

Horizon CDT: Creating Our Lives in Data

1. Information for industry partners

The Horizon Centre for Doctoral Training (CDT) – Creating Our Lives Life in Data – provides an integrated four-year PhD programme to train a community of at least 60 PhD students with the interdisciplinary skills required to harness personal data in order to make smarter products in a responsible way:

- Smarter products combine physical and digital technologies to deliver personalised blends of goods, services and user experiences
- These are made through co-creation and data creativity in which consumers actively engage in shaping the products they use
- In collaboration with industry, other organisations and international partners, our students will establish the enabling technologies and also ethical principles to enable consumers to co-create these new data driven products in a responsible and secure way that will build consumer trust.
- Collectively, they will innovate applications across sectors including consumer goods and food, creative industries, high value products, and health and wellbeing – seeking out new synergies between them.

The PhDs that emerge from our CDT are distinct from conventional PhDs; we produce rounded individuals with the skills to work in interdisciplinary teams, including technologists who appreciate the societal context for emerging technologies, and social scientists who are able to shape new technologies.

2. Your experience of partnering with Horizon

Each student collaborates with an external partner to ground their research in a real-world context. As a partner, you will have involvement at various stages of the PhD programme:

As a partner, you will have involvement at various stages of the PhD programme:

- Helping draw up an initial theme that we use to recruit students
- Helping interview and select students for your theme
- Engaging with students to shape their PhD project in detail during the first year
- Hosting the student on their placement so they can work on your projects for you
- Gaining early access to research results (with the potential to commercialise these)
- Attending industry events that provide an opportunity to experience research across the centre and engage with other students and partners

The amount of interaction between the partner and the student varies quite considerably. Some partners like to monitor students' progress regularly, while others meet less frequently, when there is something mutually relevant to do together or discuss. The academic supervisors are responsible for overseeing the project, while partners have more flexibility about interacting with the research when it suits them.

Where appropriate the CDT will arrange a Studentship Agreement between the University, the student and partner to protect everyone's interests in terms of IP, confidentiality, expectations around access to resources and data etc.

3. Horizon CDT Programme Timeline

A cohort of 10-15 students joins the programme each year in late September. The programme starts with an intensive Welcome Week and Industry Day.

All external partners are invited to attend the online Industry Day (see section **Error! Reference source not found.**), and, we usually arrange for new students to meet their partners and Year 1 supervisor on that day (or soon after) for an initial discussion about the project. This is particularly important if they have not met since the interview.

Broadly the CDT PhD programme look like this:

Year 1

The student undertakes training modules with the rest of the cohort and develops a PhD project proposal, which is submitted in June of year 1. Each student is allocated an appropriate academic “year 1” supervisor/mentor to support them in developing the proposal and bringing together a suitable multidisciplinary supervision team.

During year 1 the student will meet with partners to find out about the organisation and its current work. The student will also share the proposal at different stages as it is developed, so the partner can feedback and shape the project. There should also be discussion about the timing and nature of the placement (see section 5).

Engagement with the partner right from the outset is therefore an important element in the success of the PhD. The year 1 training programme includes specific activities that require the student to contact and liaise with their external partner to disseminate coursework reports that may of interest to them and planning the content and timing of the placement.

Years 2 and 3

The student pursues the research project, completes specialised additional training and undertakes the placement (see section 5).

Year 4

By this point the student’s training and data collection should largely be over, allowing them to concentrate on producing findings (which should be shared with the partner and relevant to them) and writing up the thesis

4. Year 1 partner key contact points

Initial meeting of student, supervisor and partner (at Industry Day)

During September, the CDT will contact partner and year 1 academic supervisor to setup an informal meeting with their student on or around Industry Day.

Following this initial meeting, the student is responsible for ensuring that they regularly communicate with their external partner, and work collaboratively with the partner and supervisory team to develop a PhD proposal that meets the requirements of the Horizon: Creating Our Lives in Data CDT and the needs of the external partner.

Items that should be discussed at the first meeting, include:

- Is contact to be mostly had with one person, or are there others at the partner organisation it would be beneficial to be in contact with? If so, how should the student approach them?
- How should communication work and when? Emails, video or telephone calls, or face-to-face visits, etc ?
- How regularly do you communicate?
- What are the partners expectations regarding the PhD?
- Will partners attend supervision meetings (it is not expected that they attend all, but attending some would be good)?

Student-led External Partner Engagement (early November)

Students will arrange a visit to their partner in early November - the purpose is to:

- Discuss the emerging PhD topic (if partner not attending supervision meetings)
- Share Enabling Technologies Report (if not shared previously)
- Fact finding about partner, e.g.
 - What products and services are they engaged with?
 - Where is the personal data, and what are their thoughts about the creative use of personal data in products and services?
 - Their use of Enabling Technologies?
 - Is 'Responsible Research and Innovation' a topic for them, and if so how does it manifest?
- Discuss the placement. Decide on a roadmap to get arrangements in place (dates and work plan).

5. Placements

Between the end of year 1 and the end of year 3, all CDT students undertake a placement with their external partner, or another relevant organisation where this is mutually agreed. Ideally, the placement should take sooner rather than later to maximise the benefits.

