UKRI CDT Directors Meeting

25th June 2019

Dr Shyeni Paul, EDI & People, EPSRC, UKRI

September 2019
Summary

On the 25th June, 2019, EPSRC was pleased to be joined by members of the Centres for Doctoral Training (CDT) management teams from the UKRI CDTs funded via the 2018 exercise and members of staff from university research offices, in Birmingham. This one day workshop was an opportunity for everyone to network, share their experiences of CDT management and interact with EPSRC. EPSRC would like to thank Dr Karen Coopman and Professor Bernd Stahl for the presentations that they gave during the workshop.

The workshop covered three key themes:

- Equality, Diversity and Inclusion
- Responsible Research and Innovation
- Working with other CDT’s

The outputs of these sessions form the main body of this report. The agenda for the workshop can be found in annex 1.

The workshop is the start of the engagement EPSRC is planning to have with the CDTs over their lifetime. Throughout the workshop, there was discussion around continuing the peer to peer learning amongst the CDT management. EPSRC highly encourages the CDTs to form inclusive networks and to benefit from collective problem solving and the experience of others.
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Opening address

The meeting began with EPSRC welcoming all participants. Alison Wall, Deputy Director, EDI & People then gave an opening address and provided an overview of:

- UKRI’s Mission and Objectives
- EPSRC’s Vision and Priority Framework
- EPSRC’s investment in doctoral training and the Centres for Doctoral Training.

All of presentations given during the day are provided in Annex 2.

At the start of the day, there was also an optional session on setting up the CDTs. During this session Chris Turner, Joint Head of EDI & People, gave a presentation on the new terms and conditions for CDTs, the reporting requirements and expectations of the set up phase. This was followed by a Q&A session. The FAQ page on the EPSRC website has been updated to include some frequent questions and will be kept live during the lifetime of the CDTs. If you have a question please get in touch with students@epsrc.ukri.org.
Equality, Diversity and Inclusion (EDI)

The call for CDTs required every Centre to put together a plan for how they would address EDI throughout the lifetime of the CDT. As each CDT addresses a different community and faces unique challenges, there was a large variation in the activities described within the ED&I plans. The directors meeting provided the opportunity for the CDT directors to share good practice and innovative approaches.

The workshop session was opened with a presentation from Alison Wall, Deputy Director, EDI & People on:

- UKRI’s vision and strategic objectives and activities relating to EDI
- EPSRC’s Delivery Plan and the priority of accessing talent through equality, diversity and inclusion
- EPSRC’s approach when working towards EDI
- EPSRC’s expectations of EDI within CDTs

During the session the participants were asked:

- What would represent an inclusive environment within your CDT?
- How can you achieve an inclusive environment within your CDT?
- Beyond your CDT, what can you do to contribute to creating a more inclusive community?

The raw outputs of the event are available in Annex 3. The following is a summary of the comments provided by the participants.

**What would represent an inclusive environment within your CDT?**

The workshop participants talked broadly about inclusive environments, with the strongest sentiment being that an inclusive environment is one where everybody feels included and supported. There was repeated mention of ensuring that the students felt like they belonged in the CDT and were able to participate freely in events. Having a diverse cohort of both students and staff members was representative of an inclusive environment, but it was recognised that diversity goes beyond just protected characteristics.

There was also recognition that an inclusive environment requires clear and transparent policies which are able to adapt to new situations. It is important that both students and staff are aware of the support available, and feel able to voice issues, concerns or solutions. This can be aided by the presence of dedicated contacts.

**How can you achieve an inclusive environment within your CDT?**

Achieving an inclusive environment means considering all aspects of the CDT. It was highlighted that there are many different forms of diversity and that diversity goes beyond just the protected characteristics.

One key aspect of achieving an inclusive environment is to advertise the CDT to the widest possible audience and ensure the recruitment practices and CDT set-up enables the best candidates to be accepted. When advertising the CDT, it is beneficial to ensure all the promotional material evidences the inclusive nature of the CDT, whether that is by explaining how the CDT can accommodate people, describing the positives of a less conventional career path or highlighting diverse case studies. CDTs can also perform outreach to schools and universities where the progression to
doctoral education is less common, to seed the idea of doctoral studies early on. Several CDTs have seen a benefit of providing summer or other small research projects to interested undergraduate students to allow them to have a taster of the research experience.

When recruiting it is critical to ensure that the language used in describing the CDT and any projects is inclusive. It is key to include information on the kinds of support that can be provided if required to prevent self-deselection by applicants. When considering the entrance criteria, it is necessary to carefully consider which criteria are essential and whether it is possible to upskill people within the CDT rather than restrict entry. This requires a flexible training process and so should be embedded within the CDT structure from the beginning. Good HR practice keeps a record of the diversity of applicants and ensures this information is used in line with the information given to applicants. It is important to ensure that the applicants are aware of the use of the data. There was significant discussion regarding shortlisting and interview practices, with several suggestions that the applicants should also have the opportunity to interact with the existing CDT students informally as part of the recruitment process. This enables the applicant to have a rounded view of the CDT environment. Approaches such as conducting all initial interviews by skype to reduce the bias between virtual and in-person interviews and double blind shortlisting were mentioned by directors.

Having diverse role models, within the student, staff and project partner populations helps both current CDT cohorts and potential applicants feel more represented within the CDT and makes non-conventional pathways or support provisions seem more accessible. The benefits of role models was widely discussed, as having role models helps foster a culture of allies and broadens peoples’ support networks. This could be done via people internal to the CDT or by bringing in people to present at seminars, participate at events etc. Mentoring of students was also mentioned as a way to widen their contact group.

Having clear and accessible policies was mentioned. It is critical that the students are aware of where they can go to access support when required and that no stigma is attached to this process. Having a supportive environment can be aided by providing training to all staff and students to make them aware of unconscious bias and understand ED&I challenges within their community, the development of a code of conduct, and listening to the students feedback. The types of additional support CDTs offer included:

- Childcare stipends for conference attendance
- Remote learning facilities
- Mental health support
- Online portals for both training and pastoral support

Cohort building and maintenance are critical aspects of CDTs. Significant effort is needed to ensure that the provision of additional activities and training is inclusive. One aspect of this is careful thinking of the purpose of the events, whether they are compulsory, the timings, and how they could be accessed. Including the students in the design of events may aid inclusivity. The amount of adjustment that needs to be made will depend on the need of the attendees, how mandatory the event is, and whether the students could receive an equivalent experience through other activities that are occurring. If participation is mandatory, the Centre must ensure that activity is designed, located, and students supported appropriately so that they are able to attend and participate fully. A suitable approach would include a variety of activities with different designs and locations to enable students to participate in as many activities as suitable.
There are many practices which can help enable inclusivity and participation at events, such as requesting information on required adjustments and treating them confidentiality, providing advanced notice of what will be discussed, or providing anonymous ways of asking questions.

**Beyond your CDT, what can you do to contribute to creating a more inclusive community?**

The participants recognised that CDTs should act as a beacon for EDI. The CDTs should be involved with their organisations on the topic of EDI and share their practices more widely. The CDTs have a platform to disseminate the outcomes of any actions or policies to improve inclusivity and should be ready to help implement solutions more widely. There was recognition that Industry is also addressing EDI and there is a benefit to the CDTs discussing the topic with project partners. This allows the two-way flow of information and practices.

CDTs also have a role to promote and advocate for research in general as well as their specific research field/s. This can be done via a variety of activities and for a range of audiences. CDTs should try and reach a wide audience, and search out those groups who are not typically engaged with higher education or areas of research (such as STEM). There should also be a consideration of how inclusive the engagement activities are and how the audiences will relate to the people delivering the engagement.

**Conclusions**

Equality, Diversity & Inclusion is recognised as being an important topic for all research activities but especially those that are training the next generation. In order to create an inclusive environment, EDI needs to be embedded in every aspect of the CDT. However, due to the variation of CDT formations and communities, there is no ‘magic solution’. There needs to be an honest appraisal of all the CDT activities and a flexible approach to modifying them to provide the support required.

UKRI is committed to supporting the students it funds and provides comprehensive guidance on the support available in the [training grant terms and conditions](#). If you have any queries please contact cdt@epsrc.ukri.org
Responsible Research and Innovation

The call for CDTs included a requirement to integrate responsible research and innovation (RRI). More specifically RRI was requested to be considered at the following levels:

- Student projects
  - Project design
  - Pathways to impact for research
- Centre level
  - Project design and choice
  - Pathways to Impact
  - Student awareness of sector, industry, and user environments

The workshop session was introduced by an excellent talk from Professor Bernd Stahl of ORBIT. He provided an overview of what RRI means for researchers. Professor Stahl also provided several examples of RRI in practice to promote discussion and provided ORBITs outlook on the challenges facing CDTs as they integrated RRI into the CDT.

Participants were asked the following questions:

1. How could RI become part of the CDT fabric?
2. Where could you get support for other RI activities beyond student training?

The raw outputs of the event are available in Annex 4. The following is a summary of the comments provided by the participants.

How could RI become part of the CDT fabric?
Workshop participants suggested a range of ways in which RRI can be integrated into CDTs. They underlined the importance of clarifying the benefits of RRI for CDT staff, students and external partners. If benefits are understood, students will need to be trained. Training should also be available for supervisors and CDT directors. This can be done through bespoke training but also learning on the job.

RRI can be integrated into the CDTs by emphasising it in the broader training programme of the CDT. Suggestions include cohort projects, workshops, presentations by or to CDT students, but also outreach to other disciplines including arts, humanities, and social sciences. A number of methods of integrating RRI were discussed, including co-creation of research questions, group design projects, the incorporation of RRI into project assessment or debates on pertinent topics. It was pointed out by several groups that close collaboration between supervisors and students will be crucial to the success of this work.

