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UKRI Artificial Intelligence Centres for Doctoral Training

Webinar
13 January 2023

Welcome

Webinar information

- Submit questions through the Zoom Q&A function
- Questions will be answered at the end of the presentation
- After webinar email proposal specific questions to ai.cdts@ukri.org
- The webinar is being recorded and will be published with the slides on our website soon
- Answers to questions will be published on the funding opportunity page
- Full details are on the funding opportunity page (UKRI Centres for Doctoral Training in artificial intelligence – UKRI)

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Background

- Intense global competition for advanced skills to develop AI
- 2019 £100M investment in 16 UKRI AI CDTs
- Spring Statement 2022 announced £117M to extend current programme through a refresh of the portfolio

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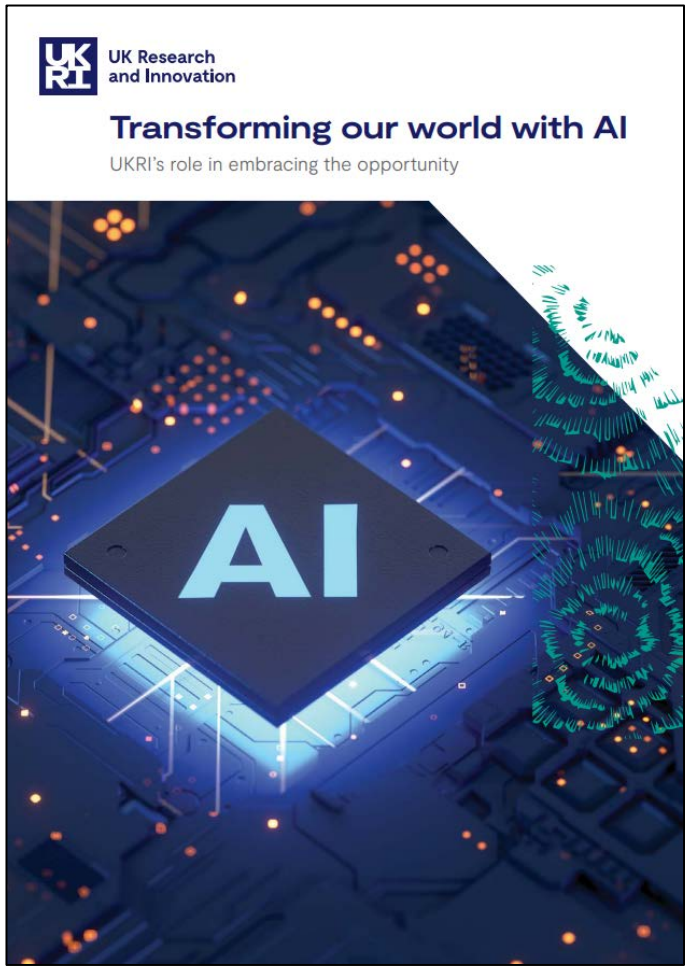
[AI review: Transforming our world with AI – UKRI]

Building an ecosystem

- For the UK to remain at the forefront of AI research and deliver on it's promise for society, the whole ecosystem needs to work to connect AI researchers, innovators and practitioners.

- We will build connections between existing investments and fund new centres and hubs to create cross disciplinary and cross sector ecosystem, connecting researchers, innovators, and practitioners of AI. **We must aim to solve problems once.**

- **We will invest in critical mass investments across the landscape in priority areas. We will work with the Alan Turing Institute and others to facilitate and act on new partnerships and opportunities. We will invest in business facing investment in priority sectors and unleashing regional strengths.**



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Key information

- Up to **£117 million** available
- Support 10-15 CDTs
- CDTs will train **5 cohorts** doing **4-year doctorate** or equivalent
- First cohort starts in 2024/25 academic year
- **Maximum of 2 outline applications** per lead organisation
  - No cap on number of applications which organisations may partner on
- Applications to refresh existing CDTs and applications for new CDTs will be treated equally and assessed using the same assessment process and criteria.

