

Quick Reference

Please note that you must read the full Call document for guidance before submitting your proposal

Trustworthy Autonomous Systems Hub

Call type: Invitation for full proposals

Closing date: 16:00 12 March 2020

Funding Available: Up to £11.7 million available to support one coordination Hub. This funding is part of the Strategic Priorities Fund (SPF).

How to apply: Please note applications will **only** be accepted from those who were successful at the outline stage and have been **invited** to submit a full proposal.

Assessment Process: Invited full proposals will be assessed by postal peer review followed by a panel interview.

Key Dates:

Activity	Date
Invited full proposals submission deadline	16:00 12 March 2020
Full proposal – Interview panel	Week commencing 20 April 2020
Funding decision	May 2020
Hub start date	1 June 2020 (fixed start date)

Additional information: Please note that this is a call for Hub full proposals only. Only invited full proposals will be accepted at this stage. There will be a separate call for research Nodes expected to open in December 2019.

UKRI would like to emphasise that a highly multidisciplinary approach will be required to deliver the objectives of this investment and to tackle the research challenges in the TAS agenda. Multidisciplinary applications led by and involving any discipline from across UKRI portfolio are encouraged.

Due to the nature of this funding stream there will be specific spending requirements, monitoring and evaluation. These aspects will be reflected as specific grant conditions.

Contacts:

- Please email AI.Robotics@epsrc.ukri.org for general enquires.
- Dr Alex Shevchuk (Alex.Shevchuk@epsrc.ukri.org – 01793 44 4476)
- Dr Victoria Mico (Victoria.MicoEgea@epsrc.ukri.org – 01793 44 4562)

UK Research and Innovation

Trustworthy Autonomous Systems Hub

Call type: Invitation for full proposals

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Summary

Please note applications will only be accepted from those who were successful at the outline stage and have been invited to submit a full proposal.

UKRI is inviting full proposals for the coordination Hub, which will act as a focal point of the UKRI Trustworthy Autonomous Systems programme. Up to £11.7 million will be available to fund one Hub for 48 months, with a fixed start date on 1 June 2020. Of these £11.7 million, it is expected that approximately £4 million will be distributed by the Hub through a competitive process to pump-prime new connections, creative new research directions and new application areas, for researchers across the research community. This programme will be funded through the Strategic Priorities Fund (SPF).

The deadline for Hub Full proposals is **16:00 12 March 2020**. Proposals will undergo postal peer review followed by an interview panel. The successful team will be required to start their activities on 1 June 2020.

Please note that there will be a separate call for the Nodes which will run in parallel, but slightly off-set from this call for the Hub to enable time for multidisciplinary collaboration building. It is anticipated that a call for proposals for the research Nodes will launch in December 2019, and information about the call will be openly available ahead of this time.

Background

Autonomous systems are already being developed and deployed across industrial sectors in specific, controlled conditions, with little focus on trustworthiness. When autonomous systems are used in an uncontrolled environment, where there is a high level of interaction with people and a much larger number of variables, the resulting potential for unexpected and/or undesirable results is non-negligible. These unanticipated events could have a very significant negative impact on the acceptability and thus compromise widespread deployment of autonomous systems in the UK.

For society to use and benefit from autonomous systems people need to trust them. This means that the autonomous systems need to function as expected for their purpose, and they need to be designed and tested to ensure that they work consistently, and that they are appropriately developed within a legal, ethical and social context. Trust will only be enabled through technical advances conducted in specific societal circumstances.

To ensure that autonomous systems can be trusted, and ultimately adopted by society, fully integrated advances in **both technical, and social sciences and humanities research** are needed. For example, research in logic, autonomy and intelligence and engineering (robotics & vehicles) is needed, but these technical developments must be carried out in the context of fundamental social sciences and humanities research across psychology, sociology, economics, ethics, philosophy, law, political science, international studies, innovation management and science and technology studies. The engagement of multiple disciplines in this endeavour, alongside regulators and the public, is key to ensuring that autonomous systems are developed to be used in real world situations.

