shared only with the interview panel members, the applicant and their research office, and UKRI staff.

For successful applications, the Je-S summary section, institution, project partner, and named investigator information will be shared through EPSRC's public facing investment information systems such as the Grants on the Web (GoW) database and UKRI's Gateway to Research. Other application content and assessment material will be confidential.

GoW will display the results of the individual interview panels. For unsuccessful grants, the only information that will be shared is the grant reference number and its rank. The content and assessment of unsuccessful proposals will be confidential, including details of the institution(s) and applicants involved.

Where the panel requests for an applicant to receive feedback, this will only be shared with the applicant(s) and the institutions involved.

The UKRI Privacy Notice is available here [https://www.ukri.org/privacy-notice/].

6. Guidance to Project Partners

All project partners should provide a statement of support to accompany the Centre application documentation submitted through Je-S. This should provide details of the commitments and partnership arrangements between the partner and the specific CDT. The value of commitments stated on the applicant's Je-S application form should be reflected in the support letter from the partner.

Letters of support from partners can provide valuable evidence to assessors of the value of a CDT and the skills developed to the long-term prosperity of the UK. This evidence also adds to the evidence in the rest of the application demonstrating how the CDT addresses the assessment criteria.

Partners are encouraged to consider what evidence they can be provide, aiding the CDT application. Partners should consider including information about:

- The importance of the area to the partner as well as to the nation;
- The national, doctoral-level skills requirements relevant to the topic of the Centre;
- The importance of the training being provided by this specific Centre and of this Centre's specific approach to delivering this training;
- The requirements and ability of the relevant sector/industry/users to absorb the number of graduates expected to leave the Centre;
- How the involvement and commitments of the partner will enhance the training of student cohort (and individual students as appropriate).
    - There are a number of ways partners can engage with Centres some which involve direct cash offerings to a Centre, and other, indirect (in-kind) contributions. Examples include, but are not limited to: Shaping the Centre vision and/or training approach; site visits; lecturing; student supervision; RI training/awareness (see Annex 2) summer schools; facility access; equipment loans/donations; or studentship funding.

Occasionally a partner cannot be formally recorded as a project partner as they will financially benefit from the grant (an overseas institutions receiving bench/tuition fees as part of hosting a student for example). In these cases a 'letter of support' can be provided (a maximum of three of these can be provided) instead of a 'project partner letter of support'. However, we would expect the content of such letters to be as described above.

Contextual Information

We are introducing a contextual brief for this exercise, following feedback from potential partners, in order to provide details to the panel on a partners' interests in an area. This will provide useful information to the panel to aid with national importance considerations.

Once proposals are submitted by Centre applicants, UKRI will invite partners involved in a high number of proposals (threshold to be determined at that time) to submit contextual information about those applications. It is expected that partners will be **informed by the end of August** if this is required from them. This will take account of partnerships across both the EPSRC and UKRI AI calls.

Contextual information should be submitted via a Smart Survey **by 16:00 27 September 2018**. The survey will be made available in August on EPSRC's website and invited partners will be provided with the survey link at the time of invitation. Partners should split the Centres they are partnering with into a maximum of three tiers.

- Tier one – the highest priority CDTs for the partner's support.
- Tier two – very important CDTs which the partner wishes to support
- Tier three – strong CDTs with partner interest

It is expected that the nature of the partnership, and overall commitments of the partner for each Centre reflects the level of priority the partner places on the CDT. If all the Centres are of equal priority it is acceptable to place the full set in tier one.

The survey will require you to provide the grant reference number of each Centre (EP/S……../1), the name of the principal investigator, and the lead academic institution who submitted the proposal.

How contextual information will be used

The information provided as part of the survey will not be shared with applicants. It will only be shared with interview panel members. A single statement will be read out by the UKRI panel convenor at the time a CDT proposal is being considered:

"[Project partner name] has expressed interest in partnering with [total number] CDTs. This Centre is in [tier] for this partner"

Information about the other Centres submitted through the survey will not be shared.