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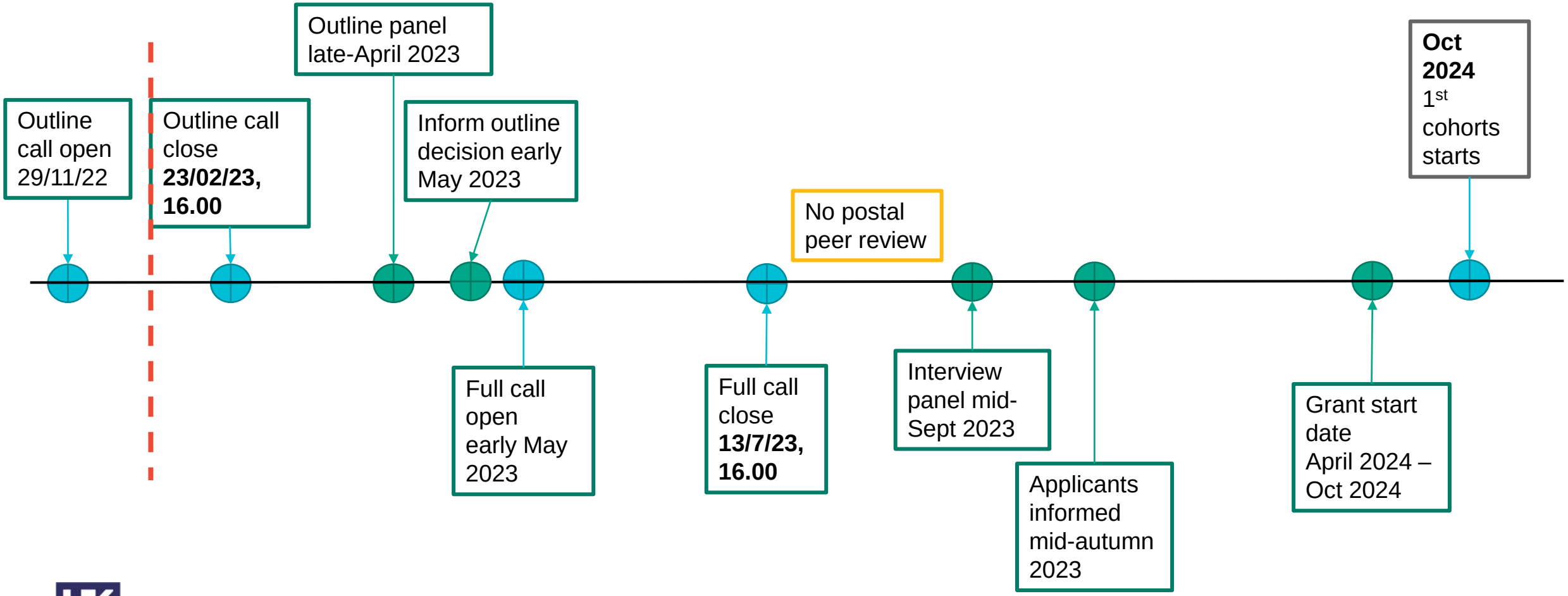
UKRI AI CDT call timeline



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NB this is different to the EPSRC CDT call timeline

Call scope

Expectations

- Seeking a clear need for **cohort-based** doctoral training and an appropriate plan to address this
- **Expectation** of 5 cohorts of minimum 10 students per year
- No restrictions on research doctoral qualification (for example, PhD, EngD)
- **Formal assessable taught programme** – must include responsible innovation
- Opportunities to work both within and across cohorts, and for business/user engagement

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Call scope

Remit

- Proposals in any relevant area of UKRI's remit are welcome, **interdisciplinary proposals** are particularly welcome
- Proposals must focus on the **applications and implications** of novel and existing **AI technologies**
- CDT graduates should have a **sufficient knowledge of AI** and the chosen priority area such that they will be able to **develop and apply novel AI techniques** within that area, discipline or sector.