The UK has significant strengths in computing and autonomous systems, and there is a strong track record of collaboration between these fields and researchers in the social sciences and humanities. UKRI has a number of key activities in the landscape, including (but not limited to) investments made within the Digital Economy Programme, UKRI ISCF in Robotics in Extreme Environments, and networks in 'Validation and Verification of Autonomous Systems' and 'Robotics and Autonomous Systems'. However, the apparent lack of a coherent community or truly recognised authority in trustworthy autonomous systems has been identified as a barrier to the UK successfully developing, deploying, and adopting autonomous systems.

In this Context, UKRI is investing £33m in Trustworthy Autonomous Systems through the Strategic Priorities Fund (SPF). The Trustworthy Autonomous

Systems (TAS) programme aims to bring together the research communities and key stakeholders to drive forward cross-disciplinary fundamental research to ensure that autonomous systems are safe, reliable, resilient, ethical and trusted.

This investment has the following objectives:

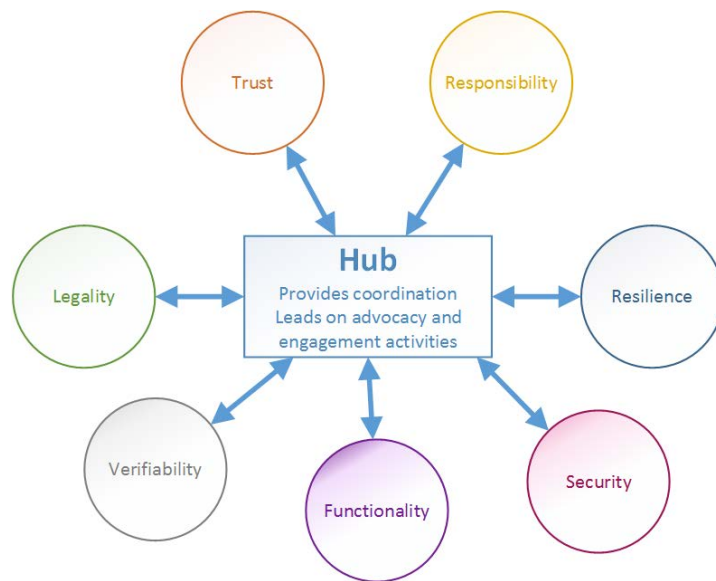
- a) **Coordination and collaboration** - To build a coherent, interconnected and multidisciplinary UK research community around the theme of Trustworthy Autonomous Systems, bringing together pre-existing activities and a diverse range of stakeholders.
- b) **Creativity and multidisciplinary** - To invest at scale in world-leading creative and adventurous fundamental research into the technical, social and ethical challenges surrounding Trustworthy Autonomous Systems, drawing on diverse approaches from across disciplines.
- c) **Advocacy and engagement** - To establish a UK focal point for active engagement with the autonomous systems agenda and enable engagement with key stakeholders including wider academia regulators, policy makers, industry, businesses, Non-Governmental Organisations and the public.

These objectives of the programme will be delivered through two discrete but interdependent components, a single **hub** and multiple research **nodes**:

- A central **Hub** to build and lead a world-leading multidisciplinary research community. The hub will lead on both the **coordination** and **advocacy & engagement** objectives, building an interconnected research community, and proactively engaging across stakeholders. The Hub (either virtual or physical) is intended to be a single point of engagement for different stakeholders (e.g. industry, businesses, professional bodies, government), help drive culture change and integration of trustworthiness across autonomous systems research, as well as undertaking public engagement activities. It is anticipated that the Hub will also conduct highly multidisciplinary research into cross-node issues and have a key role in delivering pump prime funding for community building activities and to support new ideas, creative research directions, and applications of this research in real world, user-driven contexts.
- Multiple **research nodes** to undertake fundamental, creative and multidisciplinary research in a number of areas of current un-met need. The nodes will be separate entities connected to the hub and they are expected to address a research challenge in depth. Each node will be expected to collaborate broadly with other nodes, the hub and the wider community.