A number of suggestions were made about integrating RRI into the student lifecycle and progression procedures. These include the integration of RRI as a criterion of doctoral project approval or (annual) review, inclusion of RI into training requirements and the overall CDT training programme.

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1 This section was authored by Professor Bernd Stahl and Dr Margherita Nulli, from ORBIT on behalf of EPSRC.
Specific suggestions include asking students to prepare a short video on RI in their project or bringing back CDT alumni to present on RI in their work.

These ways of integrating RRI into the student journey should be supported by appropriate organisational structures and management procedures in the CDT. Examples of such procedures include simple measures, such as adding RI as a standard item on the standing agenda of management meetings, more resource intensive measures such as the provision of organisational training or the appointment of a CDT co-director responsible for RRI. Capacity building of RRI may start with external training but should be integrated into the CDT and the host institution. It may include the appointment of experts on advisory boards and the selection of commercial partners accordingly. There might be an RI researcher in residence within a single CDT or across CDTs. Longer term strategies might include a multi-year RI action plan, similar to ED&I. This would require the development of standards and measures which would be applied to the CDT, but possibly also partner organisations. One key aspect of these activities would be stakeholder engagement which CDTs already undertake, but which could be strengthened and extended to include more stakeholders, including the general public.

Workshop participants noted that it will be important to make RRI relevant to students and supervisors. This could be helped by the provision of case studies which are specific to their subjects and show how to deal with contentious issues. Research into RRI might help and could contribute to the development of ways of assessing and measuring RRI. They pointed out that the broader environment beyond the CDTs will also need to be considered. RRI should be on the agenda of the host universities, and universities have resources to contribute, including experts in other disciplines. Funders can support these activities through funding, but also through procedures, such as the inclusion of RRI outputs into Research Fish.

Where could you get support for other RI activities beyond student training?
In order to develop capacity and expertise, a key resource identified by the participants was other CDTs. Recognising that expertise is spread across CDTs, participants suggested the formation of CDT clusters to undertake training, pairing up and partnering or having specific conferences. External partners, notably industry were seen as potentially having relevant expertise that CDTs can draw on. Stakeholder outreach to relevant groups was seen as a way to understand societal viewpoints, e.g. by engaging with civil society organisations such as patient groups, Age UK and others.

There are specialised organisations that provide RRI training and services (e.g. ORBIT, Terrain). Many universities have relevant expertise in house, notably in other departments and faculties.

Further external sources of expertise would include professional bodies and direct contact with policymakers. Generally, CDTs are well connected with various groups of stakeholders and many of these may have RRI-related knowledge which could be included in CDTs through provision of training, inclusion in advisory boards and CDT governance structures.

Conclusions
CDTs have shown significant creativity in finding ways to integrate RRI into their work. The workshop discussion showed numerous ways of integrating RI into student training and the structure of CDTs. The level of awareness and the degree of engagement differs between CDTs. Centre directors are aware of a number of sources of RRI knowledge and expertise within their institutions and their networks. At this point there is no consensus or established method of how to draw on these resources and integrate RRI into the CDTs.
In order to ensure that EPSRC’s aim to establish RRI as “business as usual” is successful, the ideas and approaches of the different CDTs need to be shared and evaluated. The CDTs need to find ways to develop and exchange good practice. EPSRC encourages the CDTs to participate in this activity and will consider how it can best support this exchange. EPSRC will also continue to monitor how CDTs provide training related to RRI and engage with CDTs on the topic.
Working with Other CDTs

The topic of working with others was covered during two sessions over the course of the day. The topic was introduced by a talk from Dr Karen Coopman, Loughborough University, titled “11 years on ... lessons learnt. CDT in Regenerative Medicine”. The talk covered Professor Coopman’s experience of running a CDT since 2008 and the lessons she would pass on to other CDT management teams. Within the wider community there is a wealth of experience on running CDTs and the directors were encouraged to work collaboratively with each other and the directors of previous CDTs.

The initial facilitated session was an information mining exercise asking:

- What would you like to learn from other CDTs?
- Is there anything you can share that would help other CDTs?

The topics were prioritised by the participants over the breaks and the highly prioritised and most common topics were then discussed in more detail in a marketplace exercise later in the afternoon.

The full list of topics raised in the initial session can be found in Annex 5.

The topics discussed in more detail were:

- Multisite CDTs
- Engaging with SMEs
- Allocating student projects
- Attracting applicants
- Keeping supervisors engaged

The participants were encouraged to ask each other questions and to provide solutions or advice where they had experience.

Outputs of the session

In order to allow a continued discussion of the topics, the outputs of this session have been reported in a fairly raw format. Where possible, problems and solutions have been aligned. However there may be alternative solutions to many of the problems and many of the solutions would solve a variety of problems.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solutions</th>
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<tbody>
<tr>
<td>Engaging with SME's</td>
<td>The lifetime of a CDT can be longer than that of an SME</td>
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<td>Customised IP agreements; Science led agreement between the CDT and company, then involve lawyers</td>
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<td>SME's have insecure funding</td>
<td>Consider how to manage the risk; Have several funders as partners</td>
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<td>IP agreement timescale is too long</td>
<td>Have several partnerships in pipeline</td>
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<td>Should you have a general agreement with CDT on specific project?</td>
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<td>Allocating Projects</td>
<td>What would good practice for allocation look like</td>
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<td>Students don’t pick the industrially funded projects</td>
<td>Have students co-develop projects with partners and supervisors in 1st year</td>
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<tr>
<td>Some supervisors are better at attracting industry funding so end up with more students. Can this be balanced?</td>
<td>Research themes - pick 8 supervisors with contacts and projects in mind but with room to expand</td>
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<td>How do you avoid islands of funding?</td>
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<td>If the projects are pre-planned how do you make sure all supervisors get a student?</td>
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<td>What do you do if a supervisor never gets picked?</td>
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<tr>
<td>Students get very invested in ideas that are not suitable for a doctoral project</td>
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<tr>
<th>Keeping Supervisors Engaged</th>
<th>Make the expectations of the supervisors clear at the outset</th>
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<td></td>
<td>Opportunities for supervisors to network with other CDT supervisors; Industry</td>
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<td></td>
<td>Get supervisors involved in the induction day, public engagement, industry day, journal club, board meetings</td>
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<td>Multi-Site CDTs</td>
<td>10% rule over multiple institutions</td>
<td>EPSRC to provide guidance</td>
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<td>Different organisations have different cultures</td>
<td>Cohort events to build a strong CDT identity e.g. writing retreat, cross cohort events, science festivals, student organised event, student society</td>
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<td>CDT identity provides clarity for the students</td>
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<td>Good administration - takes time to build up but is vital</td>
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<td></td>
<td>Involve university administrative staff in bids and continuously throughout life of CDT</td>
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<td>Robust governance with monthly management meetings and use of video conference</td>
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<tr>
<td>Application process needs to be simple for students and for registering modules</td>
<td>Good Administration</td>
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<td>Level of engagement of partner sites</td>
<td>All institutions should have a lead for activities</td>
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<td>Activities should occur at all institutions</td>
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<td>Variety of term dates</td>
<td>Forward planning</td>
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<td>Co-ordinated start dates</td>
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<td>Contracts and collaboration agreements</td>
<td>Precedents for collaboration agreements to be shared</td>
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<td>Different progression rules</td>
<td>Jointly awarded degree</td>
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<td>Joint appointment</td>
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<td>What to do if a student moves institution</td>
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<tr>
<td>Attracting Applicants</td>
<td>Proportion of UK to EU/Overseas applicants</td>
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<td>Applicant diversity</td>
<td>Advertising targeted not just at 'top' universities - impacts EDI</td>
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<td>Check the language of adverts</td>
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Conclusions

There are many similarities in the challenges faced by CDTs regardless of discipline or composition. However while the solutions are often varied and highly tailored to the individual CDT, there is a clear benefit of sharing potential options with a frank discussion of how to tailor and implement solutions. The solutions often lie in rigorous and well considered management and administration. There is an in-depth knowledge base in the research and administrative staff who have been involved in previous CDTs and this resource should not be underestimated.

In order to aid continued learning between CDT management teams there was a significant conversation regarding a CDT network. EPSRC highly encourages the self-organisation of inclusive networks, whether they are topically or geographically orientated. EPSRC can aid in advertisement of said networks, and provide information or attend occasional meetings but is not able to arrange these.

An additional conversation was held around networking the CDT administrative staff. There was some indication that such a network may already exist. If anyone is aware of such a network, please could they contact EPSRC (email students@epsrc.ukri.org). EPSRC is willing to provide support to update or expand an existing network rather than duplicate existing mechanisms.

EPSRC will be engaging with CDT management teams to develop examples of current practice around topics of Advisory Boards, cohort building and maintenance, industry engagement and EDI, to share with the CDT management teams in the near future.
Annex 1: Agenda
CDT Directors Meeting 2019
The Pavilion Suite, Hilton Birmingham Metropole Hotel, National Exhibition Centre, Birmingham, West Midlands, B40 1PP
25 June 2019

08:45 – 09:15  Registration for Research Office representatives - Tea and coffee available
09:15 – 10:15  Session for Research Office representatives
10:00 – 10:30  Registration for CDT representatives – Tea and coffee available
10:30 – 1045   Welcome address
10:45 – 11:50  Session 1 – Working with other CDTs
11:50 – 12:00  Refreshment break
12:00 – 13:00  Session 2 – Equality, Diversity and Inclusion
13:00 – 13:45  Networking Lunch
13:45 – 14:45  Session 3 – Responsible Research and Innovation
14:45 – 15:00  Refreshment Break
15:00 – 15:45  Session 4 – Sharing with, and learning from other CDTs
15:45 – 16:00  Closing remarks
Annex 2: Presentations
Setting up the CDTs – Key aspects, T&Cs and reporting
Chris Turner, Joint Head of Building Leadership
25 June 2019
Centres for Doctoral Training are one of the main routes for doctoral training funding at EPSRC (about 45% of the total). CDTs focus on cohort training in areas of national need.

