

Quick Reference

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

Trust, Identity, Privacy and Security in the Digital Economy 2.0

Call type: Invitation for proposals

Closing date: 16:00 on 12 October 2017

Compulsory intent to submit closing date: 16:00 on 12 September 2017

Funding Available: There is up to £10 million available to support around **ten** proposals.

How to apply and assessment process: Intent to submit followed by full proposal. Full proposals will undergo postal peer review, followed by panel (if reviews are sufficiently supportive), resulting in a rank ordered list.

Key Dates:

Activity	Date
Call published	02 August 2017
Call opens on Je-S	15 August 2017
Compulsory Intent to Submit deadline	12 September 2017
Closing date – full proposals	12 October 2017
Prioritisation panel	Late February 2018
Funding decision	March 2018

Additional information: Please note the three requirements in the Eligibility section below

Contacts:

- Miriam Dowle - Miriam.dowle@epsrc.ac.uk, 01793 444321
- Jason Morgan – Jason.Morgan@epsrc.ac.uk, 01793 444117
- Tracy Keys - Tracy.keys@epsrc.ac.uk, 01793 444306

Trust, Identity, Privacy and Security in the Digital Economy 2.0

Call type: Invitation for proposals

Intent to submit deadline: 16:00 on 12 September 2017

Full proposal closing date: 16:00 on 12 October 2017

Related themes: Digital Economy, ICT, Global Uncertainties

Summary

The Research Councils UK Digital Economy Theme and the cybersecurity strand of the Partnership for Conflict, Crime and Security are investing up to £10 million to support co-created, novel, interdisciplinary projects that solve real problems in aspects of trust, identity, privacy and security (TIPS) in the digital economy in a responsible way. We also want to engender a sustained and collaborative approach so that these projects engage with the wider relevant sectors and disciplines both during and after the funding period.

There is a compulsory intent to submit stage of this call to enable EPSRC to assess demand. Applicants must complete the online "Intent to Submit" form by **16:00 on 12 September 2017**; the form can be found on the call page (<https://www.epsrc.ac.uk/funding/calls/tips2/>). Applicants who do not do this will be ineligible for the call. Applicants will be required to provide investigator details and a short summary of the intended proposal. We will not publish any information submitted through this stage, it is for internal use only. Applicants will not be held to these details in the full proposal.

Once full proposals are submitted they will go directly to postal peer review, before being progressed to a prioritisation panel if reviews are sufficiently supportive.

Background

The Digital Economy Theme's research priority area in Trust, Identity, Privacy and Security priority was originally scoped at a community event in June 2014 (link below). This has resulted in several substantial activities, including a fellowship priority and the first TIPS strategic call in 2015. This resulted in a research portfolio of £14 million that addresses initial challenges in TIPS. The details of these projects can be found in the link below.

In June 2017 the Digital Economy Theme held a workshop involving a wide cross-disciplinary selection of academic and non-academic stakeholder researchers. This aimed to update the community on the projects funded through the previous TIPS call and identify future research challenges in the

area. The Well-Sorted tool was used to frame discussions on the day (results can be found at the link below). The discussions held at this workshop have informed the scope of this call.

2014 Digital Economy Community workshop:

<http://www.well-sorted.org/explore/DESM2014/documents/DESMDocRelease1.0.pdf>

2015 TIPS call document:

<https://www.epsrc.ac.uk/funding/calls/trustidentityprivacysecurity/>

2015 TIPS funded proposals:

<http://gow.epsrc.ac.uk/NGBOViewPanel.aspx?PanelId=1-37PAUA>

2017 TIPS workshop Well-Sorted results:

<https://www.well-sorted.org/output/RCUKTIPSWorkshop/>

For more information about EPSRC's portfolio and strategies, see our website:

<https://www.epsrc.ac.uk/research/ourportfolio/>

Aim and Scope

In this call, we seek to support projects that further our understanding of aspects of Trust, Identity, Privacy and Security in the Digital Economy. Work in this area requires an interdisciplinary approach across technological, economic, cultural, social, legal, ethical, design, behavioural and political disciplines. Engagement with potential users of the research outputs, whether that be from industry, charities, communities or other stakeholders, is also essential.