It is expected that each node will focus on **one** of the following aspects: trust, responsibility, resilience, security, functionality, verifiability and legality. It is anticipated that each of these topics will be tackled by a multidisciplinary team. The nodes will be expected NOT to focus on sectorial application, but instead to take a cross-cutting multidisciplinary approach to deliver fundamental research. Building on this fundamental research, application-oriented research may be undertaken in partnership with stakeholders and users of research, to demonstrate how the outcomes of the fundamental research might be exploited in real-world

and sector-specific contexts. **A separate call for these nodes will be issued in December 2019.**



In preparation for the UKRI SPF funded TAS programme and to facilitate interactions and collaborations between interested parties, UKRI is holding a Town Hall meeting event in London on 18 October 2019 as described on <https://epsrc.ukri.org/newsevents/events/ukri-trustworthy-autonomous-systems-programme-town-hall-meeting/>. Note that having attended to the event is not mandatory and is not a pre-requisite for being eligible to this call. Similarly, attendance the Town Hall meeting will NOT guarantee subsequent funding.

Scope of the call – coordination Hub for the TAS programme

This call document is seeking applications for the **coordination Hub only**. A separate call document will be issued for the research nodes and information will be readily available prior to the nodes call launch.

Expectations of the Hub

It is anticipated that the Hub will lead on aspects of all three objectives of this investment in Trustworthy Autonomous Systems (as above) and play a key role in providing national leadership and coordination to the programme and the research community by:

- Building a world-leading multidisciplinary research community, facilitating its engagement and driving international collaboration
- Creating an inclusive and accessible research environment and facilitate wide participation from across the UK research and innovation community
- Delivering funds to pump-prime new research ideas and opportunities across the community effectively and transparently
- Undertaking highly multidisciplinary research to complement the research activities of the nodes
- Providing a single point of engagement for the community and key

stakeholders in industry, businesses, government, regulation and policy making, as well as the public.

UKRI would like to emphasise that a highly multidisciplinary approach will be required to deliver the objectives of this investment and to tackle the research challenges in the TAS agenda. Hence it is expected that applicant teams to be highly multidisciplinary to provide balanced leadership to the programme. The principal investigator will be expected to evidence strong leadership and management skills.

Activities undertaken by the Hub *may* include (but are not limited to):

- Workshops for community building and engagement across disciplines
- Designing and delivering training activities around for researchers, practitioners and other stakeholders to drive culture change around the design of autonomous systems
- Initiatives to build and enable national and international collaborations and position the UK in an world-leading position
- Developing a repository of tools, materials and reports, advancing data collection and methodologies
- Undertaking public engagement activities, and producing communications around the benefits of autonomous systems
- Showcasing UK autonomous systems research, included that conducted within the programme, sharing its benefits, discussing issues openly and seeking solutions through engagement with stakeholders and users
- Road-mapping existing research challenges in the autonomous systems landscape, as well as user problems, needs and concerns, and use this to set the direction of the programme's research
- Undertaking fundamental multi-disciplinary research which cuts across and is complimentary to that undertaken by the nodes
- Engaging with policy makers, including UKRI, to influence the autonomous systems landscape

Funding available

Up to £11.7 million (inclusive of £4 million for pump-priming) will be available to support one Hub for 48 months, with a fixed start date of 1 June 2020.

Please note that there will be a separate call for the Nodes which will run in parallel, but slightly off-set from this call for the Hub to enable time for multidisciplinary collaboration building. It is anticipated that a call for the research Nodes will open in December 2019, and information about the call will be openly available ahead of this time.