The EPSRC CDT call was launched in January 2018. An additional cross-UKRI CDTs strand was added in February 2018.

Outlines were considered in April/May 2018. Those successful proposals (198 + 37) were submitted in July, peer reviewed over the summer and interviewed in November 2018.
Quick recap – outcomes of the 2018 exercise

- 91 centres funded, 75 from EPSRC funding baseline, additional 16 from additional UKRI investment in AI

- UKRI investment of £547M
  - Together with leverage from partners (£609m) the 2018 CDT exercise is almost £1.2bn investment

- 60 Higher Education Institutions involved
What is different?
Additional aspects compared to 2013

- Training in Responsible Innovation provided to all students
- Centres are expected to act as beacons for equality, diversity and inclusion
- Additional investment from SFI and the UKRI Artificial Intelligence CDT
What is different?
Additions to previous T&Cs

A number of grant conditions added to the previous 2013 ones to shed light on recurrent issues and ensure students’ enhanced experience

- GAC 01 Call Conditions
- GAC 02 Progression including Masters Courses
- GAC 03 Naming and Branding
- GAC 04 Involvement of the UKRI Council(s)
- GAC 05 Monitoring Progress and Dissemination
- GAC 06 Collaboration Agreements
- GAC 07 Part-time Students
- GAC 08 UKRI, Incorporated and Aligned students
- GAC 09 International Students
- GAC 10 Students Complaints

In addition to the specific call conditions, UKRI Training Grant Terms and Conditions apply
What is different?
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(GAC 01) Institutions have underwritten the cost of a number of students – at least 10 students’ four-year fees (which includes tuition and RTSG), and 10 students’ four-year stipend

(GAC 02) Students must be informed of any requirements to progress throughout the studentship at the outset. There shouldn’t be an unpaid ‘write up’ period

(GAC 07, 08) Clarification (and simplification) on the UKRI, Incorporated and Aligned students, as well as specifying on expectations around part-time students and international students

(GAC 09) Clarification on a common query. There are no changes to the eligibility of international students

(GAC 10) Has been added to reassure students in their right to raise concerns and complain
All CDTs are expected to report on the following:

<table>
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<tr>
<th>Reporting</th>
<th>Frequency</th>
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<tr>
<td><strong>Annual Training grant reporting</strong></td>
<td>Annually&lt;br&gt; We will expect the first report to be submitted by the end of September 2020, then annually after that. The relevant form will be shared with the CDTs least 10 weeks prior to the submission deadline.&lt;br&gt;Will include financial monitoring (unlike previous years)</td>
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<td><strong>Student data</strong></td>
<td>Annually – within 30 days of the student commencing their programme.&lt;br&gt;(The record should also be updated as soon as possible after any change to the studentship e.g. extension to funding end date, change to part-time study etc.)</td>
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<tr>
<td><strong>Evaluation</strong></td>
<td>Once, expected 2021</td>
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<tr>
<td><strong>Research outcomes and outputs</strong></td>
<td>Annually</td>
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<td><strong>Final Expenditure Statement</strong></td>
<td>Once, at the end of the grant</td>
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Delivering a successful CDT

- Maintain a healthy, **independent** advisory board
  - Must have members who are independent of both the HEIs and the Project Partners

- Keep project partners engaged

- Centres are expected to evolve
  - Respond to changes in the landscape
  - Cover existing gaps in training
  - Implement best practice

- EPSRC is here to help
  - Project Officers/ Portfolio Manager are your first contact
  - The Building Leadership team provides central management to the scheme
    cdt@epsrc.ukri.org
Can costs be incurred prior to the Offer letter start date?
Yes, as per TGC 7 (the grant conditions are attached to the offer letter and can be also found here) “Expenditure may be incurred prior to the start of the Training Grant and subsequently charged to the Training Grant, provided that it does not precede the date of the offer letter”.

When does the Start Confirmation have to be submitted?
Within a month of the fixed start date, as started in the offer document.

An email was sent to all CDT Directors on 12 April 2019 to clarify that Training Grant Condition 7 (TGC 7) should read “The Start Confirmation must be submitted within one month of the fixed start date”, not within one month of a student starting, as these do not match for all CDTs starting between 1 April 2019 and before September/October 2019.

Why do authorised funds not match that requested in the proposal?
- To remove ineligible costs e.g. supervision costs (call document advised these were not eligible)
- To ensure RTSG and Centre Delivery Costs were captured in the same way for all CDTs – some movement between ‘Fees’ and ‘Other’ funding headings
- To reconcile JoR, Cost Table, and Je-S form where there were discrepancies
- Indexation was added to studentships costs
Why does the number of students in the offer letter not match the Je-S form?

- Studentships costs are stipend, fee and RTSG.
- The number of students in the offer letter is based on the number of students who can be supported at 100% cost from the EPSRC grant.
- If you have asked EPSRC to support the stipend and fee of 40 students, you can do this but this isn’t 100% of the cost so the number of the offer letter will be smaller.

Why are we being asked to underwrite more students than we expected?

- 100% of the studentships costs for 50 students need to be guaranteed between UKRI and the HEIs. What hasn’t been sought from UKRI must be underwritten by the universities.
- In the above example, the RTSG for the 40 students (plus 100% of costs for 10 students) will have to be underwritten.
FAQs – Recruitment

- **What's EU and overseas student eligibility for the CDT?**
  Eligibility is based on residency NOT nationality. Any student meeting the residency eligibility, regardless of nationality, may receive a full award. It is for the university to determine a student’s residency. Where a student does not meet the residency eligibility, there are a couple of options:
  - Up to 10% allowance for students that do not meet the residency eligibility criteria across EPSRC training grants awarded to an institution
  - Fees only awards (for EU-national students)
  - Aligned Students

- **What is the minimum cohort size?**
  UKRI AI CDTs - We generally expect cohorts to be minimum of 10 students, which would be an even distribution of students.
  EPSRC CDTs – due to the ramping in EPSRC payments it is permissible to have a min 8 students for cohort 1, rising to 12 in cohort 5. If CDTs want (and are able) to offset EPSRC support to fund more in earlier years and even out numbers, they can.

- **What happens if the centre under recruits?**
  No extensions to the grants are anticipated on the basis of previous years’ under recruitment. CDTs should actively manage CDTs to level out any under-recruitment in earlier cohorts by the start of cohort 5. UKRI will not provide top-up funding to support higher studentships costs in the event of late recruitment. These will need to be found from within the existing funding envelope or elsewhere
What can be expected from the mid-term review?
CDTs can expect some form of evaluation around the mid-term (likely after cohort 3 starts – late 2021 or early 2022). The process through which this will take place, as well as the aspects that the Centres will be asked to report, will be developed within the next 2 years and in consultation with the CDT Directors.

What does it mean that funds can be exchanged between headings?
Funds can be vired across fund headings of training grants to help you manage budgets to the benefit of the Centre. For example, funds originally assigned to the ‘Fee’ heading can be used to cover ‘Stipend’ if this is done in the best interest of the Centre. This virement does not require permission from UKRI (see TGC 5).
CDT Directors Meeting

Chris Turner, Joint Head of Building Leadership
25 June 2019
Welcome – CDT Directors Meeting
Alison Wall, Deputy Director, Research Base
25 June 2019
UKRI mission and objectives

To work with partners to ensure that world-leading research and innovation continues to flourish in the UK to:

- Push the frontiers of human knowledge and understanding
- Deliver economic impact
- Create social and cultural impact by supporting society to become enriched, healthier, more resilient and sustainable
UKRI research impacts all aspects of daily life

- Driverless cars
- Historic buildings
- Sports technology
- Music and art
- Defence and security
- Healthcare
- Infrastructure
- Auto sector
- Clean energy
- Energy networks
- Finance
- Care for the elderly
EPSRC’s Vision (Delivery Plan 2019)

- To make the UK recognised as the place where the most creative researchers can deliver world-leading engineering and physical sciences research.

- To work within the research ecosystem of UKRI, the R&D base within business, SMEs, government departments, charitable organisations and international partnerships to identify and tackle new research challenges and deliver societal and economic impact from our research base.

- To build on our strong working partnerships with business to play a leading role within UKRI, particularly working in partnership with IUK, in delivering economic prosperity to the UK (and hence the government’s target of 2.4% of GDP invested in R&D by 2027).
The Priority Framework

**Delivering economic impact and social prosperity**
- Productive: Catalysing growth
- Connected: Enhancing future digital technologies
- Healthy: Transforming healthcare
- Resilient: Ensuring adaptable solutions

**Realising the potential of engineering and physical sciences research**
- Promoting excellence in research
- Realising excellence in people
- Connecting the research landscape to accelerate impact
- Enhancing business engagement

**Enabling the engineering and physical sciences to deliver**
- Managing our portfolio and priorities
- Future-proofing state-of-the-art research infrastructure
- Accessing talent through equality, diversity and inclusion
- Inspiring, informing, and interacting with the public

**Discovery Research in Engineering and Physical Sciences**
Objective 1: Delivering economic impact and social prosperity

To generate economic impact and social prosperity by exploiting our existing and future research base to deliver a productive, connected, healthy and resilient nation.
Objective 2: Realising the potential of physical sciences research

To unlock the potential of EPS research by stimulating and challenging the research community to open up new areas of science; supporting talented people; and strengthening engagement with users and business.
Excellence in people

Realising excellence in people
we will train a diverse population of researchers who can work effectively across business and academia

Investing in Doctoral Training
Improving Data and Analysis
Mobility
Investing in Doctoral Training

Centres for Doctoral Training

Doctoral Training Partnerships

Industrial CASE

Typical EPSRC Students

36% academia

43% business/public services

21% other sectors

50,000 doctoral students supported over the last 25 years
CDTs provide a **cohort approach to training** and include technical and transferrable skills training, as well as a research element.