As proposals are considered in isolation (and not all proposals with a given partner involved are seen by the same panel) it can be easy for the commitments of partners to be simplified to considerations of cash contributions, and for assumptions to be made about the importance of a Centre to the partner on that basis. This contextual information will be used by panels to discourage such assumptions and make objective decisions on a proposal's national importance.

The quality of the training provision and national need of the Centre are the primary criteria for the call. Centres will not be disadvantaged by the absence of contextual information. If available, this information will be considered by panels relative to the expectations of the Centre given its vision, scope, and aims and as just one part of the wider evidence provided by the applicants. Applicants should not seek to influence or direct partners in how they regard a CDT relative to the tiers set out above.

7. Guidance for reviewers

Reviewers are asked to consider the case made for the Centre of Doctoral Training being proposed. These training awards should support doctoral-level training where both a breadth and depth of training is required.

Please refer to section 5.3 for the full description of the assessment criteria.

Where a proposal is seeking to contribute towards a priority area described within the call, there may be expectations on the type of training included. Please refer to the priority area descriptions for this information. [https://epsrc.ukri.org/funding/calls/cdts2018full/]. In addition, applicants may have aligned part of the CDT to the priorities described in the UKRI Artificial Intelligence (AI) CDT call which is running in parallel. This is allowed providing that the training offered is at least 50% within EPSRC's remit.

Some proposals contain a Republic of Ireland-based cohort component. Applicants have been advised that while partnerships between the UK-based and ROI-based Centres/cohorts are encouraged, the UK component must be capable

of standing alone should Science Foundation Ireland be unable to fund the ROI component due to high demand for this opportunity. The assessment criteria remain the same for all applications.

8. Additional grant conditions (AGCs)

Grants will be subject to the standard UKRI training grant conditions however additional grant conditions will be added to this call. EPSRC reserves the right to modify or include additional conditions to those below before grants are awarded.

GAC 01 Naming and Branding
Centre grants must be titled 'EPSRC Centre for Doctoral Training in...' (Unless jointly funded by another Research Council in which case they should be titled 'EPSRC and [other UKRI Council] Centre for Doctoral Training in...' This title should be used, along with the EPSRC [and other UKRI Council] logos, prominently on all materials (including posters) and websites. Where a name and logo for a centre has already been developed externally reference to the full title of the Centre should be included within the text and logos should be prominently displayed. Reference to the funding UKRI Council(s) must be made in any written text such as press releases or published documents. Further details and EPSRC branding guidelines can be found on the EPSRC website: https://epsrc.ukri.org/about/logos/.

GAC 02 Involvement of the UKRI Council(s)
The UKRI Council(s) will nominate a Project Officer(s) who will be the UKRI Council(s) contact. The Project Officer must be represented on (and be invited to) the appropriate management or steering group and should receive all minutes of the management or steering groups.

GAC 03 Monitoring Progress and Dissemination
Whilst it is the responsibility of the Research Organisation to manage the centre training grant, the UKRI Council(s) reserve(s) the right to call for periodic information on progress (including interim financial reporting), or to visit the Centre and/or management team. Where information is requested the Centre should take all reasonable steps to provide this in a timely manner.

The Principal Investigator and representatives from the Student Cohorts may also be asked to attend meetings to exchange information and ideas with colleagues from other Centres for Doctoral Training or similar. The Principal Investigator and Student Cohorts must make all reasonable efforts, if so invited, to attend events or activities organised by the UKRI Council(s) concerning such dissemination events, with appropriate travel funds to be found from the announced training grant resources.

In line with TGC13 (Monitoring and Information Requirements) in addition to providing information on UKRI funded students via the Je-S Student Details Portal (SDP), Research Organisations will also be required to make returns to EPSRC giving details of the students leveraged from additional sources.

The UKRI Council reserves the right to instigate a formal review of the grant close to the mid-term point of the Centre's activities. Depending upon the outcome, UKRI may request amendments to the Centre, formulation of an action plan to be agree with the UKRI Council, and/or adjustments to the financial resources.