Please note that due to the nature of this funding, **additional requirements on spending profile, reporting, monitoring and evaluation and extension will apply**. This will be reflected in specific grant conditions and those funded (Hub and Nodes) will need to comply with them. Further details are provided in the Additional Grant Conditions section below. In particular, note that **grant extensions will only be considered under exceptional circumstances (in line with the Equality Act 2010)** and will require UK Research and Innovation agreement on a case-by-case basis. The Research Organisation remains responsible for compliance with the terms of the Equality Act 2010, including any subsequent amendments introduced while work is in progress, and for ensuring that the expectations set out in the UK Research and Innovation statement of expectations for equality and diversity are met.

Equality, Diversity and Inclusion

The long term strength of the UK research base depends on harnessing all the available talent. EPSRC expects that equality and diversity is embedded at all levels and in all aspects of research practice and funding policy. We are committed to supporting the research community, offering a range of flexible options which allow applicants to design a package that fits their research goals, career and personal circumstances. This includes career breaks, support for people with caring responsibilities, flexible working and alternative working patterns. With this in mind, we welcome applications from academics who job share, have a part-time contract, or need flexible working arrangements.

Peer review is central to EPSRC funding decisions, we require expert advice and robust decision making processes for all EPSRC funding initiatives. We are committed to ensuring that fairness is fully reflected in all our funding processes by advancing policy which supports equality, diversity and inclusion. Please see our Equality and Diversity webpages <https://epsrc.ukri.org/funding/equalitydiversity/> for further information.

Guidance on Journal-based metrics

As part of our commitment to support the recommendations and principles set out by the San Francisco Declaration on Research Assessment (DORA; <https://sfdora.org/read/>), UKRI reviewers and panel members are advised not to use journal-based metrics, such as journal impact factors, as a surrogate measure of the quality of individual research articles, to assess an investigator's contributions, or to make funding decisions.

The content of a paper is more important than publication metrics, or the identity of the journal, in which it was published, especially for early-stage researchers. Reviewers and panel members are encouraged to consider the value and impact of all research outputs (including datasets, software, inventions, patents, preprints, other commercial activities, etc.) in addition to research publications. We advise our peer reviewers and panel members to consider a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

Equipment

Equipment over £10,000 in value (inc. VAT) is not available through this call. Smaller items of equipment (individually under £10,000) should be in the Directly Incurred - Other Costs heading (at the full proposal stage).

For more information on equipment funding, please see:
<https://epsrc.ukri.org/research/facilities/equipment/>

Eligibility for this call, standard UKRI eligibility rules apply relating to the status of the organisation and the employment status of individuals applying. Investigators from **all disciplines supported by UKRI** are welcomed and encouraged to apply.

Eligible organisations are Higher Education Institutes, Research Institutes and Research Organisations that can apply for funding from UKRI Research Councils. A list of eligible organisations to apply to UKRI is provided at:
<https://www.ukri.org/funding/how-to-apply/eligibility/>.

Certain Public Sector Research Establishments (PSREs) are also eligible to apply. If PSREs wishing to apply have not previously applied for UKRI funding and are not currently designated Independent Research Organisation (IRO) status, they may be required to complete an eligibility form. To be eligible, PSREs will need to demonstrate research capacity and capability relevant to UKRI, as per the standard eligibility rules. PSRE applicants should contact UKRI at the earliest opportunity to discuss their interests in applying (contact details are provided at the start of this call document).

For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide:
<https://epsrc.ukri.org/funding/applicationprocess/fundingguide/>

How to apply

A two-stage application process will be used in this call:

- **Stage 1: Outline proposal** must be submitted by 16:00 on 12 December 2019. There is a separate call document for Hub Outlines here:
<https://epsrc.ukri.org/funding/calls/trustworthy-autonomous-systems-hub-outline-call/>
- **Stage 2: Invited full proposal**. The deadline for full proposal submission is 16:00 12 March 2020. Only invited full proposals will be accepted at this stage and any unsolicited proposals will be rejected.