The placement does not necessarily relate to the PhD research directly and can be defined by the partner - but it should contribute to developing the student's skills, their knowledge of the partner/sector in the area of personal data, and – where appropriate - benefit their PhD research.

Historically, the format for a placement is a full time 3-month block placement away from the University. However, there is flexibility around the timing, duration, location and content of the placement according to the needs of each individual student and the partner. For example:

- Remote placements (particularly during the Covid pandemic)
- Placements split into two or more time periods
- Part time placements

The CDT provides funding for travel and accommodation during the placement where this is required, and the student continues to receive their stipend during the placement.

The student will contact the partner prior to the placement to confirm the work to be undertaken and practical matters like access to resources, health and safety induction etc.

6. Other engagement opportunities

There are several ways in which external partners can engage with Horizon CDT.

Industry Day

Held during Welcome Week (currently online)

An opportunity for the Centre's academic and external partners to hear from CDT Directors and PhD Students about research the CDT is undertaking as well as have the opportunity to participate and contribute in discussions on a number of themes.

Stakeholder Advisory Group

Follows on from Industry Day

The Stakeholder Advisory Group is an annual forum for the CDT's external partners and stakeholders to provide feedback and suggestions on ongoing and future collaborations. It is an informal discussion (currently online) with the CDT Directors which follows on from "Industry Day". All external partners are invited to attend.

Sprint projects

In year 2 the student cohort undertakes a week long Sprint project challenge. Students are split into sub-groups to work on a distinct design challenge set by one or more of our external partners, presenting back to the partner at the end.

We loosely follow the 5-Day Sprint model by Jake Knapp (<https://www.gv.com/sprint>) which has the following structure:

Day 1 Map - Day 2 Sketch - Day 3 Decide - Day 4 Prototype - Day 5 Evaluate

But our version is:

Day 1 Map - Day 2 - Research - Day 3 - Sketch - Day 4 Decide - Day 5 Prototype - Day 6 Evaluate

If you interested in setting a future Sprint design challenge, please contact Adrian.Hazzard@nottingham.ac.uk, we can involve you at every stage as we develop the process and guidelines.

Seminars and visits

If you are interested in running a seminar or presentation about how your organisation engages with personal data, or possibly arranging a visit for some of our CDT students to your organisation, please let us know.

7. The CDT Team

General administrative enquiries: horizon-cdt@nottingham.ac.uk

Professor Steve Benford (CDT Director) steve.benford@nottingham.ac.uk

Dr Nicholas Watson (CDT Deputy Director) nicholas.watson@nottingham.ac.uk

Dr Adrian Hazzard (CDT Training Programme Manager) adrian.hazzard@nottingham.ac.uk

Dr Andrea Haworth (CDT Centre Manager) andrea.haworth@nottingham.ac.uk

Monica Cano Gomez (CDT Impact Officer) monica.cano@nottingham.ac.uk

Laura Brian (CDT Administration Officer) laura.brian@nottingham.ac.uk

Why partner with Horizon?

- It is a cost-effective way for you to be involved in relevant leading edge research in the responsible use of personal data where you may not have the resource or expertise to undertake this alone
- The research project is co-created with you as the partner so the research is of genuine commercial or societal significance to you
- Our students are graduates who possess excellent academic track records and are highly committed to solving real world research problems. They experience broad training in interdisciplinary research and professional skills ready for careers in industry as well as having delivered a deep PhD thesis
- By hosting the student for placements, you are shaping the employees of the future
- Through the CDT you will have access to a network of expert supervisors across a range of disciplines, and the opportunity to collaborate with other industry partners.

What will it cost?

The standard contribution for a four year studentship is £50,000 (£12,500 pa), with EPSRC contributing £50,000. This is excellent value for money compared with the costs of hiring a new graduate, and the student is not part of your company headcount (no NI contributions). Sponsors may also be able to claim Research and Development Tax Credits as detailed at hmrc.gov.uk/manuals/cirdmanual/CIRD81100.htm.

We understand if you are a third sector partner or a small company, you may not have the funds to cover the full amount – please talk to us as there are various models we can utilise, including sharing the project with another company which has worked very well in a number of cases already.

Timeline

Each cohort of between 10-15 students commences the programme in September, and we start advertising in November to ensure we attract the best students, with 2 to 3 rounds of recruitment following.

We advertise the themes that have been co-created with our partners and the applicants choose which ones they are the most interested in. After initial filtering by an academic panel, the applicants are matched with potential partners who then interview the candidates themselves to check fit to company.

During the first year, the themes are developed into projects through discussion with the student, and the academic and partner supervisors.

Previous themes and research highlights

Examples of previous themes and partners can be found at cdt.horizon.ac.uk/collaborators/themes/, and range from questions about privacy of personal data and social perspectives of digital identity products, through to social care, media experiences, intelligent mobility, FMCG, healthcare and energy.

To get a flavour of how these themes have transitioned through into research highlights, take a look at: highlights.cdt.horizon.ac.uk/