GAC 04 Collaboration Agreements
Where the grant is associated with more than one research organisation and/or other project partners, the basis of collaboration between the organisations, including the allocation of resources throughout the grant (or individual student project as appropriate) and ownership of intellectual property and rights to exploitation, is expected to be set out in a formal collaboration agreement. It is the responsibility of the Research Organisation to put such an agreement in place before the relevant centre activity/project begins. The terms of collaboration agreements must not conflict with the Research Councils' terms and conditions.

Arrangements for collaboration and/or exploitation must not prevent the future progression of research and the dissemination of research results in accordance with academic custom and practice. A temporary delay in publication is acceptable in order to allow commercial and collaborative arrangements to be established.

GAC 05 Part-time Students
The majority of students undertaking training must be full-time, however, part-time students can be supported on a case by case basis. Part-time students must undertake study for a minimum of 50% Full Time Equivalent (FTE). These students must be recognised as members of the student cohort and benefit from the cohort training and wider Centre activities and not focus all of their available time on their individual research projects.

Where the part-time studies of a student will require them to work beyond the original end date of the grant, EPSRC will extend the grant to allow for this. The Principal Investigator must request this, via Je-S, when the arrangement is agreed with the student. Extensions will be granted on a no-cost basis. Expenditure should come from existing grant funds and will be restricted to the studentship costs of the part-time student (stipend, fee, and RTSG). No further expenditure will be allowed including Centre delivery/coordination costs, even if this would not exceed the original award value.

9. 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.ukri.org/funding/howtoapply/basics/resubpol/rua/]

10. Key dates

Activity	Date*
Deadline for Full Proposals	31 July 2018
Contextual information from invited partners	27 September 2018
Interview Panel	Week commencing 05 November 2018
Funding decision	December 2018
Grant start date	No earlier than 01 April 2019 No later than 01 October 2019
New CDT cohorts start	2019/20 academic year

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

11. Contacts

For any queries on the process, Email: cdt@epsrc.ukri.org

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

For general queries on potential CDT international engagement activities please contact international@epsrc.ukri.org

Change log

Name	Date	Version	Change
Christina Turner	25 May 2018	1.0	N/A
Christina Turner	05 June 2018	2.0	Update of broken hyperlink in section 4.3 Correction of student fee guidance Track record explicitly added to Case for Support

Name	Date	Version	Change
Christina Turner	05 July 2018	3.0	Amended cost table guidance regarding staff costs paid by the university or a partner – 4.3F and Annex 1 Clarified the position regarding multiple universities and different 'per student costs' – 4.3B and Annex 1 Clarification completion of the Je-S application form – 4.3B Clarified the inclusion of 'non-project partner' letters – 4.3I, section 6, and Annex 5

Annex 1 – Cost Table

A single cost table should be provided covering the costs of the Centre.

The UKRI contribution towards a Centre cannot be more than 10% higher than the value indicated on the outline application. All costs should be based on the 2018/19 academic year. UKRI will apply indexation to all successful applications to take account of expected cost increases over the grant's lifetime. Only costs and direct contributions associated with the UK-based cohort should be included in this table. There are separate, additional document requirements for ROI-based cohorts where an SFI partnership is involved.

Applicants may seek costs from UKRI to cover staff salaries related to core management or administrative positions within the CDT. Where institutions and/or project partners will contribute such costs, these can be included on the cost table whether they are cash (direct) contributions i.e. for new employment positions, or in-kind (indirect) e.g. the director's time where they are a tenured academic). These should be included on row 30 and/or 31 of the cost table. Staff costs (i.e. salary for proportion of time committed to CDT delivery) may only be included for core management and administrative positions such as directors, co-directors, a centre manager, or a business engagement manager specifically employed for the Centre. It must not include supervision time or pooled/general staff. The cost table should **not** capture any other in-kind (indirect) contributions nor Estate/Indirect costs. These should be captured in the host organisational letters of support or project partner letters of support (and the Je-S form). Please refer to section 3.10 for more information.

