Internal Strategic Projects and Engagement Fund (ISPEF) Call for Proposals

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Introduction

The **PETRAS National Centre of Excellence for IoT Systems Cybersecurity** invites proposals from its existing academic partner universities[1] for projects with demonstrable outcomes (transforming knowledge into practice) in the *cybersecurity of devices and networks at the edge of the internet* research to be undertaken jointly with user partners. It is likely that these projects will link with existing PETRAS work, to accelerate pathways to impact.

Background

The PETRAS Centre brings together a large community of UK academic institutions and User Partners from various industrial sectors, government agencies, and NGOs (https://petras-iot.org/collaborate/), providing a collaborative platform to undertake impactful world class research and knowledge development in the IoT cybersecurity domain.

The Centre is making total funds available of up to £475k to fund projects with duration of 6 months, allowing 6-month Post-Doctoral Research Associate (PDRA) deployments where necessary. In the interests of continuity, it is expected that such PDRA deployments will be filled by existing staff with relevant expertise. They may or may not have previously worked on PETRAS projects. If the applicants have got currently ongoing PETRAS funded projects and would like to name existing PDRAs for their submission to this call, they will need to show how they plan to deliver both projects on schedule and within budget, should their ISPEF application be successful.

PETRAS embodies a socio-technical approach to cross-cutting challenges[2] and particularly welcomes proposals that take a cross-disciplinary viewpoint. However, all proposals (social, technical, and socio-technical) within the remit of the Centre and this call's scope will be considered.

Please note that early-stage research proposals are not suitable for the scope of this call.

What are we funding?

PETRAS is seeking to fund impactful projects, developed in collaboration with user partners (new or existing), which translate their research findings into practical applications/outcomes that can be showcased as impactful evidence of PETRAS research, transforming knowledge into practice.

Examples of impact (knowledge into practice) we are looking to fund through this call include:

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[1] Please see https://petras-iot.org/about-us/ for list of our academic partners.

- Code/devices taken from the lab, TRL increased, and Patent applied for;
- Demonstration of a system or methodology. Projects can build upon work undertaken in a previous or existing PETRAS-funded project[2], which has not undertaken demonstration activities already;
- Creation and adoption of policy options and/or advice to government departments or agencies, and;
- Evidence of transformability e.g., taking a scheme designed for one sector and porting to another sector, with new user partners.

Proposals must aim to evidence/validate their value and impact in a demonstrable and/or real-world environment. To achieve this, the proposed projects will need to be co-created and aligned with the needs of its user partner(s). This is important in ensuring that they can deliver concepts that are of mutual value to both parties as well as for PETRAS and other key stakeholders such as, EPSRC and UKRI.

Funding

Total PETRAS funding available for the ISPEF call is c. £594k Full Economic Cost (fEC), or £475k @ 80% fEC. We expect to fund approximately 4-8 projects.

Duration: 6 months.

Activity/Project start and end dates: Applicants are expected to start their projects in January 2022 and complete their work by no later than end of March 2023. The end dates of the projects will depend on their proposed duration and start dates, however, it must be noted that projects cannot have end dates later than March 2023.

Eligibility: Projects must be led by a Principal Investigator (PI) from one of the existing PETRAS academic partner universities, who is eligible to hold an EPSRC grant. If proposed Co-Investigators (CoIs) are also requesting PETRAS funding through this call, the CoIs also need to be from one of the existing PETRAS academic partner universities, who are eligible to hold an EPSRC grant. The PI will be responsible for the delivery of the proposed work and required reporting requirements.

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/ .

Each project should involve at least one, new or existing, User Partner(s) from industry and/or the public sector, with strong interests in the Centre's research programme. Proposals must be co-created with the User Partner(s) and be convincing in the depth of the partner commitment.

The applicants must clearly demonstrate practitioner experience in their proposed research team, which will need to include User Partners. Whilst matched funding is not essential, it is highly recommended. A clear Letter of Support should be provided for each listed partner detailing their contributions and how they will actually collaborate in the work.

