

# CDT EVALUATION FRAMEWORK<sup>1</sup>

## Summary of the CDT's Objectives and Key Achievements to Date (max 1000 words)<sup>2</sup>

### 1. Objectives and general CDT operation:

- 1.1 To what extent has the CDT met its original strategic objectives? What changes were made from the original proposal, why and how have these improved the CDT?
- 1.2 How has the CDT demonstrated added value (e.g. value for money, comparisons with other doctorates – *see also section 3*), and in what ways has the CDT programme benefited from its larger scale?
  - 1.2.1 In particular comment on the added value of the cohort based approach at your CDT? How have you built a coherent cohort with core and incorporated students?
- 1.3 How has the CDT ensured proper management and quality control? How have you solicited advice from partners and from independents? How can you demonstrate responsiveness to that advice? How have you demonstrated effective governance?
  - 1.3.1 For multi-institutional CDTs, how can you demonstrate effective working across institutions? How have you overcome any administrative hurdles? Building on 1.2.1, how have you built an effective cohort across multiple sites?
  - 1.3.2 How have you used student representation and student feedback to shape the running of the CDT?
  - 1.3.3 Describe your process for incorporating student feedback into the running of the CDT and any benefits that have been realised?
- 1.4 Describe how projects have been allocated (both in terms of mechanism used and spread of supervisors)? How has the supervisor cohort evolved?
- 1.5 What training have prospective supervisors been offered, especially for new appointees? In particular, how have you benefitted new academics and early career researchers?
- 1.6 Explain how the projects are checked for (a) academic quality (b) fit to the theme(s) of the CDT and (c) the relevance to any external end user demand (specific or generic)?
- 1.7 How are you aligning with excellence in the wider research field (e.g. other research groups, consortia, working groups etc.)?

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<sup>1</sup> Some formatting issues require solving but the focus of this document, for both Evaluation and Monitoring, is on the content that can be communicated to CDTs in advance.

<sup>2</sup> This report has to be self-contained document, separate from the original Case for Support

## 2. Students attracted and student outcomes:

2.1 Describe what is different about the student experience in your CDT compared with other doctorates in your department(s) and institution(s)?

2.2 Outline your recruitment processes, including the strength of approaches for recruiting and supporting a diverse population of high quality students. Where applicable, how have you managed recruitment of students across multi-site CDTs?

2.3 What is the disciplinary background experience of students recruited by the CDT and where have they come from?

Disciplines	2014-15	2015-16	2016-17
Origin	2014-15	2015-16	2016-17
Home Institution(s)			
Other UK Institution			
Industry			
Overseas			

2.3.1 What is the diversity of your cohort against the four protected characteristics? How do these patterns compare to the 'typical' for the subject at your institution? How does this compare to the HESA-reported research population for the area(s)? (We are seeking aggregate information and not data on individuals). How much of the "student demand" have you fulfilled?

		2014/15		2015/16		2016/17	
		No.	%age	No.	%age	No.	%age
<b>Gender</b>	Female	0	0.0%	0	0.0%	0	0.0%
	Male	0	0.0%	0	0.0%	0	0.0%
	Not disclosed	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
	<b>Total</b>	0	0.0%	0	0.0%	0	0.0%
<b>Age Range</b>	0-29	0	0.0%	0	0.0%	0	0.0%
	30-39	0	0.0%	0	0.0%	0	0.0%
	40-49	0	0.0%	0	0.0%	0	0.0%
	50-59	0	0.0%	0	0.0%	0	0.0%
	60+	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
<b>Total</b>	0	0.0%	0	0.0%	0	0.0%	
<b>Disability status</b>	Known Disability	0	0.0%	0	0.0%	0	0.0%
	No known disability	0	0.0%	0	0.0%	0	0.0%
	Undisclosed	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
<b>Total</b>	0	0.0%	0	0.0%	0	0.0%	
<b>Ethnicity</b>	Asian	0	0.0%	0	0.0%	0	0.0%
	Black	0	0.0%	0	0.0%	0	0.0%
	Chinese	0	0.0%	0	0.0%	0	0.0%
	Mixed	0	0.0%	0	0.0%	0	0.0%

Not Disclosed	0	0.0%	0	0.0%	0	0.0%
Other	0	0.0%	0	0.0%	0	0.0%
Unknown	0	0.0%	0	0.0%	0	0.0%
White	0	0.0%	0	0.0%	0	0.0%
<b>Total</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>

2.4 What is the educational background of students recruited by the CDT? How many have previous industrial employment?

Degrees	2014-15	2015-16	2016-17
1 <sup>st</sup>			
2.1			
Masters			
Other			
Origin	2014-15	2015-16	2016-17
UK			
EU			
Overseas			
	2014-15	2015-16	2016-17
Number with industrial employment			

2.5 To what extent is the CDT fulfilling the national need in its area (for example, with reference to the number of serious applications<sup>3</sup> received)?

