UKRI Trustworthy Autonomous Systems Hub programme: Agile/Integrator Programme (2023)

**Key dates**

[Submit ideas](https://bit.ly/412p0Ky) (Abstracts): 21 March 2023

Project Sandpits: 28-30 March (Details TBC)

Submission due date: 10 May 2022 16:00 UK time

*Last updated: February 2023*

Researchers at institutions involved in the UKRI TAS programme Network (Hub, Nodes, Responsibility projects, Pump Priming projects, International Partners) are invited to participate in the Hub’s Agile/Integrator programme to develop new collaborative research proposals.

This programme aims to encourage TAS Network researchers to establish areas of common interest, explore collaborative ideas, and foster new research partnerships.

**IMPORTANT NOTE**

The Agile/Integrator Programme *does not represent a new stream of funding*; it relies on utilisation of existing research staff within the TAS Network to develop and carry out research activities. We welcome activities that range in scale and scope but do not exceed 12 months in duration.

Projects supported in this programme will include:

* Agile projects, in which multidisciplinary teams *from the Hub* will propose, develop and engage in focused research to *complement* and *inform* ongoing research in TAS;
* Integrator projects, in which multidisciplinary teams from across the TAS Network will *expand, integrate* and *enhance* ongoing TAS research and establish new links across the wider TAS Network.

Your proposed project should integrate researchers from different disciplines, particularly from social sciences, arts and humanities and propose research on the technical, social and ethical challenges surrounding responsible and trustworthy autonomous systems and AI.

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## **Who can apply?**

This call is *only* open to applicants at one of the research institutions formally involved in the TAS programme (Hub, Nodes, Responsibility projects, and Pump Priming projects) and must have the approval of the local PI(s) to apply.

Early-Career Researchers (ECRs) are particularly encouraged to lead proposal development.

Research in trustworthy autonomous systems needs a multidisciplinary approach. We are therefore particularly interested in supporting multidisciplinary teams with the appropriate expertise to develop novel and creative research activities that are focused on trustworthiness as a property for autonomous systems. Successful applicants will be expected to collaborate with the wider [UKRI Trustworthy Autonomous Systems (TAS) programme (TAS website).](http://www.tas.ac.uk/)

We would encourage researchers from all the disciplines that are supported by UKRI to apply, including but not limited to:

* applied ethics
* computer science
* engineering
* humanities
* innovation studies
* international studies
* law
* organisational management
* philosophy
* politics
* psychology
* sociology

Further standard UKRI eligibility criteria apply. You can apply if you are resident in the UK and meet *at least one* of the bullets below:

* are employed at the submitting research organisation at lecturer level or above
* hold a fixed-term contract that extends beyond the duration of the proposed project, and the host research organisation is prepared to give you all the support normal for a permanent employee
* hold an EPSRC, Royal Society or Royal Academy of Engineering fellowship aimed at later career stages (excl. industry employees)
* hold fellowships under other schemes (please contact us to check eligibility, which is considered on a case-by-case basis).

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## **What we're looking for**

Projects supported by this programme either *complement* and *inform* ongoing research within the TAS Network (not duplicate it) or *integrate* and *expand* on it(not simply carrying on with ongoing work).

This call aims to support creative, inter- and multi-disciplinary research which focuses on the challenging question of how to ensure that the design, engineering, and operation of autonomous systems generate positive outcomes and mitigate potentially harmful outcomes for people, societies, economies and the environment. Successful proposals would seek to address factors that impact the trustworthiness of autonomous systems, including but not limited to:

* Their robustness in dynamic and uncertain environments.
* The assurance of their design and operation through verification and validation processes.
* The confidence they inspire as they evolve their functionality.
* Their explainability, accountability, and understandability to a diverse set of users and stakeholders.
* Their defences against attacks on the systems, users, and the environment they are deployed in.
* Their governance and the regulation of their design and operation.
* The consideration of human values and ethics in their development and use.