Stage 2: Submitting a Full proposal (invited only)

Please note that this call document is for full proposals only. The Hub Outline call document, including guidance for submissions, is published here:
<https://epsrc.ukri.org/funding/calls/trustworthy-autonomous-systems-hub-outline-call/>

If successful at the outline stage, the invited full proposals must be received by the deadline of **16:00 12 March 2020**. Your application should be submitted using the Research Council's' Joint Electronic Submission (Je-S) System (<https://je-s.rcuk.ac.uk>).

Note that clicking 'submit document' on your proposal form in Je-S initially submits the proposal to your host organisation's administration and not to UKRI. Please ensure you allow sufficient time for your organisation's submission process between submitting your proposal to them and the Call closing date, which will be **16:00 12 March 2020**.

Guidance on writing a Full proposal

Applicants are advised to consider the assessment criteria for the full proposal stage of this call, as well as the strategic drivers to ensure that these are appropriately addressed within the application.

Full proposal submissions should contain the following documents:

- **Je-S application form**
- **Full Case for Support (10 sides of A4)**
 - **2 sides of A4** track record highlighting the skills, expertise and experience of the Hub Director and their team as relevant to this programme. Any examples of prior successes and/or lessons learnt from running large-scale or multi-disciplinary project may be included. For the Hub Director, there should be evidence of strong leadership, ambassadorship and management skills.
 - **8 sides of A4** to include:
 - Background
 - Vision, ambition and added value of the proposed Hub, and how it will deliver the objectives of the TAS programme
 - How the proposal will deliver against the expectations of the Hub set out in this document
 - Plans to undertake research that complements the nodes' activities and what this may look like
 - External collaboration and engagement plan, including how engagement with stakeholders across sectors will be achieved
- **Management Strategy (2 sides of A4)**
 - This document should include:
 - Day-to-day management of the programme
 - Strategy for node coordination
 - Approach to monitoring the progress of the programme

- Strategy for managing the pump prime fund and how these will be distributed
- **Justification of Resources (2 sides of A4)**
 - This should be a two page narrative description of the need for the resources requested. See the webpage for further guidance: <https://epsrc.ukri.org/funding/applicationprocess/preparing/writing/jor/>
- **Work plan (2 sides of A4)**
 - Applicant teams should include a comprehensive plan for the start of the project and relate to their management strategy to set appropriate milestones. It is not expected that this will be a Gantt chart for the whole time of the project.
- **Pathways to Impact (4 sides of A4)**
 - This document should describe the envisaged impact and the plans to maximise this, as well as the strategy for engaging with potential users.
- **Project Partner Letter(s) of Support (no max)**
 - These must be on headed paper, signed and dated within 6 months of submission.
- **Proposal Cover Letter (2 sides of A4)**
 - This letter will only be seen by UKRI, and gives applicants the opportunity to express any other information they feel is relevant to their application

User Engagement Strategy

The Hub will act as a single point of contact for all stakeholders with an interest in TAS. Applicants are required to develop and execute a strategy for engaging stakeholders and potential users of the research funded in the project (resources for this activity can be requested as part of the Pathways to Impact and must be justified in the application).

Assessment

Assessment process

This call will use a three-stage assessment process.

Stage 1 - Outline proposal

The Hub outline call document with details on the assessment for Outline proposals is here: <https://epsrc.ukri.org/funding/calls/trustworthy-autonomous-systems-hub-outline-call/>

There will be no postal peer review of outline proposals. Outline proposals will be considered by an independent multidisciplinary panel with the necessary

expertise to assess the proposals against the criteria listed below. Successful outline proposals will be invited to submit a full proposal.

Stage 2 – Invited full proposals

Invited full proposals will undergo postal peer review.

Full proposals that do not have sufficiently supportive reviews will be rejected at this stage. Proposals with supportive enough reviews will progress to an interview panel stage, and the applicants will have the chance to respond to any comments made by the reviewers prior to the interview.