This call is a strategic intervention, aimed at building further activity adding to the current landscape of investments in this area. Applicants must therefore demonstrate how the work is different to work already supported through current investments. It is a targeted approach that is not intended to cover the entire scope of the TIPS area. We expect applicants to consider the technical and social elements of the technology holistically and novel research must be more than half in EPSRC's remit. Proposals submitted through this call must demonstrate relevance to at least one of the following research challenges:

- **Using and interacting with personal data**
Use of personal data has great potential to enable innovation, however, different users have different understanding of what personal data is and therefore varying expectations of privacy and security around it. Research challenges could include: How do we empower ownership and management of personal data? Can privacy and security be balanced in the context of personal data? How do we communicate values of personal data and empower individuals and communities through understanding of the risks and issues? How do we marry the regulatory landscape with technical capability? Should approaches change with different types of personal data (e.g. financial, health, wellbeing, etc.)? How do we explore ethical issues underlying privacy and consent?
- **Trust in algorithms, artificial intelligence and automation**
As technology advances with the development of algorithms, AI and automation, issues of trust risk a widening gap between individuals, communities and these technologies.

Research challenges could include: How does an algorithm balance privacy and security? What does trust in artificial intelligence, algorithms and automation mean and what does it look like? How do we measure and assess individuals' and communities' trust in these systems? What does accountability look like for algorithms? What are the legal and ethical implications for this? How do we account for the effects of bias in training data, and the risks that this could be exploited or lead to unintended consequences?

- **Usable security in systems and their development**

Given current approaches, security can be poorly designed or treated as an afterthought. Many systems are complex, interlinked and have different security parameters which are difficult to disentangle. This may result in lack of trust from users, whether they are experts or non-experts.

Research challenges could include: How do we ensure a range of people and groups of people, including 'experts' (e.g. a software developer) and 'non-experts' (e.g. the general public), are able to make informed decisions about privacy and security in the context of these complex systems? How to empower expert users to implement security by design across hardware, software and applications? How to enable non-expert users to trust that the systems they use are secure when they don't have the technical capability to assess it themselves (i.e. security by default)? How to retrofit security across an existing system stack?

In addition to the research challenges, proposals submitted through this call must also demonstrate how they are:

- **Interdisciplinary** - It is essential to include an appropriately multidisciplinary team to ensure the research challenge is tackled holistically, with both technical and social elements considered thoroughly. Proposals submitted through this call must include investigator and research assistant time from more than one discipline. The novel aspects of the research must be more than half in EPSRC's remit.
- **Co-created** - By co-creation, we mean close collaboration between academic researchers and with non-academic partners in formulating and delivering the research programme and throughout the lifetime of the research project. It is essential that all parties involved in the proposed project, both researchers and potential users, are fully invested and committed from its inception. Proposals submitted through this call must demonstrate strong support and engagement from at least one potential user of the research, whether that be industry, charities, communities, policy makers or another stakeholder. Meaningful levels of cash and/or in-kind contributions may help strengthen the case for securing funding, but are not a mandatory requirement.
- **High quality, novel research** - The proposed work should be grounded in the real world and with potential users, and it must also be novel, high quality research that has a risk of failure. We are not seeking to support the development of bespoke solutions for specific problems that are not generalisable to a degree.
- **Responsible** - Proposals submitted through this call will have societal, ethical, philosophical, legal and regulatory implications, opportunities, issues and risks. Consideration of these is essential to ensure that the

research carried out is considered within a societal context and that any such issues that are raised are fully explored as the research develops. Public engagement and understanding is also essential, and applicants should aim to further this as part of the proposed work.

- **Sustainable** – We want to engender a sustained and collaborative approach so that these projects engage with the wider relevant sectors and disciplines both during and after the funding period. The community in this area is broad and it is a challenging area to work in. Sharing of best practise is therefore needed to enable the community to strengthen, and work to go beyond the initial funding. Successful projects funded through this call should plan to engage with the wider research community in TIPS. More details of what activities can be funded to enable the above and how to address these in your proposal can be found in the 'Funding available' section.

Proposals that do not have the majority of their research within EPSRC's remit, or the scope of this call, will be rejected.