While researchers are encouraged to link their research to any appropriate application area, we are particularly encouraging the following **priority application area(s)** for this round:

1. **TAS Legacy & Impact.** Projects that cement the key overarching insights, methodologies and technologies that may have impact for years to come for the TAS programme. We are looking for breadth across the TAS Horizontals and Verticals (see below) including the previous challenges of TAS for a fair and inclusive world and TAS for net zero.
2. **Future Responsible and Trustworthy AI.** Projects that identify and address some of the persistent and/or pertinent challenges underpinning the renewed interests and priorities of the new UKRI RTAI programme (see [the UKRI RTAI call](https://www.ukri.org/opportunity/responsible-and-trustworthy-artificial-intelligence/)).



**Note that all proposals submitted will be assessed equally**, irrespective of their application area and whether or not it aligns with the above priorities.

We understand an autonomous system to be a system involving software applications, machines, and people, that can take actions with little or no human supervision. While the term is also used in different disciplines to specifically mean robots, routing protocols for the Internet or AI-powered systems, our definition[[1]](#footnote-2) includes systems involving **both humans and machines working together** (e.g., human-agent collectives or human-machine teams), **and automated decision-making processes and the ways in which they are employed by and impacting on people** (e.g., automated recruitment, facial recognition systems). Machine-to-machine or Human-to-Human trust are also an important concern and may be relevant to TAS but these are not central to the TAS programme.

A balanced range of projects will be awarded.

The activities that are supported through this call will run alongside, and are expected to complement, the existing UKRI TAS Hub programme and contribute to the world-leading research into the technical, social and ethical challenges that surround trustworthy autonomous systems.

In addition to collaborating with the wider programme, it is anticipated that successful applicant teams will also engage with stakeholders and users of the research, who are essential to the design, conduct and impact of application-orientated research.

We envisage that the successful research activities will deliver primarily against the creative, multidisciplinary and cross-cutting research of this call by:

* Creating collaborative cross-cutting research projects that bring together researchers from across the TAS Network
* Review and reflect on cross-cutting theories, methodologies and themes on TAS that can have legacy and impact
* Identifying and addressing gaps and key challenges for future creative multidisciplinary research on responsible and trustworthy AI
* Co-creating and carrying out the research with stakeholders and users from industry and other sectors in society
* Conduct knowledge exchange, enterprise and/or outreach activities to communicate TAS research to a wider audience or develop market capabilities
* Consolidating skills and capability in the development of trustworthy autonomous systems by reviewing best practices across the TAS Network
* Contributing to the development of a cohesive and world-leading international community in trustworthy autonomous systems

### **Available support**

This programme *does not represent a new stream of funding*; it relies on utilisation of existing research staff within the TAS Network to carry out research activities.

Subject to availability of funds and ensuring we maintain our agreed UKRI spending profile, Hub and Node resources can be requested to support a range of activities such as travel, workshops (both COVID permitting!), research expenses, staff time or interns.

Resource requests should *only* include Directly Incurred costs; however, these costs must be covered by the current research budget within the applicant‘s organisation. Directly Allocated costs are expected to be contributed in-kind (it is assumed that DA time is already funded by UKRI).

Before submission, the local PI(s) of the relevant Network project(s) *must agree* to the participation in the programme.

**How to apply**

Prospective applicants are strongly encouraged to submit their project idea(s) and take part in the virtual sandpits to collaboratively develop the project idea and build a multi-disciplinary and cross-institutional team.

Please note the key dates section for the deadlines for each of these activities.

Applicants should ensure they are aware of and comply with, any internal institutional deadlines that may be in place.

Proposals should be prepared using the provided template, completing all the sections, and submitted in a PDF format via the ERPNext online application portal. Proposals must contain an explanation of how the proposed work aligns with the objectives of the TAS programme and how it fits into the frame of the TAS Hub.

Applicants should be explicit about the added value their proposed activity brings to a specific area of the programme.

The TAS Hub reserves the right not to support a project if ethical concerns exist and/or are raised by the reviewers or panels members. Concerns may include overlooked aspects, or issues not appropriately accounted for. You must complete the EDI and RRI section to identify and demonstrate how challenges will be addressed as part of the research. The local PI associated with a project will need to be consulted prior to submission to ensure the project is compliant with their terms as well.