Important vehicles for addressing **emerging and multidisciplinary** challenges.

Many CDTs facilitate **work across disciplinary boundaries**, bringing together different viewpoints and expertise.

On average, between 920-1430 students are trained per year in EPSRC CDTs.
New Centres for Doctoral Training

- 91 new centres
- £547 million investment
- Over 5,000 students to be trained
- Covering a wide range of disciplines
- High quality of applications and demand for CDT funding


- Science Foundation Ireland (SFI) funding 7 cohorts based in the Republic of Ireland (£39 million). SFI-funded students will work closely with EPSRC CDTs

5,000+ the number of students that will be trained in the Centres
75+16 total number of new CDTs funded
50 total number of universities involved in funded Centres
As with many of our major investments, **partnership** has an important role, with **all** CDTs having project partners.

Delivering a workforce trained in the skills to deliver economic, social and cultural prosperity.
EPSRC is committed to embedding Equality, Diversity and Inclusion in all our activities and ensure that change is driven in the community. We expect that CDTs will act as a beacon for EDI in the community.

EPSRC aims to promote Responsible Research and Innovation considerations within our communities and for all our investments. We expect that Centres will consider RI implications beyond the training provided to students.
Cardiff University  
• EPSRC Centre for Doctoral Training in Compound Semiconductor Manufacturing  
• EPSRC Centre for Doctoral Training in Water Infrastructure and Resilience
Durham University  
• EPSRC Centre for Doctoral Training in Soft Matter for Formulation and Industrial Innovation (SF2I)
Heriot-Watt University  
• EPSRC Centre for Doctoral Training in Robotics and Autonomous Systems (CDTRAS)
• EPSRC Centre for Doctoral Training in Industry-Inspired Photonic Imaging, Sensing and Analysis
Imperial College London  
• EPSRC Centre for Doctoral Training in Modern Statistics and Statistical Machine Learning  
• EPSRC and SFI Centre for Doctoral Training in the Advanced Characterisation of Materials (CDT-ACM)
• EPSRC Centre for Doctoral Training in BioDesign Engineering
• EPSRC Centre for Doctoral Training in Next Generation Synthesis & Reaction Technology  
• EPSRC Centre for Doctoral Training in Chemical Biology - Innovation for the Life Sciences
• EPSRC Centre for Doctoral Training in Nuclear Energy Futures  
• UKRI Centre for Doctoral Training in Artificial Intelligence for Healthcare
King’s College London  
• EPSRC Centre for Doctoral Training in Smart Medical Imaging at King’s College London and Imperial College London
• UKRI Centre for Doctoral Training in Safe and Trusted Artificial Intelligence
Lancaster University  
• EPSRC Centre for Doctoral Training in Statistics and Operational Research in Partnership with Industry (STOR-i)
Newcastle University  
• EPSRC Centre for Doctoral Training in Geospatial Systems
• EPSRC Centre for Doctoral Training in Molecular Sciences for Medicine  
• EPSRC Centre for Doctoral Training in Power Electronics for Sustainable Electric Propulsion (PEEP)
Northumbria University  
• EPSRC Centre for Doctoral Training in Renewable Energy North East Universities (ReNU)
Queen’s University Belfast  
• EPSRC and SFI Centre for Doctoral Training in Computational Integration and Advanced Data Storage
Queen Mary University of London  
• UKRI Centre for Doctoral Training in Artificial Intelligence and Big Data
Royal Holloway, Univ of London  
• EPSRC Centre for Doctoral Training in Cyber Security for the Everyday Swarmanauts
• EPSRC Centre for Doctoral Training in Enhancing Human Interactions and Collaborations with Data and Intelligence Driven Systems  
• EPSRC Centre for Doctoral Training in Functional Industrial Coatings
• UKRI Centre for Doctoral Training in Artificial Intelligence, Machine Learning and Advanced Computing
The University of Manchester  
• EPSRC Centre for Doctoral Training in Advanced Biomedical Materials
• EPSRC Centre for Doctoral Training in Catalysed Conversion of Large Petrochemicals into High-Value Chemicals
• EPSRC Centre for Doctoral Training in Statistical Applied Mathematics at Bath
• EPSRC Centre for Doctoral Training in Advanced Automotive Propulsion Systems
• UKRI Centre for Doctoral Training in Adaptable, Resilient and Transparent AI
University of Bath  
• EPSRC Centre for Doctoral Training in Electronic and Photonic Materials
• EPSRC Centre for Doctoral Training in Topological Design
• EPSRC Centre for Doctoral Training in Formulation Engineering: Sustainable Structured Products
University of Bristol  
• EPSRC Centre for Doctoral Training in Future Autonomous Robotic Systems (FARSCOPETU: Towards Ubiquity)
• EPSRC Centre for Doctoral Training in Trust, Identity, Privacy and Security in Large-scale Infrastructures (TIPS-at-Scale)
• EPSRC Centre for Doctoral Training in Computational Statistics and Data Science: COMPASS
• EPSRC Centre for Doctoral Training in Quantum Engineering
• EPSRC Centre for Doctoral Training in Composites Science, Engineering and Manufacturing
• EPSRC Centre for Doctoral Training in Technology Enhanced Chemical Synthesis
• Centre for Doctoral Training in Aerosol Science  
• Centre for Doctoral Training in Digital Health and Care
• EPSRC Centre for Doctoral Training in Future Innovation in Non-Destructive evaluation (FINO)
• UKRI Centre for Doctoral Training in Integrated Functional Nano (i4Nano)  
• EPSRC Centre for Doctoral Training in Automated Chemical Synthesis Enabled by Digital Molecular Technologies
• EPSRC Centre for Doctoral Training in Sensor Technologies for a Healthy and Sustainable Future
• EPSRC Centre for Doctoral Training in Future Infrastructure and Built Environment: Resilience in the Digital Grid (FIBER)
• UKRI Centre for Doctoral Training in Application of Artificial Intelligence to the study of Environmental Risks (AI4ER)
University College London  
• EPSRC Centre for Doctoral Training in Connected Electronic and Photonic Systems (CEPS)
• EPSRC Centre for Doctoral Training in Cybersecurity
• EPSRC Centre for Doctoral Training in Geometry and Number Theory at the Interface: London School of Geometry and Number Theory
• EPSRC Centre for Doctoral Training in Delivering Quantum Technologies
• EPSRC Centre for Doctoral Training in Bioprocess Engineering Leadership (Complex Biological Products Manufacturing)
• EPSRC Centre for Doctoral Training in Intelligent, Integrated Imaging in Healthcare (i4health)
• EPSRC and SFI Centre for Doctoral Training in Energy Resilience and the Built Environment
• UKRI Centre for Doctoral Training in Foundational Artificial Intelligence
• UKRI Centre for Doctoral Training in Ablated healthcare systems
University of Edinburgh  
• EPSRC Centre for Doctoral Training in Mathematical Modelling, Analysis and Computation (M/MAC-Ed)
• EPSRC and NERC Centre for Doctoral Training in Offshore Renewable Energy (ICODERe)
• UKRI Centre for Doctoral Training in Natural Language Processing
• UKRI Centre for Doctoral Training in Biomedical Artificial Intelligence
University of Exeter  
• UKRI Centre for Doctoral Training in Environmental Intelligence: Data Science & AI for Sustainable Futures
University of Glasgow  
• EPSRC and SFI Centre for Doctoral Training in Engineered Tissues for Discovery, Industry and Medicine
• EPSRC Centre for Doctoral Training in Future Ultrasonic Engineering
• UKRI Centre for Doctoral Training in Socially Intelligent Artificial Agents (SOCIAL)
University of Hull  
• EPSRC and NERC Centre for Doctoral Training in Offshore Wind Energy and the Environment
University of Leeds  
• EPSRC Centre for Doctoral Training in Fluid Dynamics at Leeds
• EPSRC Centre for Doctoral Training in Molecules to Product
• EPSRC Centre for Doctoral Training in Water and Waste Infrastructure Systems Engineered for Resilience (Water-WISER)
• UKRI Centre for Doctoral Training in Artificial Intelligence for Medical Diagnosis and Care
University of Lincoln  
• EPSRC Centre for Doctoral Training in Agri-Food Robotics: Agri-FoodFactory
University of Liverpool  
• EPSRC Centre for Doctoral Training in Distributed Algorithms: the what, how and where of next-generation data science
• EPSRC Centre for Doctoral Training in Engineering Cybersecurity
• EPSRC Centre for Doctoral Training in Horizon: Creating Our Lives in Data
• EPSRC and SFI Centre for Doctoral Training in Sustainable Chemistry: Age-2-Products and an Integrated Approach to Sustainable Chemistry
• EPSRC and SFI Centre for Doctoral Training in Transformative Pharmaceutical Technologies
• EPSRC Centre for Doctoral Training in Resilient Decarbonised Fuel Energy Systems
• EPSRC Centre for Doctoral Training in Sustainable Hydrogen - SUsHy
University of Oxford  
• EPSRC Centre for Doctoral Training in Autonomous Intelligent Machines and Systems
• EPSRC Centre for Doctoral Training in Health Data Science
• EPSRC Centre for Doctoral Training in Mathematics of Random Systems: Analysis, Modelling and Simulation
• EPSRC Centre for Doctoral Training in Sustainable Approaches to Biomedical Science: Responsible and Reproducible Research – SABS-R3
• EPSRC Centre for Doctoral Training in Organic Chemistry for Future Manufacturing (OCxCFM)
University of Salford  
• EPSRC Centre for Doctoral Training in Prosthetics & Orthotics
University of Sheffield  
• EPSRC and SFI Centre for Doctoral Training in Advanced Metallic Systems: Metallurgical Challenges for the Digital Manufacturing Environment
• UKRI Centre for Doctoral Training in Speech and Language Technologies and their Applications
University of Southampton  
• UKRI Centre for Doctoral Training in Machine Intelligence for Nano- electronic Devices and Systems
University of Strathclyde  
• EPSRC Centre for Doctoral Training in Wind and Marine Energy Systems and Structures
University of Warwick  
• EPSRC Centre for Doctoral Training in Mathematics for Real-World Systems II
• EPSRC Centre for Doctoral Training in Modelling of Heterogeneous Manufacturing Systems
University of York  
• EPSRC Centre for Doctoral Training in Intelligent Games and Game Intelligence (i4GI)
11 years on...lessons learnt