Stage 3 - Interview Panel

An interview stage will be held in order to select the final successful proposal. The interview panel will have sight of the proposal documents, the reviewers' comments and the applicant's response to the postal peer review. The interview panel will focus on the 'applicant team' assessment criteria but based on the comments of the postal peer reviewers, all the other criteria may also be assessed.

The Principal Investigator and up to two others identified on the proposal will be invited to attend the interview. Full details of the interview process will be sent to candidates prior to the interviews.

Assessment criteria

Stage 2 and 3 – Invited full proposals stage and interview

Invited full proposals will undergo postal peer review and will be assessed against the following assessment criteria:

- **Quality of the proposed approach (primary)**
 - Appropriateness of the proposed Hub approach for delivering the objectives of the TAS programme
 - Approach to creating an inclusive research environment accessible to the wide UK autonomous systems research community
 - Approach to facilitating, enhancing and sustaining multi- and interdisciplinarity across the programme
 - Strategy for providing a single point of contact between the research community and stakeholders in industry, businesses, government, regulation and policy making, the third sector and the public
 - Demonstrable ability to plan and undertake ambitious, risky and creative research that will complement and build upon the research activity of the nodes, despite the identity of the nodes not being known yet
- **National Importance of the TAS programme**

- Evidence that a unique world-leading coordination and research activity for TAS will be delivered
- Evidence that the proposed Hub will place the UK in a leading position in research, innovation and adoption of autonomous systems
- **Pathways to Impact**
 - Effectiveness of the proposed stakeholder engagement strategy, including facilitating links between non-academic stakeholders, the broader research community and the public
 - Approach to supporting and maximising new opportunities arising from the research conducted in the programme
 - Evidence for effective routes to driving and supporting international collaborations
- **Applicant team**
 - Recognised leadership and international standing of the Hub Director, and evidence of their ability to provide direction to, and advocacy for the TAS programme at a strategic level
 - Demonstrable ability of the applicant team to build and lead a coherent, coordinated and inclusive autonomous systems community
 - Demonstrable ability of the applicant team to manage this significant investment effectively and collaboratively, ensuring that it delivers against the objectives and expectations of the TAS programme
- **Resources and management**
 - Strong management plan and risk mitigation strategy
 - Appropriateness of the requested resources
 - Approach to managing and distributing pump priming funds with due consideration to the principles of Peer Review and the robustness and transparency required for managing public funds
 - Strategy for seeking and enacting external advice

Guidance for reviewers

Information about the EPSRC peer review process and guidance for reviewers can be found at: <https://epsrc.ukri.org/funding/assessmentprocess/review/>

Guidance for reviewing standard calls can be found here: <https://epsrc.ukri.org/funding/assessmentprocess/review/formsandguidancenotes/standardcalls/>

Additional grant conditions (AGCs)

Grants will be subject to the standard UK Research and Innovation grant conditions. However, the nature of this funding will require additional grant additional conditions, such as expenditure, extensions, monitoring and evaluation. These additional conditions are given in Annex 1. Note that these conditions may be amended or further conditions may be added to those below before the grant is awarded.

Moving forward

If you are currently restricted under the Repeatedly Unsuccessful Applicants Policy, you may submit unlimited outlines, but you will only be able to submit one full proposal (as PI or CO-I) during the 12 month restricted period.

Full submissions to this call will count towards the Repeatedly Unsuccessful Applicants Policy. Further information about the policy can be found at: <https://epsrc.ukri.org/funding/howtoapply/basics/resubpol/rua/>

Key dates	Date*
Invited full proposals submission deadline	16:00 on 12 March 2020
Full proposal – Interview panel	Week commencing 20 April 2020
Funding decision	May 2020
Hub start date	1 June (fixed start date)

*UKRI aims to adhere to the key dates as published, however there may be exceptions where the sift, prioritisation or interview meeting may have to change due to panel member availability.