An eligible member of the research investigation team will be identified as the Main Contact. They will submit the bid and be the point of contact with TAS Hub, which is administering the process, for all communication during the bid and post-award (if successful). The Main Contact must register their intent to submit a proposal during the registration period. A user account will be created for registrants who do not have an ERPNext user account, and they will receive a welcome email with details and instructions to access the system. It is particularly important for applicants who do not currently have ERPNext accounts to register in sufficient time prior to the submission window.

Access to ERPNext home page is via the following link: <https://erpnext.tas.ac.uk>

There is a User Instructions link to detailed user guides for “System Access” and “Agile/Integrator Bid Submission”. To complete your bid submission, you will need to complete a bid details form in ERPNext and upload your proposal document. Sections of the form include:

* Key project details, bid summary & proposal upload
* Project team
* Financial information
* Alignment to TAS Hub & Nodes

The Agile/Integrator Bid Submission user instruction explains all the sections of the bid form. You can save and return to progress completion of the bid. Once you “Submit” your proposal you will receive a confirmation email, including details of your submission.

## **How we will assess your application**

### **Assessment process**

This call will use a two-step assessment process.

#### Step one: postal peer review

Proposals will be sent out for peer review. Peer review will consider the assessment criteria detailed below.

Any proposals without sufficiently supportive reviews will not be considered further at this stage. Any proposals without approval from relevant PIs (of relevant TAS Network projects) cannot be supported further.

#### Step two: panel

Proposals with sufficiently supportive peer review will be considered by a panel of experts to select the final successful proposals.

All criteria detailed below will be assessed in determining the final rank-ordered list, taking into consideration the peer review comments.

Supporting decisions will be made based on the rank-ordered lists as well as the nature of the projects. To ensure a balanced portfolio of activities, we will aim to support a balanced range of projects (see section ‘What we are looking for’).

Whether the decision is to support the proposed research or not, we will endeavour to provide constructive feedback to the applicants to develop the idea further for submission to a funding opportunity in the future.

### **Assessment criteria**

Proposals will be evaluated based on their innovation, relevance to stakeholders, applicant team and alignment with the TAS Hub programme.

All submitted projects will be evaluated according to the following criteria:

**Quality of the proposed activity (primary)**

* Novelty, timeliness, ambition, potential to transform research or knowledge exchange
* Contribution to state-of-the-art or advancement of knowledge
* Adequate consideration of trust or other core issues for TAS
* Suitability of proposed methodology
* Realistic and achievable objectives and work plan, evidence of risk mitigation

**Relevance to stakeholders (secondary major)**

* Evidence of **at least one** named non-academic project partner
* Relevance of the project to identified stakeholders and sectors, clear consideration of impact pathway
* Evidence of project co-creation with partners

**Applicant team (secondary major)**

* Expertise and capabilities within the applicant team to deliver the project
* Multi-disciplinarity: investigator involvement from **at least two** disciplines
* Suitability of the plans to include a diverse range of investigators from different backgrounds and career stages, particularly the inclusion of suitable early career researchers is encouraged

**Fit to the TAS research programme (secondary major)**

* Relationship to the TAS Hub Grand Challenges and/or priority areas
* Potential for planned outputs to impact on TAS programme

**Equality, Diversity & Inclusion and Responsible Research & Innovation (secondary major)**

* Plans to embed responsible innovation in the project
* Adequate consideration of EDI in terms of the research or knowledge exchange

**Resourcing (secondary)**

* Adequate and fully justified resourcing
* Risks to resourcing fully identified and mitigated, including appropriate plans to manage finances during the lifetime of the activity

## **Contact details**

For help and advice on costings and writing your proposal please contact your research office in the first instance, allowing sufficient time for your organisation’s submission process.

Any general queries regarding the submission of proposals through ERPNext should be directed to the TAS operations team:

* **opsteam@tas.ac.uk**

Any system technical issues in using ERPNext should be directed to the ERP Technical Support Team:

* **erpteam@tas.ac.uk**

Our working hours are Monday to Thursday, 08:30 to 17:00 UK Time and Fridays, 08:30 to 16:30 UK time, excluding bank holidays and other holidays.

For any other call specific information:

* please email **opsteam@tas.ac.uk**

**Supporting documents**

[Proposal Form](https://bit.ly/3xL13KJ) – Microsoft Word Document

1. https://www.tas.ac.uk/our-definitions/ [↑](#footnote-ref-2)