An Excel spreadsheet version of the cost table is available on the call page [https://epsrc.ukri.org/funding/calls/cdts2018full/]. Where possible we recommend that applicants make use of it.

A copy of a completed cost table for each Centre must be included in the application submitted through Je-S. This one-side A4 document **must use** the document type '**additional document**'. The table must include the validation columns (please see below for a definition of each validation condition indicated in the table). All applications must meet all of these conditions. These calculations have been built into the Excel spreadsheet provided but if applicants do not use the spreadsheet you will need to ensure that the following are met and indicate this on your cost table:

Validation tests

V1: J11 >= 50 i.e. the centre is supporting at least 50 students

V2: (J17/E7) <= 40 i.e. the amount of funding UKRI is contributing towards studentships costs is no more than 40 times the cost for an individual student

V3: (J23+J24) >= (10xE4) i.e. the expenditure on stipends from non-UKRI sources is at least the full stipend amount (i.e. including any enhancement) for ten students

V4: (J25+J26) >= (10xE5) i.e. the expenditure on fees from non-UKRI sources is at least the full fee amount for ten students

V5: J29 >= (0.2xJ12) i.e. the total contribution from non-UKRI sources towards studentship costs is at least 20% of the total studentship costs.

Completing the cost table

Cells E4-E6	The numbers provided to the side (in grey) are the minimum UKRI rates for ease of reference but you may request higher costs if justified and must include any stipend enhancements. If you are using the Excel spreadsheet the total studentship costs per student (cell E7) will auto-calculate. If not, the sum of E4 to E6 inclusive and enter into cell E7. If students are getting a different level of support from each other (or there is a different fee due to university differences across a multi-site bid), this table should capture the average such that cell J12 represents the true, total studentship costs for the whole cohort (not just the min. 50).
Row 11	Enter the **total** number of students you expect to be recruited to each cohort (not just the min. 50 but all the centre students if your centre is supporting more). If you are using the Excel spreadsheet J11 will auto-calculate the total number of students the Centre will support over the grant lifetime and check this meets the call conditions (V1).
Row 12	If you are using the Excel spreadsheet this row will auto-calculate. If not, for each cohort you should multiply the student number (E11, F11 etc.) by E7. J12 should sum E12 to I12 inclusive.
Row 13	This is a header and should not be edited
Rows 14-17	It is not necessary to complete all of these cells. The level of detail you choose to provide will depend on the level of flexibility your Centre will employ and should reflect the other application documentation regarding expenditure plans. **As a minimum you must complete cell J17 which must match the studentship funding line on the Je-S form.** The spreadsheet will automatically check that J17 is no higher than 40xE7 (V2)
Row 18	Start-up/set-up costs will only be considered for new Centres. These costs should only be incurred in the first year and the cost entered into cell J18.
Rows 19 and 20	The total management staff costs (row 19) and other delivery costs (row 20) for the Centre across the 8.5 years should be entered into J19 and J20 respectively. No breakdown between cohorts should be provided.
Row 21	J21 is a sum of J18 to J20 inclusive (the spreadsheet will do this automatically). **J21 must match the 'Co-ordination, Delivery and Other Costs' funding heading on the Je-S form.**
Row 22	This is a header and should not be edited.
Rows 23 and 24	As a minimum, this should indicate the overall contribution towards stipends across the lifetime of the Centre, by source - HEI/institutional contribution to stipend costs in J23 and the contribution of project partners in J24. Further breakdown by cohort can be provided to reflect the plans of the Centre if applicants wish to but is not mandatory. The spreadsheet will automatically check that J23+J24 is at least 10xE4 (V3).
Rows 25 and 26	As with the stipend contribution from non-UKRI sources, as a minimum J25 and J26 should be completed, capturing the