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[2] PETRAS Centre projects: https://petras-iot.org/projects/?_sft_status=current; PETRAS Hub projects: https://petras-iot.org/projects/?_sft_status=complete.

<u>Award:</u> All applicants should cost their projects using the same process as they would cost an EPSRC grant. Successful proposals will receive 80% fEC of their budget from PETRAS. It must be recognised that an application to this call requires a commitment to provide the remaining 20% of fEC from their own resources. All costs should be inclusive of VAT and/or any other applicable tax. A guide of fEC and the EPSRC's position on its payment is available at: https://www.epsrc.ac.uk/funding/howtoapply/fundingguide/ and https://www.ukri.org/funding/information-for-award-holders/grant-terms-and-conditions/.

If successful, the applicants' institutions will be expected to provide complimentary 0.1 FTE of investigator time (PI & CoI time) to match the 0.1 FTE PETRAS is providing as part of this call.

<u>Eligible costs:</u> Costs under a new project may include UK-based staff time for PIs and CoIs (up to 0.1 FTE equivalent combined) and PDRA(s), associated indirect and estates costs, travel and subsistence, plus consumables and equipment for the project, all subject to EPSRC rules and requirements. The project costs can also include meetings and workshops as required. Equipment over £10,000 in value (incl. VAT) is not available through this call. Equipment funding specific to the project up to 10% of the value of the grant, or under £10,000 (incl. VAT), whichever is the lesser, is allowable. Resources to fund Project User Partners are not allowable (this includes sub-contracting to a User Partner).

<u>Grant Management:</u> Details on how to access funding will be provided to those departments that have received awards. Awardees will be expected to manage the accounts as per normal EPSRC rules.

How to Apply
All applications to be completed electronically via the following submission system by the call deadline (8th October 2021, 09.00 UK time): https://submit.link/z3O1w .

Note: Applicants must seek approval from their organisation prior to submission.

Assessment of Proposals

Eligible proposals submitted to this call will be reviewed and commented on by the ISPEF Review Panel who may solicit the opinions of outside experts if appropriate. If the Review Panel deems that an application is fundable through this call, then it will be subject to endorsement by an off-line write-around to the PETRAS Operations Group and final approval by the SDTaP Governing Board.

The applicants will be contacted by PETRAS to inform them of the Review Panel's funding decision on their submission. The Review Panel will consider applications as per the timelines given in Table 1 below. Where necessary, the applicants may be given feedback and ask to submit a revised proposal to address recommendations from the Review Panel. Successful applicants will then be allowed to move on to the contract execution phase.

The Panel members will be brought together from the PETRAS Leadership, its Governing Board, and external experts from academia, industry and public sector. Members who submitted applications themselves and/or are conflicted in proposals received will take no part in their assessment.

Upon request, unsuccessful bidders will be provided with a brief feedback from the Review Panel.

Activity	Date
Call launched	12 Jul. 2021
Deadline for questions and queries	1 Oct. 2021
Closing date for proposal submissions	8 Oct. 2021 (09.00 UK time)
Proposals reviewed	Oct. - Nov. 2021
Applicants notified of outcomes	Nov. 2021
Expected start of awarded projects	Jan. 2022

Table 1 – ISPEF Call for Proposals timetable

Please note that, within this call, applications will be in competition with each other for funding and will be scored against the eligibility and project requirements listed above and the proposals' alignment to the following **criteria**:

- **Track record and expertise** of the proposed team informed by results of earlier PETRAS projects, with respect to its ability to undertake the proposed work;
- **Quality and relevance** of the proposed research work and demonstration of its outcomes, including novelty, ambition, and timeliness;
- **Engagement and co-creation with user partners** to tackle user-inspired challenges and demonstrate the value of collaboration to showcase outcomes that are of real mutual benefit;
- **Scaling-up and legacy potential** - The potential for the proposed work to expand its scope and adoption, and to have a legacy beyond PETRAS, addressing needs of the wider IoT cybersecurity ecosystem;
- **Telling the impact story** – Clear explanation of impact of the proposed work:
  (i) Relevance and appropriateness of the research outputs and their demonstration to any beneficiaries or collaborators (e.g., user partners, upstream engagement / co-design);
  (ii) Plans for dissemination and knowledge exchange; (iii) Undertaking activities designed to maximise impact and user engagement (for example demonstration of research challenge(s) and outcomes being co-created by end-user(s)) and have specific project plans in place to deliver this; (iv) Anticipated technical and socioeconomic benefits.