If you have a research idea in the wider TIPS space that does not cover the above scope, please do not submit a proposal to this call. Instead, consider submitting under standard mode. The Digital Economy Theme has funding to support high quality relevant standard mode research grants for any proposals in the Theme's remit (and where the majority of the novelty falls within EPSRC's remit). Co-funding from other Research Councils can be considered on a case by case basis using the cross council co-funding agreement.

Guidance on submitting a proposal through standard mode:

<https://www.epsrc.ac.uk/funding/applicationprocess/routes/standardresearch/>

Cross-council funding agreement:

<http://www.rcuk.ac.uk/funding/fundingagreement/>

Funding available

There is up to £10 million available to support around **ten** proposals.

Applicants to this call should also take note of the following opportunities that will be useful when submitting an application. Resources for these activities should be requested as part of the Pathways to Impact and must be justified in the application.

To build and maintain partnerships with potential users of the research, applicants can request resource to support secondments of researchers (either research assistants or investigators) in to user environments. Resource could also be requested to support secondments of people from user environments in to academic environments. Please note that user salaries cannot be supported by EPSRC funding and that a project partner listed in the Je-S form cannot directly receive funding from the grant.

Projects funded through this call (similarly to the first TIPS call) should ring-fence 5% (of the total FEC proposal value) of their funding to support networking activities across the successfully funded bids and with users in order to help co-create and disseminate the outputs and outcomes of their research. The aim is for successful applicants to this call to work collectively with those funded

through the first call and other relevant stakeholders to strengthen the community. It is for applicants to determine the best use of these funds and deem what is most appropriate for the research programme. The costing and use of these networking funds must be clearly identified in the Pathways to Impact statement.

Full consideration of the implications of your work is important. Scientific research has the ability to not only produce understanding, knowledge and value, but also unintended impacts, questions, ethical dilemmas and, at times, unexpected transformations in social life. We recognise that we have a duty of care to promote approaches to “responsible innovation” which will initiate on-going reflection about the potential ethical and societal implications of the research that we sponsor on behalf of the taxpayer and to encourage our research community to do likewise. Our aim is to build capacity within our research community to discuss and consider social and ethical questions. Therefore we expect applicants to work within the Framework for Responsible Innovation (AREA framework link below). Applicants could consider requesting support to fund activities run by ORBIT, which provides services to promote and support responsible research and innovation. More information about ORBIT can be found in the link below.

Public understanding and engagement is essential for work in this space and we encourage applicants to this call to request resources to enable this as part of the proposal. Examples include training in public engagement or communications, public engagement specialist staff expertise and support, materials/venue costs or travel expenses. Further examples can be found in the links below. Activities and related resources requested must have a strong link to the research proposed as we cannot support generic science outreach through this call.

Framework for Responsible Innovation (AREA):
<http://www.epsrc.ac.uk/research/framework/>

ORBIT: <https://www.orbit-rri.org/>

Tips for public engagement: <https://www.epsrc.ac.uk/newsevents/pubs/public-engagement-guidance/>

Media training: <https://www.epsrc.ac.uk/innovation/publicengagement/>

Equipment

Equipment is not available through this call.

For more information on equipment funding, please see:
<https://www.epsrc.ac.uk/research/facilities/equipment/>

Eligibility

To encourage full and committed engagement in the proposed work, applicants must ensure that:

- any single investigator appears on only one proposal, either as an principal investigator or co-investigator

- proposals include investigator and researcher time from more than one discipline
- proposals include at least one fully engaged potential user of the research

For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide:

<https://www.epsrc.ac.uk/funding/howtoapply/fundingguide/>

As this call is a targeted funding opportunity provided by EPSRC, higher education institutions, and some research council institutes and independent research organisations are eligible to apply. A list of eligible organisations to apply to EPSRC is provided at: <http://www.rcuk.ac.uk/funding/eligibilityforrcs/>

How to apply

Intent to submit form

There is a compulsory intent to submit stage of this call to enable EPSRC to assess demand. Applicants must complete the online "Intent to Submit" form on the call page, by **16:00 on 12 September 2017**:

<https://www.epsrc.ac.uk/funding/calls/tips2/>

Applicants who do not do this will be ineligible for the call. Applicants will be required to provide investigator details and a short summary of the intended proposal. We will not publish any information submitted through this stage, it is for internal use only. Applicants will not be held to these details in the full proposal.