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Call scope

Remit

- Proposals focused on the **mathematical and computational foundations** of AI without a clear application to one of the priority areas should be submitted to the **EPSRC CDT funding opportunity**
  - Contact ai.cdts@ukri.org if unsure

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Call scope

Priority areas (at least 1 required)	Cross-cutting themes (optional)
Science and research	AI for increasing business productivity
Health	Application of AI to government policy and public services
Environment and energy	
Sustainable agriculture and food	
Defence and security	
Creative industries	
Responsible and trustworthy AI	

Co-creation between different disciplines and engagement with industry and users are strongly encouraged.

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Priority areas

Science and research

This priority area covers **AI to transform research and discovery** across all disciplines, enabling:

- novel hypotheses to be identified
- new questions to be explored
- advanced data-driven approaches to research

You should **identify which fields of research** the training within the CDT would be relevant to and where synergies may exist with other priority areas, if relevant.

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Priority areas

Sustainable agriculture and food

- AI to help the **agrifood sector** to adapt to a range of challenges while ensuring a sustainable supply of safe food and delivering positive nutritional, economic and environmental outcomes globally
- develop students with **interdisciplinary AI expertise**, including the ability to:
  - harness diverse data to deepen our understanding of soils, crops, aquaculture, farmed animals, supply chains, and consumer demand
  - generate novel insights across scales from lab to landscape
  - generate solutions relevant to real-world needs from industry, policy and other stakeholders across food systems from farm to fork

Priority areas

Health

- Development and deployment of AI in the **understanding and management of health and disease**
- Using AI to **support health, resilience and wellbeing through life**
- Training may support the use of AI to generate:
  - new cellular, molecular, mechanistic or causal insight
  - understanding of emerging health threats
  - accelerating development of improved health interventions
- expected to be **collaborative and multidisciplinary**, open to clinical trainees and other technical specialists.

Priority areas

Environment and energy

- AI to advance our **understanding of the natural world** and to address **critical global environmental and energy challenges**.
- Tackle interdisciplinary problems such as:
  - weather and climate prediction
  - modelling greenhouse gas emissions
  - optimising use of energy and resources
  - anticipating extreme events due to natural hazards
  - understanding how behaviour change can address environmental challenges
  - understanding uncertainty and risk in environmental models

Priority areas

Creative industries

- Use and influence of AI spanning content creation, content consumption and analysis of creative outputs
- Develop researchers with:
  - Interdisciplinary skills for careers in the creative sector
  - Understanding of significant ethical implications and questions of consumer trust, as well as regulatory and legal issues related to the use of AI in these contexts

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Priority areas

Responsible and trustworthy AI

- Ensuring the safe and ethical adoption of AI technologies is vital to ensure that they deliver societal and economic benefits.
- Equip students with interdisciplinary expertise in the development and deployment of responsible and trustworthy AI technologies, including technical knowledge and sociotechnical aspects such as fairness, bias and ethics.
- This is a research-focused priority area.

Priority areas

Defence and security

- Applications of AI to ensure the ongoing security and defence of the UK
- deliver students with expertise in the design and use of AI technologies in the defence and security sectors
- Includes how AI systems will be used and affect decision making, and the ability to implement solutions ethically and responsibly
- Show how graduates will get the experience necessary to develop AI within the defence and security sectors

Cross-cutting themes

AI for increasing business productivity

- Addresses industry-oriented AI challenges, unlocking the potential of AI to boost innovation, competitiveness and economic activity.
- CDT training in this theme will ensure the UK has a new generation of researchers equipped with the skills needed by industry to facilitate responsible adoption and exploitation of AI.