Grant conditions

The terms of the PETRAS Centre Collaboration Agreement will apply to any successful applicant. They will be expected to participate in Centre activities and duties, including reporting, dissemination and communication activities.

Deliverables, Reporting and Quality Assurance
While the academic partners funded through this call will deliver individual and novel outcomes, they will also be expected to be collaborative with, have clear relation to and be synergistic with, work ongoing in the PETRAS Centre. They will be expected to participate in coordination and dissemination meetings/events and to report regularly to the PETRAS Centre Management Team.

Applicants should refer to the Centre's *Project Planning, Deliverables, Monitoring and Evaluation Guidance Notes* for further details on deliverables, quality assurance and the reporting processes they will need to adhere to if their proposals are selected for PETRAS funding:
https://petras-iot.org/wp-content/uploads/2020/01/PETRAS-Project-Planning-and-Dels-Guid-Doc.pdf

Under normal circumstances, all deliverables from successful activities will be expected to be in the public domain, and published and disseminated through the normal academic and other publication channels. In addition, applicants are encouraged to present their work at conferences, workshops, networks, and other dissemination events, and costs associated with doing so may be budgeted in the proposal.

Any publications and other outputs/dissemination resulting from work carried out under this grant must acknowledge EPSRC funding via PETRAS. The recommended text to be used is as follows: *"This work has been supported by the PETRAS National Centre of Excellence for IoT Systems Cybersecurity, which has been funded by the UK EPSRC under grant number EP/S035362/1".*

Research Data and Open Access Publications
As per normal EPSRC practices, the successful applicants must adhere to EPSRC's Policy framework on research data (https://epsrc.ukri.org/about/standards/researchdata/) and Policy on access to research publications: https://epsrc.ukri.org/about/access/roaccess/.

Ethics
Applicants must ensure that the proposed work will be carried out to a high ethical standard, and is compliant with both local university standards. Relevant EPSRC guidance includes: EPSRC's policy on animal use in research (https://epsrc.ukri.org/about/standards/animalresearchpolicy/) and the Responsible Innovation Framework (https://epsrc.ukri.org/research/framework/).

In addition, the applicants' proposed work will also be reviewed by PETRAS's Ethics Group. The remit of this group is to keep a register of the PETRAS funded project/activities' ethics applications and where relevant consider issues particular to IoT security research that may require the expertise not available on institutional ethics boards.

Equality, Diversity and Inclusion
In line with the UKRI's policies on equality, diversity and inclusion (https://www.ukri.org/about-us/policies-and-standards/equality-diversity-and-inclusion/) and our main funder EPSRC's expectations, PETRAS expects that equality, diversity, and inclusion are embedded at all levels and in all aspects of applicants' research proposals.

We are committed to supporting the research community in the diverse ways a research career can be built. This includes career breaks, support for people with caring responsibilities, flexible working and alternative working patterns. With this in mind, we welcome applications from researchers who job share, have a part-time contract, need flexible working arrangements or those currently committed to other longer, large existing grants. Please see EPSRC's Equality, Diversity and Inclusion webpages at for further information: https://epsrc.ukri.org/funding/equalitydiversity/ .

Further Information
- You can download a PDF version of the ISPEF call guidance here:
https://petras-iot.org/wp-content/uploads/2021/07/ISPEF-Call-Guidance.pdf

- You can download a PDF version of the ISPEF call for proposals' application questions here:
https://petras-iot.org/wp-content/uploads/2021/07/ISPEF-Submission-Application-Questions.pdf

- You can download a PDF version of the ISPEF call FAQs here (will be updated):
https://petras-iot.org/wp-content/uploads/2021/07/ISPEF-FAQs.pdf

- For any enquiries not covered in the FAQ document, please email petras-proposals@ucl.ac.uk