	contributions towards fees. The spreadsheet will automatically check that J23+J24 is at least 10xE5 (V4).
Rows 27 and 28	As a minimum, J27 and J28 should capture any contribution by the HEI/institution(s) and project partners to RTSG costs across the total student cohort. Further breakdown by cohort can be provided to reflect the plans of the Centre if applicants wish to but is not mandatory.
Row 29	J29 is the sum of J23 to J28 inclusive (the spreadsheet will do this automatically). The spreadsheet will automatically check that J29 is at least 20% of J12 (V5).
Rows 30 and 31	This should capture any non-studentship **direct** contributions of HEIs/institutions and/or project partners. Contributions towards the salaries of core CDT management/administrative positions can be included whether these are direct (cash) or indirect (in-kind) contributions. However, no other indirect contributions nor Estate/Indirect costs should be captured in this table.
Row 32	Only J32 is the sum of J30 and J31 (the spreadsheet will do this automatically).
Cells J5,6 and 7	The spreadsheet will automatically complete this: J5 is the sum of J17 and J21 J6 is the sum of J29 and J32 J7 is the sum of J5 and J6.

		E	F	G	H	I	J
Total costs per student (over 4 years)			Minimums				
4	Stipend (inc. any enhancement)		£59,108.00				
5	Fee		£17,040.00				
6	Research training support (RTSG)						
7	**Total cost per student**	**£0.00**					

Grand Totals of direct contributions	
UKRI	£0.00
Other Funder	£0.00
Total Centre cost	**£0.00**

Cohort costs			**Cohort 1**	**Cohort 2**	**Cohort 3**	**Cohort 4**	**Cohort 5**	**Sub-totals**	**Validation Test**	
11	**Total number of students**							**0**	V1	NO
12	**Total studentship costs**		£0.00	£0.00	£0.00	£0.00	£0.00	**£0.00**		
13	**UKRI contributions**									
14	UKRI - stipend costs (indicative)									
15	UKRI - fee costs (indicative)									
16	UKRI - RTSG costs (indicative)									
17	**Total UKRI studentship costs**								V2	NO
18	UKRI - Start-up/set up costs									
19	UKRI - Management staff costs									
20	UKRI - Other delivery costs									
21	**Total UKRI non-studentship costs**							**£0.00**		
22	**Other Funder direct contributions**									
23	Other funder - stipend costs	HEIs/Institutions							V3	NO
24		Project partners								
25	Other funder - fee costs	HEIs/Institutions							V4	NO
26		Project partners								
27	Other funder - RTSG costs	HEIs/Institutions								
28		Project partners								
29	**Total Other Funder studentship costs**							**£0.00**	V5	NO
30	Non-studentship costs	HEIs/Institutions								
31		Project partners								
32	**Total Other Funder non-studentship costs**							**£0.00**		

Annex 2 – Responsible Research and Innovation (RI)

Responsible Innovation is about acknowledging that science can raise questions and dilemmas, is often ambiguous in terms of purposes and motivations; and unpredictable in terms of impacts (i.e. economic, social or environment) beneficial or otherwise. Responsible innovation creates spaces and processes to explore these aspects of innovation in an open, inclusive and timely way. This is a collective responsibility, where funders, researchers, stakeholders and the public all have an important role to play. It includes, but goes beyond, considerations of ethics, public engagement, risk and regulation, important though these are. There are a number of ways in which CDTs can consider RI. While not exhaustive, a few examples are provided below.

Student projects

Project design

Students should be encouraged to consider how their project design or approach could have an impact in terms of RI. This does not apply only to those who must consider ethics due to animal involvement or human participation. For example, if the long-term project impacts were to materialise, such as mass production of a device, would that choice of material system, compound, chemical element, or solvent, impact on the device's recyclability, sustainability, or the availability of raw materials required to produce it? Can a student adapt the project design to address such concerns? Could a new robotic technology impact on business models and job creation? Could a data mining approach applied in a different context have potential implications for data protection? Can this be designed out? What if running a new algorithm or mathematical model requires a very large amount of power? Could changes reduce this?