CDT in Regenerative Medicine

Director: Dr Karen Coopman
Who are we?

The CDT aims to equip post-graduate researchers with the tools and skills needed to translate the potential of cell or tissue based therapies from bench to bedside.

- Started in 2008
- Partnership of 3 Universities
- Funding to train >110 PhD students (EPSRC / MRC / Universities)
How do we run?

Teambuilding weekend:
“it’s like 3 months of getting to know someone in 3 days”

Teaching: 1 + 3 model
• Mix of CDT only & other courses, CDP style events
• Peer – peer
• Secondments

Known points of contact:
• Ops managers + a central administrator

Events:
• Local + multi-CDT
The results of a cohort based approach…

collaborative engineers and scientists

Who:
• have experience of working in an interdisciplinary or multidisciplinary environment
• have the tools and confidence to communicate in a highly interdisciplinary fashion (including across academia, industry and the clinic)
• have knowledge of academic, industrial and clinical drivers
What do I enjoy about being a CDT Director?

Friday 15 April 2011

School of Medicine, Keele University
Staffordshire, ST5 5BG

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room</th>
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<tr>
<td>9:00</td>
<td>Registration</td>
<td>School of Medicine Reception</td>
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<tr>
<td>9:30 – 09:45</td>
<td>Alex Lomas</td>
<td>Primary Care Lecture Theatre</td>
</tr>
<tr>
<td>09:45-10:00</td>
<td>Tom Chippendale</td>
<td>Primary Care Lecture Theatre</td>
</tr>
<tr>
<td>10:00-10:15</td>
<td>Andrea Htns</td>
<td>Primary Care Lecture Theatre</td>
</tr>
<tr>
<td>10:15-10:30</td>
<td>Giles Kirby</td>
<td>Primary Care Lecture Theatre</td>
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<tr>
<td>10:30-11:00</td>
<td>Refreshments</td>
<td>School of Medicine Foyer</td>
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<tr>
<td>11:00-11:15</td>
<td>Laura Sidway</td>
<td>Primary Care Lecture Theatre</td>
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<tr>
<td>11:15-11:30</td>
<td>Clasim Rafiq</td>
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<tr>
<td>11:30-11:45</td>
<td>Sammy Wilson</td>
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<tr>
<td>11:45-12:00</td>
<td>Toby Gould</td>
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<tr>
<td></td>
<td>Prof Alicja El Haji</td>
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<td>12:10-12:20</td>
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<td>Prof Chris Hewitt</td>
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<td>Dr Lee Bottomy</td>
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<td>13:30-14:30</td>
<td>Poster Presentations by DTC 2 Students</td>
<td>Room G79, Primary Care</td>
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<td>14:30-15:00</td>
<td>Refreshments</td>
<td>School of Medicine Foyer</td>
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<tr>
<td>15:00-15:30</td>
<td>Poster Presentations by DTC 3 Students</td>
<td>Room G79, Primary Care</td>
</tr>
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<td>15:30-16:00</td>
<td>Closing Statement</td>
<td>Primary Care Lecture Theatre</td>
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<tr>
<td></td>
<td>Prof Alicja El Haji</td>
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</tbody>
</table>

www.dtcregen-med.com
Lessons learnt...Students

- Cohort building is key - but needs to be inclusive
- Student issues are on the rise (financial, mental health)
- Every cohort is different – use existing cohorts for a ‘reality check’
- PhD project selection is challenging – allocation up front is worth considering
- Interview process is key – PhD vs. CDT PhD?
- Mix of disciplines that apply not always what you expect or hope for
Lessons learnt…Other

• Supervisors – PhD vs CDT PhD…
• Be flexible - you will need to evolve
• Administrator/Manager holds it all together
  • Especially if multi-institution
• You will have to repeat yourself a lot to your central admin/graduate school – CDT is ‘different’ + staff turnover
• Talk to others – Directors, EPSRC, Steering Group
  • Your problems are not unique
  • Share best practice + events/training
  • Critical friends
ED&I at EPSRC – CDT Directors Meeting
Alison Wall, Deputy Director, Research Base
25 June 2019
### EPSRC’s population

<table>
<thead>
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<th>Category</th>
<th>Number</th>
<th>Description</th>
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<tr>
<td>18,400</td>
<td>An estimate of the engineering and physical sciences academic population in 2017/18</td>
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</tr>
<tr>
<td>6600</td>
<td>The number of individuals supported by EPSRC in 2017/18</td>
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</tr>
<tr>
<td>6350</td>
<td>The number of individuals applying to EPSRC during 2017/18</td>
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</tr>
<tr>
<td>2500</td>
<td>The number of individuals awarded funding by EPSRC during 2017/18</td>
<td></td>
</tr>
</tbody>
</table>

#### Data Sources:
- a) Data source: HESA
- b) Data source: EPSRC
- c) EPSRC data captured on 31/3/2018
Everyone has a right to be treated with dignity and respect, and to be provided with opportunities to flourish and succeed in a supportive environment. Diversity of ideas, experience and cultures produces and sustains the best results and performance.

7. Champion equality and diversity
Champion equality, diversity and inclusion across the research and innovation sector, and support a healthy and high-integrity culture.
UKRI activities

- Formed an **External Advisory Group** for Equality, Diversity and Inclusion (ED&I) to identify and prioritise areas to make the most progress on ED&I and improve outcomes in this area.

Commissioned three evidence reviews:

- Review of equality, diversity and inclusion (EDI): *challenges and interventions in the UK context* (Advance HE)

- Review of Equality, diversity and inclusion: *challenges and interventions in the International context* (Advance HE)

- **Bullying and Harassment** evidence review (The Global Institute for Women’s Leadership, King’s College London)
EPSRC Delivery Plan

Delivering economic impact and social prosperity

- **Productive**
  - Catalysing growth

- **Connected**
  - Enhancing future digital technologies

- **Healthy**
  - Transforming healthcare

- **Resilient**
  - Ensuring adaptable solutions

Realising the potential of engineering and physical sciences

- **#1**
  - Promoting excellence in research

- **Realising**
  - Excellence in people

- **Connecting**
  - The research landscape to accelerate impact

- **Enhancing**
  - Business engagement

Enabling the engineering and physical sciences to deliver

- **Managing our portfolio and priorities**

- **Future-proofing state-of-the-art research infrastructure**

- **Accessing talent through equality, diversity and inclusion**

- **Inspiring, informing, and interacting with the public**

**Discovery Research in Engineering and Physical Sciences**
Accessing talent through equality, diversity and inclusion

we will mobilise all available talent and embed equality, diversity and inclusion in everything we do
**Delivery Plan**

**Improve understanding**-to better comprehend complexities and assess possible interventions

**Implement or intervene**-to take action to try new interventions and continue to deliver existing ones

**Evaluate and share**- our activities to understand what works and contribute to changing practice and culture across the sector.

**Increase our ability to identify new areas**-to discover further challenges and opportunities
ED&I within CDTs

CDTs should
- act as a beacon for Equality, Diversity and Inclusion
- consider ED&I aspects in all layers of the CDT
- continuously evolve ED&I plans to adapt to new circumstances
- look for new approaches to accelerate cultural change within the CDT and wider community
- learn and share good practice
Responsible Innovation in CDTs

Bernd Carsten STAHL
RRI is a way to do research that takes a long-term perspective on the type of world in which we want to live.
RRI will strengthen research and innovation projects, making them more open, transparent, diverse, inclusive and adaptive to changes.
Responsible Innovation - The AREA framework

**Anticipate** – describing and analysing the impacts that might arise.

**Reflect** – reflecting on the purposes of, motivations for and potential implications of the research.

**Engage** – opening up such visions, impacts and questioning to broader deliberation, dialogue, engagement.

**Act** – using these processes to influence the direction and trajectory of the research and innovation process itself.
Examples

RRI as strategic risk management: SPICE
(Stratospheric Particle Injection for Climate Engineering)

RRI as a source of better understanding of customer needs and improved product development: AMBIACT

RRI as a different way of thinking about research problems in creative (and hopefully fun) ways
RI requirements in the CDT call

- Student projects
  - Project design
  - Pathways to impact for research
- Centre level
  - Project design and choice
  - Pathways to Impact
  - Student awareness of sector, industry, and user environments
Challenges for CDTs

- No agreed methodology/ies for RI
- Different levels of experience in different disciplines
- CDTs should train students but may not have expert staff
- Integration of RI in CDTs is new territory
- CDTs will be assessed against RI integration
Next steps

- CDTs need staff with sufficient expertise in RI → capacity building
- Methods / approaches will have to be developed in CDTs
- CDT governance needs to incorporate RI → new governance models
- Some aspects will be generic, some discipline specific
- Good practice standards require mutual learning among CDTs
- Good practice needs to be maintained by a community of practice
ORBIT’s contribution

We worked with ~ 50 proposals, leading to 19 successful CDTs.