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Cross-cutting themes

Application of AI to government policy and public services

- CDT training should result in students
  - with an understanding of policy development and public services,
  - able to use AI techniques in this context
  - familiar with datasets and challenges in their usage relevant to policy making

Eligibility

- Applications must be led by eligible UK organisations which already have suitable arrangements in place to award doctoral qualifications and a **track record** of delivering doctoral training.
- Applications are welcomed from both **single and multi-institutional** teams
- The PI must be from the lead organisation and satisfy standard EPSRC eligibility criteria
- PI and co-Is must be from eligible UK organisation - expect no more than **10 named investigators**
- Welcome as Co-Is research technical professionals and professional research and investment strategy managers who are integral to developing the bid

Eligible costs

- Studentship costs (fees, stipends and appropriate research training support)
  - Base on current 2022/23 rates (including stipends)
  - Justified stipend enhancement
- UKRI CDT students must have minimum 50% UKRI support
- Centre delivery, coordination and management (not supervision)
- Start-up costs for new centres only

(See Additional information guidance)

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Partnerships and leverage

- **No minimum leverage** requirement has been set
  - both cash and in-kind support from non-UKRI sources is strongly expected
- Appropriate user co-creation, contributions and engagement
- No Je-S project partners in outlines
  - give indication of leverage

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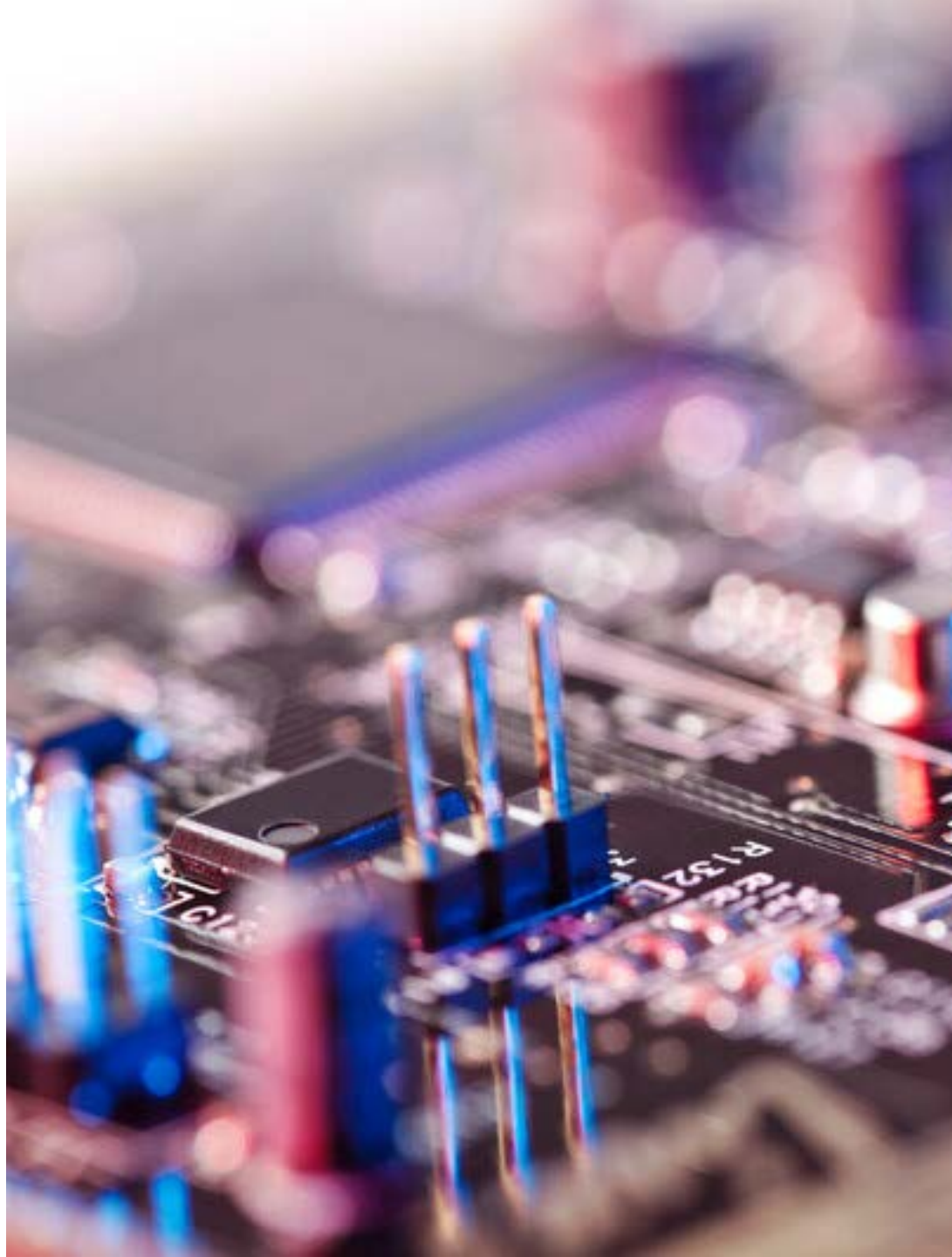
How to apply – Outline stage