Pathways to Impact for research

Students should be encouraged to think about when potential issues might need to be addressed and by whom. It is not always appropriate, or possible, to re-design a research project to address potential issues, but in considering the pathways to impact, a follow-on project may be the appropriate time, opening up new avenues of research, or indeed, other researchers might need to take up consideration of this issue in order to tackle the challenge - in which case they need to be engaged early on. Taking the data mining example above, if it is not appropriate or possible to redesign the research project approach does dissemination and licensing arrangements need to take account of concerns?

Centre Level

In addition to the training of students to support the aspects above, centres should also consider the following:

Project design and choice

As well as students being encouraged to consider the design and approaches of their research project, the supervisors also need to be encouraged to do so. In addition, how/will the CDT take RI into account when finalising the choice of projects to be offered? How do the projects as a set contribute to the vision and ambitions of the Centre?

Pathways to Impact

We encourage applicants to consider how the impact of the centre as a whole can outlive an individual funding award. In the same way that students should be

encouraged to consider issues and whether others in future should tackle these, there will centre-level challenges that may require a new centre, or new research avenues to arise in years to come. How will this be taken account of as part of the pathways to impact strategy?

Student awareness of sector, industry, and user environments
CDTs should consider the employment destinations of the graduates leaving the Centre. A number of sectors/industries also have to consider RI through codes of conduct, regulatory frameworks, standards etc. and these must be adhered to or at least taken account of as part of innovation. There is a role for the Centre, possibly through partner engagement, for increasing the awareness of students of these considerations, equipping them for their later careers. These realities of user innovation are also connected to the Pathways to Impact for research section above as those users could lie further along the research and innovation pipeline for the outputs of student's research project.

Optional - applicants may wish to consider the resources available through ORBIT (the Observatory for Responsible Research and Innovation in ICT). This was commissioned by EPSRC to support the ICT, and other research and innovation communities, in embedding responsible innovation principles into research programmes. Further details can be found at https://epsrc.ukri.org/research/ourportfolio/themes/ict/strategy/orbit/.

Annex 3 – Equality, Diversity, and Inclusion

CDTs should act as a beacon for equality, diversity, and inclusion (ED&I) within the research and training community. This should be addressed through a dedicated two-page ED&I plan. To help to guide the development of this plan, applicants are encouraged to consider the following questions:

- How will the leadership and CDT management teams work to contribute to changing the culture, practices and makeup of the research community? You should provide evidence of ways in which ED&I issues will be managed at both an institutional, CDT and wider community level.
- How has your institution's (or institutions' for multi-site centres) ED&I policies influenced the approach taken by the CDT? How will your approach align with your institution/s strategic ED&I priorities?
- What progress indicators will the CDT use to indicate/measure improvement in diversity and inclusion and why are these the most appropriate?
    - The outputs and successes of this plan will form part of the annual monitoring
- How will the CDT address ED&I considerations when recruiting staff, students, advisors, and general community representation in areas of relevance to the Centre (e.g. at conferences, workshops and reviews)?
- How will the CDT support career progression, particularly for those individuals who require a flexible working pattern due to personal circumstances, such as parenting or caring responsibilities or health-related reasons where necessary?
- What steps will the CDT take to raise awareness of and mitigate against the impact of unconscious bias in the running of the CDT in terms of gender, ethnicity or any other protected characteristic [https://www.gov.uk/discrimination-your-rights] through processes, behaviours and culture?
- If you are requesting funds specifically aimed at promoting ED&I, how will these funds be used to support ED&I activities and how will success be monitored?
- How will members of the CDT (staff, students, and partners (as appropriate)) act as ambassadors for ED&I?
- How will good practice be sought-out to evolve the CDT's ED&I approach over the centre's lifetime? How will this good practice be captured and shared with the wider community?
- Are there any other ED&I aspects of the plan not yet referred to and how does the CDT intend to achieve them?