- Basic introductory training: 1 day foundation course
- Advanced training: 3 day practitioner course
- Bespoke workshops (e.g. research ethics, integrity)
- New formats (e.g. RRI hackathons, other ideas?)
  - Free taster sessions, if there is interest

ORBIT has no monopoly on RRI.

ORBIT would like to help and support with:

- Establishing good practice across CDTs
- Building and maintaining an RRI community
## Annex 3: Equality, Diversity and Inclusion

### What would represent an inclusive environment within your CDT?

- Everyone’s voice is heard
- Open promotion on EDI v. upfront
- Wider academic experience of students import
- Wider proportion of BAME low socio-economic backgrounds
- Treat every student as an individual
- Degree outcome not an indication of research ability. Non-degree applicants
- Older applicants + young applicants supporting family
- Women as pioneers. Link in with other bodies
- **Socio-Economic Inclusivity** Scheme for support to students who may themselves be supporting family
- How to re-code gender data to fit reporting needs. University captures many non-binary categories that don’t fit other organisations
- Students with experience and qualification also link to part-time
- **Centre identity – people feel like they “belong”**
- No last minute changes – important for those with caring responsibilities
- Isolation and mental health
- **Gender/ethnicity/disability ratio comparable to “recruitment pool” (minimal target)**
- “hard + neutral” position
- Different academic backgrounds
- Give students skills and confidence
- Best CDTs are those that give most benefit to students
- Managing workload
- Activities that don’t exclude
- Staff and students to interact
- A focus on gender can cause an issue when considering other characteristics
- Applicant numbers → how do you make sure you have a good balance of protected characteristics
- Supporting students with different ways of thinking
- Economic (and social) background
- CDT delivery and activities are as inclusive as possible
- Students aware of the ED&I issues in discipline
- Appropriately balanced cohort, supervisors, etc.
- Removing obstacles
- Opening lines of communication
- Confidentiality
- Trust and respect
- Zero tolerance to exclusive behaviour
- Ambassadors – recruitment
- Audit. Outreach – broad
- Inclusion of different personalities – recruitment of CDT students
- How to adapt when people don’t want to have the adaptions → learning from CDT
- **Recruitment. Pay, travel and accommodation and career. Model student recruitment off staff recruitment**
- Opt out rather than opt in
- Recruitment environment → more than just educational background → peer to peer
• Career fund. Students and staff for events
• How to get ‘men’ to apply → they have carer responsibilities as well
• Safety support and mental health
• Monitor – seminars, speakers, events. Follow through from population
• Managers (+ others) as first point of call if having mental health issues
• Culture and trust
• **Policies to accommodate people with specific needs** (esp. mental health)
  • Inclusivity
  • Acknowledge and accept that all have strong biases (sexist, racist, etc.)
  • Profile students on line – show diversity
• Not just about students but also staff/supervisors
• EDF – if haven’t got a diverse pool of candidates you re-advertise
• Inclusive cohort and inclusive supervisor pool
• Prioritise returning supervisors (e.g. post mat leave)
• Inclusive: different subject areas, diverse range of supervisors
• Engage international partners
• Diverse role models
• Not having to consider differences during events
• **Adaptability when issues are made visible**
  • Students are not conscious of differences
  • Students being aware of available support
  • People being able to voice preferences, open door
  • Diversity greater than subject norms
• True/real cohort → contextualise your experiences (staff/students)
• Targeted support and environment for full range of educational needs – neurodiversity
• **Safe environment – it’s ok to fail (ok to take risks)**
  • Diverse co-investigators and supervisors, advisory boards and PPs
  • Role models for students – sometimes challenging within universities

### How can you achieve an inclusive environment within your CDT?

• Industry based/located PhD to get around mobility
• CDTs working with teaching universities to promote PhD at CDTs
• Advertising CDT opportunities at undergraduate institutions which tend to attract lower socio-economic students
• Wrap around support, i.e. local university
• Using the CDT to emphasise the benefit of having no hierarchy in terms of collaboration
• CDT access any partner university facilities and PE training, i.e. generic skills
• Part time students flexible working
• Thematic vs disciplinary – may attract different gender mixes
• Include information at recruitment stage so don’t self-select and not apply if they think something might not be supported
• **Project descriptors – gender neutral language**
• Role models
  - mentors
  - case studies
  - seminars
• Data capture – critical for all applicants and recruited students
• **Code of Conduct (bullying, harassment), anonymous reporting enforcement**
• Shadowing opportunities for undergraduate students with current CDT students
• Code of Conduct
  - implementation
  - enforcement?
• How do you monitor inclusivity? (e.g. background)
• Childcare stipends for conference attendance
• Unconscious bias training
• Upskilling as part of training, not as recruitment criterion
• Support for students will illness (long term)
• Range of places for internships include close to universities
• University departments to change culture shift of a particular field, e.g. robotics
• Emphasise in literature about good things of an “unconventional background”
• Under-privileged backgrounds → how do you increase this?
• Train staff to be more considerate
• Employ special ED&I consultants
• Flexible residential visits
• Go for walks over flat ground
• ED&I committee or group to influence decisions/recruitment
• Outreach to schools and universities to encourage a range of applicants to apply
• All industrial partners should be engaged with ED&I policy
• Part time PhD → how will this work if someone joins in the final year?
  → EPSRC needs to provide more support around this
• Anonymised applicants for shortlisting
• Not just interviews for recruitment: workshops, talking to students more informally
• Mature students → finding a balance for people returning to academia
• Mental health support
• Need to be flexible
• Ensure no disadvantage for those who can’t participate in all activities
• Monitoring applications and places
• Use of references – what is best practice?
• Ensure staff and students have an awareness (more than formal training)
• Keep metrics
• Identify and fight stereotypes, e.g. women in science and engineering
• Maintain knowledge of individual needs, e.g. dietary
• Supervisor training – refresh
• Environment
  → students organised
  → make them feel at home
• Use stakeholders – understand the impact. Use HR. Include diverse stakeholders
• Clear signposting but still there
• Mental health/wellbeing
  → when it is appropriate to discuss as a cohort...
  → access support online
  → BAU
• Regular “gateway” meetings plus someone they can talk to
• Blind/double blind shortlisting
• Unconscious bias training for all (academics, PDRAS, HR, students)
• Track non-engagement (esp. at any cohort events)
• Phraseology “placement”, “support”...........marketing!
Include special needs requirements in recruitment but commit that the selection is blind to this.

- Try and track “non-applicants”
- Accept not all academics are best at this
- Invest in social events
- Case studies – to highlight non-conventional pathways
- Ask students to “design”, i.e. team building, to aid inclusivity
- **Think carefully about how things are scheduled, e.g. evenings/weekends**
- Genuinely value diverse experience – don’t just tick box
- **Flexibility in training regime** – accommodate diverse academic backgrounds
- Target ‘low participation’ sectors directly (and unapologetically)
- **Foster ‘culture of allies’, role models – broaden support**
- Address ‘intersectionality’, more than e.g. male/female
- Recognise that ‘class’ is ‘still a thing’ in the UK particularly
- Capture protected characteristics at admission **without** introducing bias at recruitment
- Non-traditional routes
- Fairer recruitment processes
- **Crèche and partner travel funding ring fenced for conference attendances**
- Existing PhD (PDRAs) as part of the interview process
  - interview panel
  - host for lab tour
  - discussion group if recruiting in batches
- Design good practice into processes and courses/training
- Careful recruitment process design – research potential
- **Summer projects – taster for potential applicants to try research**
- Expectations of students/supervisors/partners to adhere to EDI principles
- Keep mixing groups
- Active management – ground rules, policy
- Imagery on the website
- Diverse pool of supervisors
- Cross cohort activities
- Anonymised feedback from students (more than one route for feedback)
- Integral to the student training
- Anonymised shortlisting process
- **Initial interviews by Skype, reduces bias between person and Skype**
- Neurodiversity – don’t just recruit CDT ready students
- Imagery that reflects the EDI environment you want
- Hunt for talent no matter where it is
- Not funding islands → build links and synergies between projects to help students
- All staff and students to attend training (i.e. in unconscious bias)
- Interview may count against certain people...how to you mitigate against this?
- Make sure our studentship admin team understand maternity funding provision
- Offer remote learning (video capture)
- Schedule activities in ‘child friendly’ hours
- EPSRC/UKRI steer on distance learning around caring responsibilities