Contacts

Requests for help and advice concerning the writing and costing of your proposal should be addressed to the Research Office within your institution.

If you have any requests about preparing and submitting your proposal using Je-S, please contact the Je-S helpdesk via JeSHelp@je-s.ukri.org, +44 (0) 1793 44 4164.

For any other call specific information:

- Please email AI.Robotics@epsrc.ukri.org for general enquires.
- Dr Alex Shevchuk (Alex.Shevchuk@epsrc.ukri.org – 01793 44 4476)

- Dr Victoria Mico (Victoria.MicoEgea@epsrc.ukri.org – 01793 44 4562)

Change log

Name	Date	Version	Change
Victoria Mico	21/11/2019	1	Version for publication
Victoria Mico	12/11/2019	0.3	Incorporated feedback from colleagues across UKRI
Victoria Mico	22/10/2019	0.2	Added details from Hub Outline call document, AGCs. Updated assessment section
Victoria Mico	26/09/2019	0.1	N/A

Je-S attachments Check List

Full Proposal:

Attachment Type	Max length	Guidance
Full Case for Support	10 sides of A4	This is a mandatory document. Comprising two A4 sides for a track record, and eight A4 sides to address the assessment criteria
Management Strategy	2 sides of A4	This is a mandatory document.
Justification of Resources	2 sides of A4	This is a mandatory document. Please ensure that all resources requested are justified.
Workplan	2 sides of A4	This is a mandatory document.
Pathways to Impact	2 sides of A4	This is a mandatory document.
Project Partner Letter(s) of Support	No page limits	This is mandatory document(s) if there are named Project Partners. Letters of Support from all named Project Partners must be included. These must be on headed paper and be signed and dated within six months of the proposal submission date.
Proposal Cover Letter	2 sides of A4	This is an optional document. The cover letter can be used to highlight any important information to EPSRC. This attachment type is not seen by reviewers or panel members.

Please ensure you adhere to the above attachment requirements when submitting your proposal. Any missing, over length or unnecessary attachments may result in your proposal being rejected.

Annex 1: Additional grant conditions (AGCs)

Grants will be subject to the standard UK Research and Innovation grant Conditions. However, due to the nature of this funding, the following additional grant conditions will apply to any successful proposal. Note that these conditions may be amended or further conditions may be added to those below before the grant is awarded.

AGC 1 – Start date of the grant

Notwithstanding RGC 5.2 Starting Procedures, this grant has a fixed start date of 1 June 2020 – no slippage of this date will be permitted. Expenditure may be incurred prior to the start of the grant and be subsequently charged to the grant, provided that it does not precede the date of the offer letter.

AGC 2 – Collaboration and Collaboration Agreements

This grant is awarded on the condition that the TAS programme will work in strategic partnership with the Nodes and wider UK Research and Innovation community. The Hub will take a networking role with the research and user community outside the TAS programme.

A formal Collaboration Agreement must be in place with the basis of collaboration between any organisations involved in the TAS Hub. This Agreement should include the following:

- the allocation of resources throughout the project
- ownership of intellectual property, and
- rights to exploitation.

It is the responsibility of the Research Organisations to put such an agreement in place before the research begins. The terms of collaboration agreements must not conflict with the UKRI terms and conditions. Arrangements for collaboration and/or exploitation must not prevent the future progression of research and the dissemination of research results in accordance with academic custom and practice.

The EPSRC contact must be informed within three months of the start of the grant, that the collaboration agreement is in place and has been signed by all partners and/or the progress made (unless some alternative timeline has been agreed with EPSRC beforehand). If sufficient progress has not been made within three months of the start of the grant, EPSRC reserves the right to enact RGC 23.

AGC 3 – Expenditure

At the start of the grant the financial spend profile will be agreed by UKRI. In addition to any reporting requirements set out in GAC 4, the Grant Holder must immediately notify the UKRI Project Officer(s) of any accumulation, slippage or variation in expenditure greater than 5% of the annual profiled funding. We reserve the right to re-profile the grant if required.