2.6 In what ways has the CDT programme enhanced students' expertise and enabled them to apply it to broader research programmes as applicable outside traditional research fields? How effective is your process for monitoring student progress? What are your processes for managing conflict or under-performance, and facilitating flexible working (e.g. maternity, paternity leave, part-time working etc.)?

2.7 Where relevant, what benefits are students experiencing as a result of working with industry (or other non-academic partners, e.g. internships etc.)?

2.8 How are students better equipped to be the future leaders in their field and / or act as 'agents for change' in their organisations?

2.9 What are the relative completion/submission rates for students funded via the CDT versus the wider Department / University? Please explain any major variations (*see also section 6*).

2.10 How many students left their studies without completing per cohort? Please give reasons and how have you managed this process?

<sup>3</sup> Please count only applications that completed your official application form/process; do not count speculative emails

### 3 Evidence of Value for money

3.1 How has the CDT leveraged additional direct or in-kind funding? Have the original leverage values in the application been achieved? If not, why not? Explain how any physical space promised in the application been realised? Comment on how any other investments and commitments from the host institution(s) has/have been realised.

3.1.1 What contributions has the CDT attracted from other funders, including University studentships? Highlight significant changes from the original bid.

	Cash	In-kind contributions	Details
a. University			
b. Industry			
c. Charity			
Of b & c, how many are new partners			
Of b & c, how many partners show repeat activity			
Of b, how many are SMEs			
Other			

3.1.2 Give the number of additional students to be aligned to, or benefit from, the CDT (and their funding sources). Highlight significant changes from the original bid.

	Cash	In-kind contributions	Other	Details
University				
Industry				
Charity				
RCUK				
Other				

3.2 What other user (e.g. employers, industrial, clinical, government etc.) involvement has the CDT attracted?

3.3 How has the CDT managed the requirements of multiple partners? How have you managed changes of partners?

3.4 What progress has been made in making the CDT more sustainable within the host research organisation(s)? What are the likely sources of (non EPSRC) funding to maintain the resilience of the CDT beyond the initial five year funding period? Is there a process for succession planning?

#### **4. Taught component of CDT training:**

- 4.1 Please give brief details of the taught courses offered, (e.g. topic, method of delivery, how many students have attended each one, sharing of courses etc.)? Highlight significant changes from the original bid.
- 4.2 What transferable skills programmes have you used or developed, and what careers training do you provide?
- 4.2 Describe how the CDT has taken an innovative approach to delivering student cohort training
- 4.3 How has performance in these taught courses been assessed internally and externally, including input from potential employers and partners?
- 4.4 How has the CDT exposed its students to a broad range of environments including for example experience of other universities and or industry in the UK and internationally.
- 4.5 How has training prepared students for their Doctorate projects, and what metrics and information have you used to reach these conclusions? What is the balance between compulsory & optional courses (and why?) How do you create a balance between research & training (including mini research projects)?
- 4.6 What have you been doing to help your students to explore, discuss and reflect on the wider ethical issues around their work (e.g. Responsible Innovation training)?
- 4.7 How do you encourage your students to engage with the public and to understand the value of this engagement?

## 5. Impact in the wider community

- 5.1 How has the CDT addressed the Priority Areas it originally bid against?
- 5.2 What impact and interaction has the CDT had in the wider community, including other research organisations, industry, business, the public and society?
  - 5.2.1 Have there been any wider policy, strategic or social impacts arising from or influencing the direction of CDT activities?
- 5.3 How does this CDT coordinate with the wider training of people in this subject (e.g. is this CDT the main provider of students, does the CDT provide access to resources to other students)? How does the CDT network with other CDTs (e.g. subject, regionally etc)?
- 5.4 How does the CDT contribute to the students' understanding and capabilities to engage with inter- or multi-disciplinary issues?
- 5.5 How has the CDT helped to bring about new collaborations in other research organisations, industry, business and society, including internationally?
- 5.6 What wider initiatives have been set up as a result of the presence of the CDT, including those with other research organisations, industry, business and society? How have partners influenced the training content?
- 5.7 What prominent visitors/speakers and events, from other research organisations, industry, business and society has the CDT been able to attract (e.g. as speakers, supervisors, attending CDT conferences etc)? What international interactions has the CDT benefitted from?
- 5.8 Have you any evidence that sponsoring companies / sectors have been changed as a result of the activities / training provided via the CDT, especially amongst SMEs?
- 5.9 Describe any further impact/benefits on users
- 5.10 What wider impact has the CDT had in the host research organisation(s)?
  - 5.10.1 How has the CDT become integrated within the host research organisation(s)? How is the CDT working with other EPSRC investments?
  - 5.10.2 Has the CDT facilitated new academic collaborations (give examples)?
  - 5.10.3 How have any new academic posts (or promotions) been created as a result of the presence of the CDT? How many?
    - 5.10.3.1 How has the CDT been linked to career progress of academics
  - 5.10.4 Has the CDT's approach to skills training been followed in other parts of the host institution(s)? How?