### Beyond your CDT, what can you do to contribute to creating a more inclusive community?

- Achieving cultural change across faculty/institution
- Level 8 – PhD apprenticeship
• Academics – supervisory pool
• Using industry knowledge, experience and expertise in EDI. 2 way transfer
• Mental health challenges = EDI issues
• Engagement with WES, women in HPC, etc.
• Science festivals
• **Outreach in schools/colleges**
• **Research projects in undergraduate degrees to help “find” the able/gifted students that might not necessarily get a high enough degree**
• Give students confidence when going into the work force → in a special ED&I programme
• Be a beacon for early career development
• Bringing universities up to the same level
• Students as advocates for inclusivity
• Contributing to widening participation
• Sponsor outreach activities – collaborative with partners across CDTs
• **Influence institutional change – have CDT representation on University committees**
• Network of EDI champions
• ED&I aspects of research
• Lightweight – searchable, i.e., upload ED&I statement – what are we not doing?
• Act as an exemplar in community
• Outreach work with schemes already in place
• Don’t take references at the start
• Institution staffing decisions/policy
• Special activities/outreach activities
• **EDI focus in projects**
• Conference partners and family programme
• **Engage industrial partners in ED&I. Sector challenges, what are they doing?**
• Outreach – target under-represented groups, build pipeline
• Dissemination – get students to talk about it
• Influence industry partners through links
• Talk about best practice to colleagues
• Staff and students should engage with school and general public
• Use the CDT (+ partners) to organise away days at schools that don’t usually get picked up in HEI recruitment
• EPSRC should not track us against no of students with 1st, 2:1, 2:2, etc. IT DRIVES BEHAVIOUR
• Lessons learnt from industry about harnessing neurodiversity
• Students as champions/advocates for ED&I
### Annex 4: Responsible Research and Innovation

#### How could Responsible Research and Innovation become part of the CDT fabric?

- Hire expert in this area – will become co-director
- Create students who think differently – ask the big questions about impact of our research on the world
- Case studies (subject specific)
- Embed in transfer process
- Student reflection (annual) – ED&I, RRI
- Twin approach – general (gap in the middle), specific
- Turing Institute – exemplar in community
- Collaborate across CDTs
- Do we need our project partners to be RRI’ers? i.e. oil and gas
- Common language, i.e. across social scientists and STEM subjects
- Impact plan – with RI/economic impact – underlying principle
- Thematically linked → exploring key issues
- Students to present/create PR on their project
  - reflect on RI
  - pre project
- Industry – how does the innovation process work?
- Support for industry
  - not the expertise
  - willing to engage
  - how to deliver timescales
- Industry linked → how to link the two. Critical end users
- Training
- Peer to peer assessment
- Periodic reflective reviews
- Research Fish – add RRI to reporting requirements
- Whole university training – philosophical question
- Working with academics to talk about motivation on RRI
- Training programme all PhD students embedded in modules
- Industry/sector specific courses (OU)
- Bringing back the older cohorts to set context – timing is key
- Students must discuss RI as part of their project/module
- 2 day workshop includes foundation of RRI and Ethical Hackathon. Research Integrity course (yearly)
- Crafting around naturally occurring activities – how to make it part of research
- Include in annual report
- Include unit in training programme
- Group design project
- Cohort building activity (group project)
- Train supervisors. Make it part of project proposal
- Organising institutional training on RRI for CDT trainers and institutional leaders in research training/ethics training
- Embedding cross cohort workshops and training on RRI – for students
- Think about RI in how students carry out their own projects
- Co-creation of research questions
- Case studies that include RI issues, e.g. around fossil fuels, plastics
- Tap into RI expense in the university and engage these people within the CDT
- EPSRC willing to fund these types of activities
- HRES 10 credit module looking at RI (developing with Orbit, some teaching done by industrial partners)
- Sharing learning experiences → positive and negative reasons to work proposed and how to do things differently
- Each discipline has different needs; Orbit training is generic, but working with industry make it specific
- Some universities have experience in this area → writing modules/training for students
- Students have to develop a portfolio around RI as part of their planning. CPD – days on data, etc. which can be used
- Emphasis on sharing codes and collecting data
- Supervisor engagement
  - “The world we want to live in.......” push back from supervisors......who is the “we”.
  - Diversity of views on how society organises and its values
- Expertise in this area can sit in Arts, Humanities and Social Sciences so issue with cross-disciplinary collaboration
- Training course – part of student reporting requirements
- Peer review within cohort
- Formal pre-review of project proposals
- Train the trainer: one cohort training another
- Require supervisor to be trained in RI
- Formal RRI training, self-assessment and presentation, workshops
- Every CDT student to do a 3 minute thesis video including RRI statement
- Training for staff as well as students
- Incorporate into PhD thesis
- Policy forum
- Incorporate into project assessment/design
- Communications training to manage responsibility – e.g. social media
- Involve the general public in the CDT (educate the public)
- Student led SMEs → build RRI into this (look beyond financial sustainability) – don’t overstretch
- Academics need support too
- Look at regulated industries for RRI
- Liability
- Teach about future legislation
- To have a foundation RI training (1 day) for all CDT Directors
- Standing item on CDT agenda
- Cohort project
- Discussion/debate
- Continuous investment with stakeholders and users
- Students are able to make informed decisions
- Some CDTs do exist because of RRI
- Make it relevant to students and supervisors
- Monitor standards and integrity shown by project partners
- Bring together different disciplines (e.g. social science thinks this way!)
- Use stakeholders and PPs knowledge on RRI/case studies
- More engagement with SMEs may mean ‘less’ regulation
- Engage advisory/management board in deciding how to engage with partners
- Publishing data
- Taught module that are bespoke to the programme
- Awareness of the different ways of tackling the same problem
- Build-up of local expertise via ORBIT training
- Offer training to industrial partners
- Cleaning up the terminology around Responsible Innovation and Responsible Research
- ‘learning on the job’
- Know what you want then work backwards to devise your methods for RI
- Plan written by both students and supervisors

Where could you get support for other RI activities beyond student training?

- Conference (Nottingham organising!)
- Staff training
- Bring on co-supervisors from other disciplines (ethics, social science....)
- Ensure expert in RRI on advisory board
- University level
- What are our responsibilities?
- Network for CDTs, i.e. AI concerns
- Research info RI
  - Researcher in Residence across CDT
  - are we the experiment?
- How we will measure success? Can we? → What is irresponsible innovation?
- Communication and perception of research → training need
- ORBIT
- Policy makers
- Terrain tool
- X-discipline, NOT CDT, NOT EPSRC, HEI wide/research wide
- Engineering institutions and professional societies
- PPI teams (patients for example)
- IET
- Partner organisations
- Link with other CDTs, other DTP focused on social scientists
- Social sciences and marine biologists
- Patient groups
- Cluster CDT training
- Placements/industrial engagement
- Pair up CDTs: look at RI of projects in other CDTs? (Confidentiality?)
- Engaging with companies or organisations → innovation
- Research software engineer
- Case studies
- Metrics to be measured in assessing RI
- VIRI
- Controversial case studies, e.g. materials developed for defence that have societal benefits
- Allow supervisors to take part in training too (not all responsibility put onto students)
- Contribution from industry partners
- Other CDTs
- Ask stakeholders/end users and tap into their expertise around (RI)
- Get university buy-in
- Non-industry stakeholders (policy units) – James Lynd Alliance, Age UK
- Bring in business student schools/units into equation
- Regulators
- Epigeum (affiliated with Oxford press)
- Staff training
- Local expert
- Governance of CDT
- Other (non STEM), non-Western academics/experts
- Third sector – can be part of advisory boards for example
- Stakeholders and PPs – their experience
- Lessons to learn from technology-focused CDTs
- Universities’ social sciences/political departments (these have already generated good frameworks)
- Industry – often ahead in areas such as energy, transport (maybe not called RRI)
- SMEs and large companies coming in to train students
- Debates held by students – to think about pros and cons
- Teaching plans, templates
- Examples of good and bad decisions
- Sharing case studies
- Public outreach → what would be their concerns
- Terrain (a ‘company’) – alternative to ORBIT
- RI action plan for the 4 years (similar to the ED&I action plan from 2013 applications)

Annex 5: Working together
The red numbers in brackets indicate the number of priority dots the statement received.