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 Republic of Ireland (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 **must be** registered in the relevant Irish ROI Research Body and features of collaboration should include:

- Integration of the ROI-based students into the CDT cohort;
- 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;
- Contributions from ROI-based Investigators to the training material for all students, to be delivered either in the UK or ROI. UK investigators are also encouraged to contribute to training to be delivered in the ROI. Flexible and innovative approaches may 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 include the following:

- Student stipend;
- Student fees;
- Materials and consumables costs;
- Costs for hosting incoming UK students for training in the ROI;
- Travel and subsistence for ROI-based students to undertake training in the UK, industrial placements, or research secondments;
- Costs for ROI-based supervisors to deliver training in the UK, and UK-based supervisors to deliver training in the ROI;
- Start-up costs including course development;
- Operational / management staff costs.

More detailed guidance on eligible costs for the ROI-component of a joint bid will be provided to the ROI-based applicants directly.

Guidance for UK-ROI joint proposals

- Except where indicated otherwise below, joint applications should follow the format set out elsewhere in this call document; no additional pages in the case for support will be permitted.

- A single joint proposal should be submitted to EPSRC via Je-S with the UK applicants designated as Principal and Co-Investigators and the ROI applicant Research Body/ies designated as project partners. If there are ROI applicants from more than one SFI Research Centre, they should be entered as separate project partners. The project partner contact given in the Je-S form should be the lead ROI Investigator at the relevant SFI Research Centre.

- A section on the ROI-based applicants must be included in the Track Record section of the Case for Support document. The ROI-based applicants have the status of Investigators on the proposal, although each CDT proposal must be able to stand on the basis of the UK component only.

- In the Case for Support document, a description must be included of the additional contribution of the SFI Research Centre(s) to the CDT and how the integration of the ROI-based students into the CDT will be managed, if both the UK and ROI components of the joint bid are funded.

- A letter of support is required for each project partner entered into the Je-S application form, which for ROI applicants must include the Research Body that hosts the SFI Research Centre, and associated letter of support. For bids involving multiple SFI Research Centres, each will need to be listed as a separate project partner with a letter of support from the host Research Body for each Research Centre. These should be submitted as attachment type '**Project Partner Letter of Support**.'

- The UK-based Principal Investigator must include the total direct costs requested by the ROI applicants from SFI under the project-partner section of the Je-S form as a cash contribution; this amount should be entered in GBP using the EUR-GBP exchange rate on the day of submission. An additional contribution to overhead costs will also be made, as detailed below.

- The Justification of Resources document must include a section on the costs requested by the ROI-based team, making sure that it is clear which costs will be funded by SFI and which costs will be funded by EPSRC if the application is successful.

- The SFI Application Form and associated documents described below must be included with the Je-S submission as a single PDF attachment. This document should be submitted as attachment type 'Other Attachment' (not seen by reviewers and panel members).

- Please note that all proposal documentation will be shared with SFI, including reviewers' comments and the PI response to reviews.

SFI Additional Documentation

As part of a joint proposal to the EPSRC CDT call 2018, ROI applicants are required to submit the following documentation, using the templates provided and adhering to the guidance given below.

- SFI Application Form
- A detailed budget breakdown
- Detailed ROI budget justification (max. 3 sides A4 - this is **in addition** to the Justification of Resources section of the Je-S application)

Templates for the above documentation will be made available to SFI applicants directly. These documents should be merged into **a single PDF** and uploaded as an attachment to Je-S by the UK Principal Investigator. This document should be submitted as attachment type 'Other Attachment' (not seen by reviewers and panel members). Only **one** SFI application form and **one** budget breakdown should be submitted, with a single Research Centre to be designated as lead if multiple Research Centres are participating in the bid. All SFI Co-Investigators, their Research Centres and host Research Bodies and their time commitments must be listed on the cover sheet, but an institutional signature must be supplied only by the Research Body that hosts the lead Research Centre. Completion and submission of this signed cover sheet constitutes agreement to SFI's Terms and Conditions [http://www.sfi.ie/funding/sfi-policies-and-guidance/sfi-general-terms-and-conditions/]

Eligibility Criteria for ROI Applicants

To receive support from SFI through this activity, the ROI-based applicants must be Principal Investigators based at an SFI Research Centre [http://www.sfi.ie/sfi-research-centres/]. All ROI-based supervisors must be either Principal Investigators or Funded Investigators based at an SFI Research Centre. Supervisors that are employed on temporary contracts must be recognised as an employee of the institution for the duration of the PhD research project.