Submitting an application

You should prepare and submit your proposal using the Research Councils' Joint electronic Submission (Je-S) System (<https://je-s.rcuk.ac.uk/>).

When adding a new proposal, you should select:

- Council 'EPSRC'
- Document type 'Standard Proposal'
- Scheme 'Standard'
- On the Project Details page you should select the 'Trust, Identity, Privacy and Security 2' call.

Note that clicking 'submit document' on your proposal form in Je-S initially submits the proposal to your host organisation's administration, not to EPSRC. Please allow sufficient time for your organisation's submission process between submitting your proposal to them and the call closing date. EPSRC must receive your application by **16:00 on 12 October 2017**.

Guidance on the types of support that may be sought and advice on the completion of the research proposal forms are given on the EPSRC website (<https://www.epsrc.ac.uk/funding/howtoapply/>) which should be consulted when preparing all proposals.

Guidance on writing an application

As well as the Je-S form, the following documents should be submitted:

- Case for support: should be up to **eight** pages in total, to include:
 - Two-page track record, which should detail the relevant expertise that each investigator will bring to the research
 - Six-page description of the proposed research focus and how this fits the aim and scope of the call. This should include a clear statement of the proposal's vision, and how each strand of activity complements this vision.
- Pathways to Impact: should be up to two pages and is primarily for detailing the activities which will help develop potential economic and societal impacts. Please detail how the proposed research project will be managed to engage beneficiaries and increase the likelihood of impacts. More details of the type of resources that can be requested through the Pathways to Impact can be found in the Funding Available section of this document. Please note the requirement to ringfence 5% of the funding for networking activities. More information on preparing the impact plan and on impact can be found on the EPSRC website at:
<https://www.epsrc.ac.uk/funding/howtoapply/preparing/impactguidance/>
- Justification of resources: should be up to two pages. This should be a narrative description of the need for the resources requested.
- Work plan: should be up one page. It is not expected that this will be a Gantt chart for the whole time of the project, but should include a comprehensive plan for the start of the project and then refer to the management strategy to give appropriate milestones for when important decisions on the direction of the research will be taken. For advice on writing proposals see:
<https://www.epsrc.ac.uk/funding/howtoapply/preparing/>

Applicants should use the Ethical Information section on the Je-S form to demonstrate to peer reviewers that they have fully considered any ethical issues concerning the material they intend to use, the nature and choice, current public perceptions and attitudes towards the subject matter or research area. EPSRC will not fund a project if it believes that there are ethical concerns that have been overlooked or not appropriately accounted for. All relevant parts of the Ethical Information section must be completed. If the research will involve human participation or the use of animals covered by the Animals (Scientific Procedures) Act 1986 it is recommended that applicants pay particular attention to the guidance highlighted below. EPSRC reserves the right to reject applications prior to peer review if the Ethical Information sections are not completed correctly.

Further guidance on completing the Je-S form can be found at <https://je-s.rcuk.ac.uk/Handbook/pages/GuidanceonCompletingaStandardG/EthicalInformation.htm>. Other relevant guidance includes: EPSRC's policy on animal use in research (<https://www.epsrc.ac.uk/about/standards/animalresearchpolicy/>) and the Responsible Innovation Framework (<https://www.epsrc.ac.uk/research/framework/>).

Please note that on submission to EPSRC **all** non-PDF documents uploaded onto Je-S are converted to PDF, the use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document.

In addition, where non-standard fonts are present, and even though the converted PDF document may look unaffected in the Je-S System, when it is imported into the Research Councils Grants System some information may be removed. We therefore recommend that where a document contains any non-standard fonts (scientific notation, diagrams etc.), the document is converted to PDF prior to attaching it to the proposal.

For advice on writing proposals see:

<https://www.epsrc.ac.uk/funding/howtoapply/preparing/>

Assessment

Assessment process

Assessment of proposals will take the form of a 2 stage process: (1) postal peer review and (2) prioritisation panel.

Stage 1: Postal peer review

Proposals will be reviewed via standard postal peer review. If a proposal receives sufficiently supportive reviewers' comments it will go forward to stage 2 of the assessment process.