## 6. Outputs from CDTs<sup>4</sup>

Some of these questions will be especially relevant at the final reporting point but will need addressing towards the mid-term review point to ensure that information is being collected at the CDTs. CDTs that have been identified as continuations of previous CDTs have the opportunity to input data here.

6.1 Please give details of the first destinations (and beyond if known) of CDT students who have completed to date (for renewed CDTs, include {up to} the last 4 years data):

	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Students continued in academia				
Students in Relevant Industry (to CDT)				
Of these, who many employed by Project Partners				
Other employment				
Of these, please provide details				

### 6.1.1 Diversity outcomes

		Year 1		Year 2		Year 3		Year 4	
		No.	%age	No.	%age	No.	%age	No.	%age
<b>Gender</b>	<b>Female</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Male</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Not disclosed</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Unknown</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Total</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
<b>Age Range</b>	<b>0-29</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>30-39</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>40-49</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>50-59</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>60+</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Unknown</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
<b>Total</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%	
<b>Disability status</b>	<b>Known Disability</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>No known disability</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Undisclosed</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Unknown</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Total</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
<b>Ethnicity</b>	<b>Asian</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Black</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Chinese</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Mixed</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Not Disclosed</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Other</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>Unknown</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	<b>White</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%

<sup>4</sup> See also Annex 2, for [input of publications from the CDT](#)

	<b>Total</b>	0	0.0%	0	0.0%	0	0.0%	0	0.0%
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- 6.2 How & what is the outcome of the CDT tracking the careers of its alumni network?
- 6.3 What Intellectual Property, e.g., patents secured, spin-out companies, other commercialisation etc., has been generated to date and what has been the impact of these outputs?
- 6.4 Any other outputs (e.g. patents) that you wish to report? (e.g. i. how has the CDT supported business needs? ii. what return on investment are they estimating from their involvement in the CDT? iii. Have there been any unexpected benefits from their involvement in the CDT, for example? iv. Details of any Business Processes changed for industrial partners? v. Are there examples of job creation? vi. Details of any benefits in time-to-market?)
- 6.5 What follow-on funding from EPSRC, other Research Councils, industry, business and research charities would you ascribe directly and indirectly to the CDT?
- 6.6 What highlights of public engagement/media coverage can the CDT provide? (other than 4.7)
- 6.7 What other steps have been taken to publicise the outcomes of CDT outputs, including 'branding' the CDT model? How have you been advocates of the CDT model?
- 6.7.1 Do partners reciprocate by mentioning the CDT on their publicity?



## 7. Other issues & Annexes:

If there is anything else you would like to report on the CDT which is not covered elsewhere, please include it in this section:

Notes:

*Examples could include;*

*(a) the results from ongoing internal student and alumni surveys,*

*(b) impacts on (or of) the wider higher education sector*

*(c) How has your web presence enabled smooth running of the CDT?*

*(d) Do you have mixed authorship publications with international authors?*

*(e) Do you have mixed authorship publications with industrial authors?*

### Annex 1 Case Studies

CDTs are invited to submit a maximum of 6 Case Studies from the following categories;

- 0-3 Science case studies
- 0-3 User case studies
- 0-3 Student case studies

### Annex 2 Publications

- List the publications the CDT students have generated to date. Please comment on (i) the number of publications, (ii) the journals or other mechanisms (e.g. best practice guidance issued by learned societies / professional bodies) in which work has been published, and (iii) the degree of mixed authorship from academic and/or industrial backgrounds?
- What conference presentations and posters have been generated to date (list any prizes or awards received)? Comment on the likely impact of these activities on the discipline / industrial sector in which the CDT operates.