<table>
<thead>
<tr>
<th>What would you like to learn from other CDTs?</th>
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<tbody>
<tr>
<td>• Karen’s ppt. spot on. X-council too BB, welcome NERC etc. Cohort based.</td>
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<tr>
<td>• How to share back office process?? When multiple HEI’s (6)</td>
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<tr>
<td>• Students – ready reckoner for incoming cohorts (1)</td>
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<tr>
<td>• Suggest short doc cook book 2/3 pg., informal, positive + negatives</td>
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<td>• Keep single subject areas too? Goal specific</td>
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<td>• Mix up the CDT subjects – bringing people together</td>
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<tr>
<td>• How to become more than funding – more than sum of your parts</td>
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<tr>
<td>• Cohort facilitation across sites</td>
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<tr>
<td>• SME funding (6)</td>
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<tr>
<td>• Standard approach to contracts between universities (10)</td>
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<tr>
<td>• What level of partner co-funding do you ask for/get?</td>
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<tr>
<td>• Run joint courses with other CDTs (6)</td>
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<tr>
<td>• Administrators: how do you find an administrator with the skills required to run the course/expertise. Pay grade – how do we attract someone?</td>
</tr>
<tr>
<td>• Data: each student has industrial engagement – what do EPSRC collect? Researchfish + student data – how can this data be collected?</td>
</tr>
<tr>
<td>• Multi-site CDT, e.g. satisfying 10% ceiling on non-UK students across many institutions (3)</td>
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<tr>
<td>• How does training evolve over time?</td>
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<tr>
<td>• Discourse process</td>
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<tr>
<td>o Best practice – generic/specific activity, e.g. team building</td>
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<tr>
<td>o Private but easy access</td>
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</tbody>
</table>
- Cohorts – UKRI/EPSRC/ESRC/STFC
- G Tags
  - 1 + ¾
  - Topic/priority areas – link to ATI?
  - Renewal/new – space, culture, identity
  - How to build (really) CDT identity – internal/external
  - Multi-inst/non-inst – how to make multiple-centre CDTs really work, i.e. recruitment, fund flows, co-supervision
  - Institution
  - Interdisciplinary/not
- How to deal with mental health issues (6)
- How to share experience and seek advice informally
- Recruitment
  - Managing project selection within year 1 (not at start) (4)
  - How to continue industry relations after the first student engagement? (1)
  - Keeping partners engaged when projects are in later cohorts
  - How to keep industry partners on board long-term? (1)
  - Engaging and on boarding supervisors around specifics of a CDT PhD – industry (1)
  - Maintaining cohort feel when students move to new home university (1 + 3)
  - How do universities leverage external funding (cash)? (3)
  - Interaction between different CDTs based at different institutions – how does it work? (2)
  - How best to engage SMEs? (4)
  - How to keep students after they successfully engage industry?
  - How to expand diversity by new ADS routes? (1)
  - Team building that worked & didn’t work (2)
  - How are director/admin models structured/balanced? (1)
  - How do you know who (PhD students) will be right for the CDT – how can you structure the interview day? (1)
  - More about the interview process – e.g. any particular sessions to include
  - How do you pick your supervisors + allocate them + engage them + how do you manage them (3)
  - Best practice on how to include industrial project partners (2)
  - How do we get industrial partners to become more involved than just their student (2)
  - How do we get early career people involved
  - Induction of centre managers (2)
  - Considering inclusivity (1)
  - Cohort building strategies (5)
  - Partner agreements + relationship type with partners (2)
  - Logistics of SFI partners, esp. potential impact of Brexit (1)
  - Funding models for industrial partners – some case studies (1)
  - Engaging, growing & renewing project partners
  - For a multi-partner CDT: how to make sure the universities work together coherently? (2)
  - How do you keep supervisor engaged throughout the student’s PhD with the CDT (1)
  - Funding eligibility
    - Home vs EU vs O/S
    - CDT vs incorporated vs aligned vs other
  - What can go wrong and how can we mitigate for it? (1)
  - What’s the mid-term evaluation like and how can we prepare for it now? (3)
  - CDT recruitment process – Ops managers from each partner involved
  - How to gather data from students
• Could annual progress meetings be used to gather data?
• Different models for recruitment and selection – and problems (4)
• How to bring in industry partners into supervisory teams
• How to manage the challenge of too much to do at start-up
• Marketing of CDT
• Recruitment of students (1)
• Achieving/actualising industry contribution (1)
• Mistakes to avoid
• Monitoring KPIs (and what they are) (2)
• Learn positives and negatives of models
• How to deal with difficult students/staff
• How to ensure progression of students
• How to build CDT cohort without isolating them
• Balance industrial/NIHR portfolio
• How to advertise projects
• Keep supervisors engaged and on mission (3)
• Inter-CDT annual conference – good for cohort building (1)
• Recruitment process – internal/external candidates
• Best practice for CDTs supporting both PhDs and EngDs
• How to convince the uni that additional staff are needed – risk mitigation
• How to attract diversity of candidates to a CDT? (8)
• How to tell if a supervisor is a cohort CDT believer? (1)
• Recruitment with industry how to make sure happy & takes a long time – still time
• Recruitment – queries
  o Need people for October
  o Good applications

Is there anything you can share that would help other CDTs?
• Managing industry partner expectations earlier for projects not mid-term
• Integrative think tanks – week long, invite partners, sandpit workshop hybrids (3)
• CDT portfolio should not be seen as a “quirk” – researchers central to delivery seen as students or future leaders
• Success – CDT as platform for innovation + international promotion involving students, student skills
• Hub activity, focus on research, inspirational/entrepreneurial/innovative
• CDTs help leverage positive changes in university – need to share the change
• Join the relevant industry bodies
• Look at the midterm review form now – if you want to be more than the sum of your parts this is a useful roadmap
• Make sure it is clear which part of university has financial commitment
• Make sure you get your buy-out – university fulfils its commitments (2)
• Administrators (how do you find the best team) (1)
  o You have to be a team
  o CDT manager has oversight
  o Should be a researcher/RO expertise
  o It’s a full-time post
  o Too much work for CDT director to do alone
  o Must be able to do pastoral side & subject-specific expertise – transition will be smaller
  o Some are lecturers – full or part-time
• Data
  o Train students to design a data management plan for their PhD
  o Be as open as possible, but explain where there are issues around confidentiality
  o Collaboration agreements – chase data management against the agreements
• Student/supervisor relationships
• Cohort building – straight away
• Multi-site administration (10)
• Additional support required from people not paid from the grant
• Learn about diversity of models for project selection/PP engagement (1)
• Use your IAB to share what you do – they know your market best!
• “What makes a good PhD student”
• Student cohort + how it works to the best of its ability
• 1+3 model – more flexible + time dedicated to research
• Manager + administrator – have both of these
• Integration of other PhD students (2)
• 1+3 vs. 4-yr integrated CDTs
• Project allocation (5)
• How to manage student/partner relationships
• Clarity of expectations for students (which university) grad school (1)
• Experienced CDT director that you can seek advice from?
• Prioritise the students
• CDT director involved in every interview – one of most important things you do (1)
• Pressure from uni to make your CDT look a certain way – but want freedom to evolve + react?
• 1+3 model
  o Pro: allows you to filter out ‘super focused’ students who may not be appropriate for CDT
  o Con: can be difficult in terms of getting student started on project – negotiate process
• Lot of thought goes into designing the interview/assessment process
• CDT interview panel
  o Could be research theme based
  o Cohort exercises to demonstrate team skills
• Model for allocating student projects – options in approach (6)
• Recruitment
  o Website
  o Internally – undergrad
  o Findaphd.com
  o Use your networks
  o Give seminars at other universities
• EDI – anonymised shortlisting process (4)
• Support with like-minded CDTs (1)
• Institutional oversight of multiple CDTs (2)
• Have a robust governance structure/regular contact
• Share data e.g. completions within funded period, statistics, any useful data
• What is the completion data of the different models
• Different between industry financial year vs. academic year
• Joint degrees from multiple institutions
• Multi-site CDTs: admissions, student migration, financing/invoicing
• Industry partners – timescale and buy-in to 1+3 model + industry financial year (1)
- Multiple CDT – roadshow at other unis to show off all CDTs (1)
- What staff needed?
  - F.T. stakeholder business engagement
  - Getting new people
- Mentoring from ‘older’ cohorts to supervise to build peer support
- How to build a diverse cohort?
  - Both gender/discipline
  - Help – methods – new scientist
  - Stakeholders - £5000 a week
  - Had been successful
- Events with stakeholders to build projects
- Business engagement events to show off CDT & students before projects/listed
- January entry
  - Break cohort
  - Easier with larger centres
  - Prevents under-recruitment
  - How would this work
- Recruitment
  - 2 day
  - Day 1 – not marking
  - Day 2 – interview & reflections – stakeholders
  - 9-month delay on project and co-create interview internally

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<thead>
<tr>
<th>Moving forward, how could you best benefit from peer-to-peer learning from other CDT Directors?</th>
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<tbody>
<tr>
<td>• Strategic level vs. student/school level, match funding tensions (3)</td>
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<tr>
<td>• High level strategic value vs. CDT’s financial loss leader (accounting) change perception</td>
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<tr>
<td>• How can EPSRC monitor + data capture comparisons Meta level data?? EPSRC standards for comparative purposes in general (1)</td>
</tr>
<tr>
<td>• Annual meeting of the CDT project managers/administrators to exchange best practice (4)</td>
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<tr>
<td>• Repository of courses we could share – avoid duplication</td>
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<tr>
<td>• Contribute to a ‘library’ of datasets from CDTs – well-logged data that can be re-used (1)</td>
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<tr>
<td>• Will EPSRC run more events/workshops?</td>
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<tr>
<td>• Staff – directors, managers</td>
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<tr>
<td>• Including students</td>
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<tr>
<td>• Early regional dialogue – regional groups, intersecting sub-groups, used to define table plan</td>
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<tr>
<td>• Recording 3-lessons learned and sharing videos</td>
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<tr>
<td>• Network of CDTs (e.g. DE) (2)</td>
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<tr>
<td>• Students visiting or seconded to other CDTs</td>
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<td>• Interaction with CDTs in other institutions (depends on how easy this is!)</td>
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<tr>
<td>• Resource of interview questions, best practices</td>
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<tr>
<td>• External examiner of another CDT</td>
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<tr>
<td>• Managers to get together (not necessarily directors) – knowledge transfer is very important (4)</td>
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<tr>
<td>• Make use of CDTs at your institution</td>
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<tr>
<td>• Alternative interviewing strategies/techniques (4)</td>
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<tr>
<td>• Network of centre managers (5)</td>
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<tr>
<td>• CDT manager network (informal?) (5)</td>
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<tr>
<td>• Create online community for CDT directors</td>
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</tbody>
</table>
• Go and spend some time with another CDT? Director exchange!! (3)
• Advisory board
• Diverse experiences – different ideas from other disciplines
• New CDT directors/programme managers benefit most from speaking with experienced directors
• CDT exchange for CDT managers/administrators
• Arrangement to have another CDT director on advisory board. Non-rival. Reciprocal arrangement (3)
• Set up manager/administrator network (7)
• CDT coordination manager shared practice (1)
• Curated repository of shared experience
• Cohorts between CDTs + exchange of best practice at regular/annual activity/event
• Case studies, activities
• How to make existing informal networks more accessible? Local makes things easier (1)
• CDT network, conferences, wider than directors (include students)
• Network of CDT directors? Especially in AI and ML? (6)
• Events – RI, ED&I, lessons learnt