- Deadline: **23 February 2023, 4.00pm**
- One Je-S application per CDT proposal
- **Je-S form**
- **3 page case for support**
  - Use section headings: centre vision, student training experience, centre management and pastoral care
- **Additional information form**
  - not seen by panel, for office use only
- **Optional cover letter**
  - not seen by peer review, way to communicate with UKRI
- No further documents (no letters of support required)

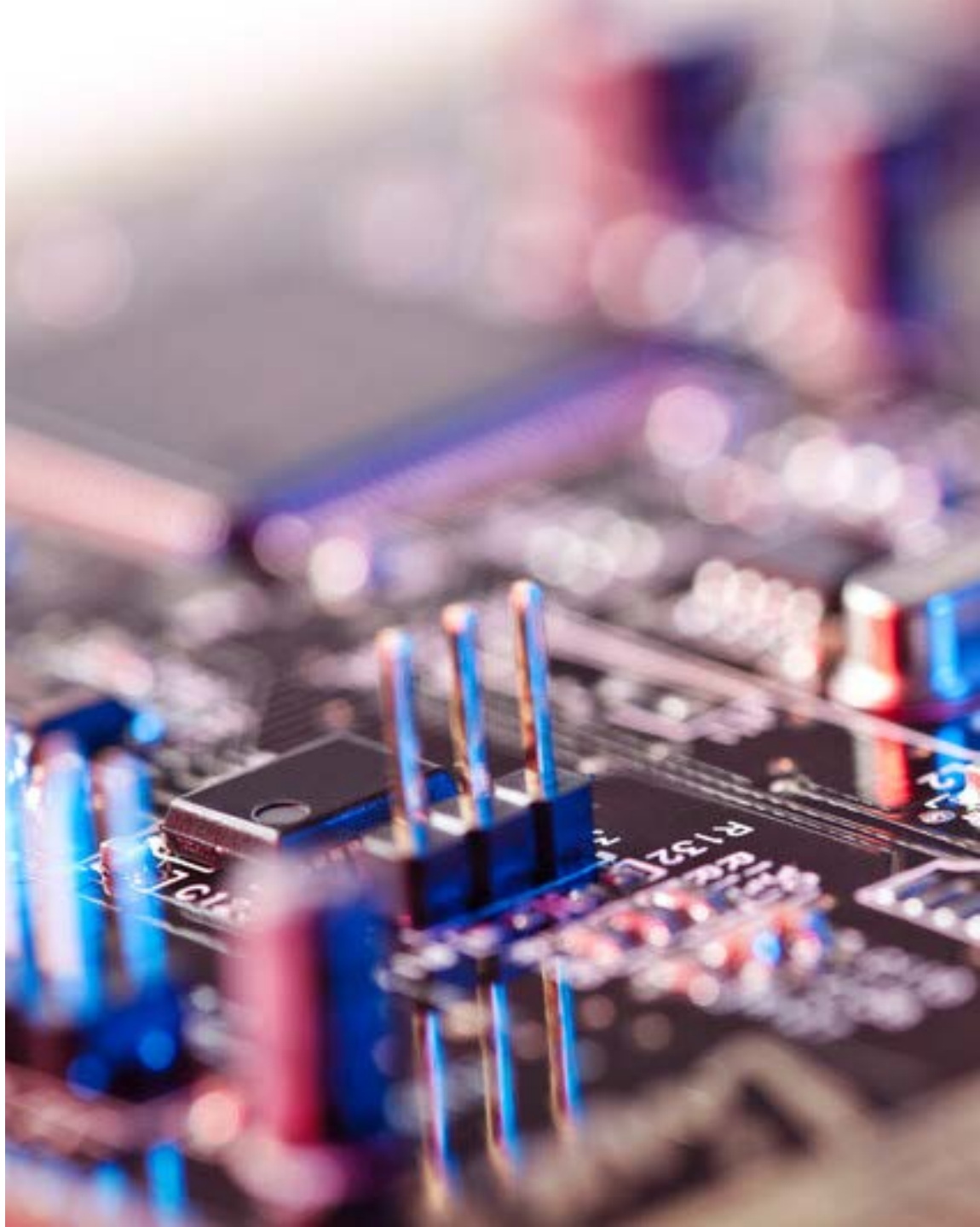
Outline assessment

- Outline panels with mixed expertise w/c 24 April 2023
- Proposals for existing and new centres considered together
- Assessed and banded against criteria:
  - **Fit to call**
  - **Centre management and pastoral care**
  - **Student training experience**
- Decisions expect w/c 1 May 2023
- Expect to invite no more than 30 proposals
- No feedback unless directed by panel



Full proposal stage

- Full details will follow in May
- Publish outline summaries, organisation and PI
- Will require project partner contributions
- No postal peer review, straight to interview
- Criteria to include:
  - **Quality of the student experience**
  - **Research training environment**
  - **Inclusive research culture**
  - **Added value**
  - **Resources and management**



2023 CDT calls comparison

	EPSRC CDT call	UKRI AI CDT call
Funding	£324m	£117m
Eligibility	Applications must be led by a research degree awarding body.	Applications must be led by research organisations which already have suitable arrangements in place to award doctoral qualifications and a track record of delivering doctoral training.
Demand management	At least 1 proposal as lead organisation. Organisations have been notified where they may submit more than 1 proposal as lead.	**Maximum of 2 proposals** as lead organisation.