Host Research Body Letter of Support (max. 2 sides A4)

As already stated, each SFI Research Centre involved **must** be listed as a separate project partner and accompanied by a project partner letter of support from each host Research Body. Each letter serves as the Research Body's endorsement of the eligibility of the applicants (as defined above) as well as approval of the budget requested and the infrastructure to be provided by the Research Body. It must be a formal, dated letter on headed notepaper, signed by an authorised institutional representative, and must include the following declaration:

[Research Body name], which is the host Research Body of *[SFI Research Centre and Applicants]*, confirms its association and support of the application entitled *[Application title]* and endorses that the Applicants meet the eligibility criteria of the EPSRC-SFI Joint Funding Programme under the Centres for Doctoral Training 2018 Call and are all either members of the academic staff, contract researchers or researchers awaiting appointment.

ROI Budget

Applicants must include the total direct costs for the ROI component of the research programme in the project partner section of the Je-S form as a cash contribution. A corresponding description must be included in the Justification of Resources submitted as part of the joint application through Je-S. In addition, a detailed breakdown of the ROI budget must be prepared using the SFI budget spreadsheet (provided to ROI applicants separately) as well as a detailed budget justification (max. 3 pages) which clearly explains the request for each item listed in the budget in terms of the planned training programme. **ROI applicants must adhere to the relevant sections of SFI's Grant Budget Policy in the preparation of the budget and budget justification** [http://www.sfi.ie/funding/sfi-policies-and-guidance/budget-finance-related-policies/].

The costs eligible for grant support by SFI under the EPSRC-SFI Partnership are those costs which can, uniquely and unambiguously, be identified with the ROI component of the proposed CDT. Details of all relevant costs, including staff, materials, travel and training must be provided. Contributions to the salary of the ROI applicants are not eligible costs. Applicants must ensure that the final total provided includes all costs requested from SFI. **All awards will be made directly to the host Research Body of the lead SFI Research Centre.**

Direct costs only should be included in the requested SFI budget. In addition to direct costs, SFI also makes an indirect or overhead ***contribution*** to the host Research Body, which is reflected as a percentage of the direct costs (excluding equipment). Overheads are payable as a contribution *to the Research Body* for the indirect costs of hosting SFI-funded programmes and are intended to enable the Research Body to develop internationally competitive research infrastructure and support services.

ROI-based applicants will be issued with detailed guidance and templates for the preparation of their budgets.

Annex 5 - Je-S attachments Check List

Attachment	Document Type	Max. Page length	Mandatory or Optional	Extra Guidance
Cover letter	Proposal cover letter	1 page	M	
Case for Support	Case for support	15 pages	M	
Pathways to Impact	Pathways to impact	2 pages	M	
ED&I strategy	Additional document	2 pages	M	
Justification for Resources	Justification for resources	2 pages	M	
Cost table	Additional document	1 page	M	
Institutional support letters	Host organisational statement	No page limits	M	One statement per institution, signed and on headed paper
Project partner statements of support	Project Partner Letters of Support	No page limits	As Required	Must be included from all named project partners. Must be on headed paper, and be signed and dated within six months of the proposal submission date.
Non-project partner letters	Letter of support	No page limits	O. Max 3 allowed	Only to be included for facilities not listed on Je-S or where a partner cannot be formally recorded under the heading above.
Facilities	Technical assessment	No page limit	As required	Only where a facility is listed on the Je-S application form.
Science Foundation Ireland	Other attachment	No page limit	As required	This is not seen by reviewers or panel members.

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