Please find more information about this standard assessment process here <https://www.epsrc.ac.uk/funding/assessmentprocess/overview/>

Stage 2: Prioritisation Panel

If the reviews are sufficiently supportive, the proposal will be assessed and ranked by a panel based on the reviewers' comments and the applicant response, using the assessment criteria provided below. The panel will consist of cross-disciplinary researchers and will include relevant experts and users from across the digital economy area.

Assessment criteria

The following assessment criteria will be used to assess proposals submitted to this call

- Fit to call:
 - Addresses at least one of the research challenges identified
 - Interdisciplinary proposal that has been co-created across disciplines and with potential users
 - Responsible and sustainable project
- Quality of research, including:
 - Novelty and timeliness
 - Appropriateness of proposed methodology

- National importance:
 - New activity that adds to recent investments in the area
 - Responsible innovation has been considered and explored, and a plan for how it will be continually monitored has been provided
- Pathways to impact:
 - Relevance and appropriateness of any beneficiaries or collaborators, evidence that the proposal has been co-created and developed in partnership to deliver maximum impact.
 - Plans for dissemination and knowledge exchange.
 - Appropriate resources have been requested to support responsible innovation, public engagement and networking
- Ability of applicant team to deliver the research, including:
 - Track record of the team
 - Balance of skills of the project team and integration of different methodologies and approaches, to ensure the research challenge is tackled holistically
 - Demonstration of a culture of co-creation, with commitment from all partners to engage with each other throughout the research programme
- Resources and management, including:
 - Effectiveness of planning and resource management strategy
 - Appropriateness of resources requested

Feedback

Feedback will consist of reviewer's reports and, if they are sufficiently supportive, the ranking position at the prioritisation panel. The prioritisation panel may provide specific feedback if deemed necessary, but this will not be given as standard.

Moving forward

Submissions to this call will count towards the Repeatedly Unsuccessful Applicants Policy. Further information about the policy can be found at: <https://www.epsrc.ac.uk/funding/howtoapply/basics/resubpol/rua/>

Guidance for reviewers

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

Guidance for reviewing standard grants can be found here:

Key dates

Activity	Date*
Call published	02 August 2017
Call opens on Je-S	15 August 2017
Compulsory Intent to Submit deadline	12 September 2017
Closing date – full proposals	12 October 2017
Prioritisation panel	Late February 2018
Funding decision	March 2018

*EPSRC 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

For specific advice about the call, please contact:

- Miriam Dowle - Senior Portfolio Manager, Digital Economy Theme (Miriam.dowle@epsrc.ac.uk, 01793 444321)
- Jason Morgan – Portfolio Manager, Digital Economy Theme (Jason.Morgan@epsrc.ac.uk, 01793 444117)
- Tracy Keys - Portfolio Manager, Digital Economy Theme (Tracy.keys@epsrc.ac.uk, 01793 444306)

Your research administration should be able to offer advice about costing your proposal and the Je-S system.

If there are any queries related to Je-S, please contact the Je-S helpdesk: Je-SHelp@rcuk.ac.uk or 01793 444164.

Please allow enough time before the closing date for your organisation's submission process.

Change log

Name	Date	Version	Change
Miriam Dowle	01/08/17	1	N/A

Je-S attachments Check List

Standard:

Attachment Type	Maximum Page length	Mandatory/Optional	Extra Guidance
Case for Support	8 pages	Mandatory	Comprising up to two A4 sides for a track record, and six A4 sides describing proposed research and its context.
Pathways to Impact	2 pages	Mandatory	
Workplan	1 page	Mandatory	
Justification for Resources	2 pages	Mandatory	
CVs	2 pages each	Optional	For named and visiting researchers, and researcher co-investigators only.
Project Partner Letters of Support	No page limits	Mandatory if project partners are named	Must be included from all named project partners. Must be on headed paper, and be signed and dated within six months of the proposal submission date.
Letters of Support	No page limits	Optional	In exceptional circumstances a maximum of three letters can be submitted.
Proposal Cover Letter	No page limit	Optional	The cover letter can be used to highlight any important information to

			EPSRC. This attachment type is not seen by reviewers or panel members.
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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.