Timelines	Outline deadline: **7 March 2023** Full proposal deadline: 12 September 2023 Interviews: November 2023	Outline deadline: **23 February 2023** Full proposal deadline 13 July 2023 Interviews: mid-September 2023
Cohort size	**Required** minimum cohort size of 10 students per academic year	**Expected** minimum cohort size of 10 students per academic year. Smaller cohorts may exceptionally be permitted where a strong rationale can be provided.
Leverage	**Minimum 20% cash** contribution **required** towards total studentship costs	Diversity of potential partners across UKRI's remit means **no minimum leverage requirement** has been set. However, both cash and in-kind support is **strongly expected.**

FAQs

- Will an organisation's cap on number of proposals be affected if UKRI/EPSRC decides to move an AI or EPSRC proposal between calls?
  - *Exceptionally UKRI/EPSRC may decide to transfer a proposal from one call to the other following the outline stage, this will be done on a case-by-case basis. The organisation will not be disadvantaged.*
  - *Outline proposals should be submitted on the basis of the call's remit. Contact ai.cdts@ukri.org or students@epsrc.ukri.org for advice.*

FAQs

- Can non-UK base organisations be project partners?
  - *Contributions from non-UK based project partners (e.g. international funding agencies, companies or other organisations) are welcome, subject to UKRI's trusted research and innovation principles.*
  - *Students registered at international institutions will not count towards the student cohort numbers.*

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Questions?

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Thank you

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