Any deviation from the agreed allocation of funding and profiled costs must be negotiated and approved through written consent by UKRI. The approval of profile changes should not be assumed and will be dependent on spend across all associated grants.

At the end of the grant period a breakdown of the expenditure should be submitted along with the final expenditure statement.

AGC 4 –Grant extensions

No slippage or grant extensions (beyond exceptional circumstances in line with the Equality Act 2010) will be allowed. EPSRC will not be responsible for any cost overrun incurred during the course of this grant. The Research Organisation(s) will be required to make up any shortfall from alternative sources.

AGC 5 – Monitoring and reporting

In addition to the requirements set out in the standard UKRI grant condition RGC 7.4.3, the Grant Holder is responsible for providing quarterly progress reports against non-financial performance metrics in order to access the Hubs performance. These will be in accordance with the arrangements specified in the Trustworthy Autonomous systems business case.

The Hub must establish monitoring and evaluation plans for their activities, detailing the objectives, success indicators, desired benefits, and their role in delivering the anticipated benefits of the investment as a whole. These will be agreed by the Strategic Advisory Board set by UKRI and the UKRI Programme Management Board.

AGC 6 – Governance

EPSRC will nominate a member of UKRI staff who will be the primary contact for the grant. They will ensure that the project is being run in accordance with the terms and conditions and in line with financial due diligence. They should have access to all documentation of Governance and Reporting bodies, in so far as it relates to the administration and application of the grant. As funding administrators, all UKRI staff have agreed to maintain the confidentiality required by all parties involved in UKRI funded research.

This Hub must establish and run an independent steering body (or equivalent body) to oversee the running of the project and provide advice on the strategic direction and activities of the project. The terms of reference and membership of this group (at least 50% independent membership and an independent Chair) should be agreed with UKRI. A nominated member of UKRI staff will also be expected to attend and participate in Advisory Board and other appropriate meetings for the duration of the grant.

In addition to the aforementioned steering body, UKRI will establish an external Strategic Advisory Board to advise UKRI on the management of the investment, as well as the progress of the programme against the objectives and explore future directions. The Strategic Advisory Board will work with UKRI to identify the desired outcomes for the programme and ensure that the Hub is challenged as appropriate so that these benefits are realised.

UKRI will seek to enable cross-fertilisation between the Strategic Advisory Board and the independent governance structures established by the Hub. Members of the Hub's independent steering body, the PI, and/or other members team members may be invited to join the Strategic Advisory Board sessions as appropriate.

AGC 7 – Review of the project and Assurance Reviews

In addition to the requirements set out in standard UKRI grant conditions RGC 7.4 and RGC 7.5, EPSRC reserve the right to instigate a review of all or part of

the grant at any stage during the lifetime of the award, as well as after the grant has finished. EPSRC will give the TAS Hub team due notice of any review and will provide details of the Terms of Reference and documentation required. An unsatisfactory outcome of the review may result in a reduction or termination of the grant funding.

Strategic Priorities Fund investments will themselves be subject to Assurance Reviews and the Hub team is required to fully co-operate in these and provide UKRI with information relating to the grant and relevant to the Assurance Review in a timely manner. These reviews will focus on progress to date. These reviews will be organised by UKRI and the format and timeline will be discussed with the TAS Hub team in due course.

A mid-term review of this grant will take place to assess the performance of the grant, in line with the peer reviewed body of work, published scheme assessment criteria and Key Performance Indicators/milestones and deliverables. Any review will be conducted by an expert panel, which will make recommendations to EPSRC for the grant's future.

AGC 8 – Publicity and Branding

In addition to RGC 12.4 Publication and Acknowledgement of Support, all online or printed materials (including press releases, posters, exhibition materials and other publications) must make reference to the EPSRC Trustworthy Autonomous Systems programme and SPF and UKRI funding, and include the UKRI logos.