



Internal PETRAS Opportunities Fund 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 (including those brought in by SRF and Demonstrator awards, see <https://petras-iot.org/about-us/> for list of our academic partners) for: (i) collaborative short-term partnership and engagement activities, and (ii) medium-term collaborative research projects, in the *cybersecurity of devices and networks at the edge of the internet* research to be undertaken jointly with user partners. **Through this revised call, the Centre is making funds available of up to £900k to support a range of partnership and engagement activities, as well as short to medium-term collaborative projects (max. 6 and 12-month durations, respectively).**

Through this call, PETRAS aims to provide a more spontaneous way of engaging both with user partners and with other PETRAS universities, supporting emerging opportunities for secondments, joint short/medium-term research collaborations and projects, international collaborations etc. Please refer to Suggested Eligible Activities Section for further details.

Background

The EPSRC SDTaP Call required that part of the PETRAS core funding should be held in a designated account to support the Centre's academic members to undertake collaborative projects, partnership, impact, and engagement activities, which would stimulate and strengthen PETRAS's engagement with industry (particularly SMEs), and government, and responding to user-inspired challenges. This purpose has been extended to include HEI – HEI collaborations concerned with maximising value from inter-project synergies, in collaboration with User partners.

Hence, PETRAS is utilising a proportion of its core funding to establish this internal call and provide a platform to fund short and medium-term opportunities to enable its existing academic partners engage in such joint projects and partnership engagement activities.

PETRAS embodies a socio-technical approach to cross-cutting challenges¹ and particularly welcomes proposals that take a cross-disciplinary viewpoint. However, all proposals within the remit of the Centre will be considered.

Funding details

The total unallocated PETRAS funding available for this call is £900k (at 80% Full Economic Cost (fEC)).

Duration:

(i) For short-term partnership and engagement activities: Activities of normally up to 6 months (budgetary constraints apply as detailed below). Whilst PETRAS will not mandate the precise

¹ Please see <https://petras-iot.org/about-us/> & <https://petras-iot.org/projects/> for further details)

duration of the proposed work, it is anticipated that activities will have durations of 6 months or less.

(ii) For medium-term collaborative research projects: Activities of normally up to 12 months (budgetary constraints apply as detailed below). Whilst PETRAS will not mandate the precise duration of the proposed work, it is anticipated that activities will have durations of 12 months or less.

Activity/Project start and end dates: Applicants are allowed to propose start dates from April-May 2021 onwards. It is also permissible to propose start dates later in 2021 or early 2022, with justification of why the work needs to start at a later date. 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.

Applicants: Each activity should involve at least one, new or existing, User Partner(s) from industry, public sector and/or international non-PETRAS academic collaborators (based on pairing of best-with-best approach) with strong background in the Centre's research programme. Proposals that incorporate another PETRAS academic partner with a view to maximising outcomes from inter-project synergies will also be welcomed. Proposals must be co-created with the User or academic Partner(s) and/or international non-PETRAS academic collaborators and be convincing in the depth of the partner commitment. 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, how they will actually collaborate in the work and the value expected from the collaboration. Proposals must be led by an investigator from one of PETRAS' existing academic partner institutions, who is eligible to hold an EPSRC grant. They would be responsible for the development and delivery the activity and for reporting on the outcomes and budget.

Award:

(i) For short-term partnership and engagement activities: We expect activities to normally last up to six months and the indicative maximum budget per activity is c. £60k at 80% fEC, allowing 6-month PRDA deployments where necessary. *It is not expected that such PDRA deployments would be filled by new staff.*

(ii) For medium-term collaborative research projects: We expect activities to normally last up to 12 months and the indicative maximum budget per activity is c. £120k at 80% fEC, allowing 12-month PRDA deployments where necessary.

All applicants should cost their activities 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% 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 & Col time) to match the 0.1 FTE PETRAS is providing as part of this call.

Eligible costs: Costs under a new project/activity may include UK-based staff time for PIs and Co-Investigators (Cols) (up to 0.1 FTE equivalent combined) and postdoctoral research associates (PDRA), associated indirect and estates costs, travel and subsistence, plus consumables for the activity, all subject to EPSRC rules and requirements. The activity costs

can also include meetings and workshops as required. Equipment funding: (i) For short-term partnership and engagement activities (up to six months duration): Equipment funding is not available through this call; and (ii) For medium-term collaborative research projects (between seven to 12 months duration): 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 User Partners are not allowable (this includes sub-contracting to a User Partner).

Grant Management: 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.

Examples of eligible activities

Joint short projects with SMEs

This would require contribution by the SME, but could support KTP-like activity through academic staff deployment within the SME.

Secondments into industry and public sector

Similar to the above, but pertaining to PETRAS User Partners of any size or sector who have pledged support for the Centre. A typical project might be for the academic secondee to learn, first-hand, about User Partner knowledge needs or in-house know-how.

Short-term visits

Support for short term visits designed to bring specific expertise to bear on User-identified research challenges. Visiting staff to work in host university, or alternatively short-term visits might support working between PETRAS academic partners, to transfer capability between universities.

Inter-project HEI collaboration

Support for establishing active dialogue and knowledge exchange between PETRAS projects at different universities, with a view to using synergies as a means of creating new insights, knowledge and publications, which are 'more than the sum of parts'. E.g. a teaming of social and technically-orientated projects to yield evidenced policy or practice advice. One or more user partners should be involved in these HEI-HEI collaborations as well.

Short-term collaboration with international non-PETRAS academic institutions (based on pairing of best-with-best approach) Short collaborative projects (including visits) to create tangible outcomes for the partner institution(s) as well as developing the PETRAS knowledge base.

Medium-term collaborative research projects

PETRAS will consider joint research projects of up to 12-month duration with User Partners. This funding option is mainly intended to support projects that aim exploiting opportunities to work with user partners to address their priorities/needs through collaborative research projects.

Other activities to support impact development

These might include the development and deployment of tools for dissemination and collaboration with the User Partners. It might also contribute to the costs of project/activity workshops. PETRAS would also consider organisation of a series of workshops with relevant work leading to producing a joint report as a fundable activity through this call.



How to Apply

All applications to be completed electronically via the following submission system by the call deadline (20th January 2021, 9:00 am): <https://submit.link/3i6qC> .

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 Opportunities Fund 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 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.

Activity	Date
Revised Opportunities Fund Call launched	7 Dec. 2020
Deadline for questions and queries *	13 Jan. 2021
Closing date for proposal submissions	20 Jan. 2021, 09.00 UK time
Outline proposals reviewed **	Late Jan. – early Feb. 2021
Applicants notified of outcome **	Mid-late Feb. 2021
Expected start of awarded projects	April-May 2021 onwards

Notes: * Due to office closures, questions will not be answered between 18th December 2020 and 5th January 2021 inclusive. ** These timelines are indicative and may be subject to change.

Table 1– Opportunities Fund Call for Proposals timetable

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

The long-term strength of the UK research base depends on harnessing all the available talent and the Research Councils together developed the ambitious UKRI Equality, Diversity and Inclusion Action Plan (<https://www.ukri.org/files/legacy/skills/action-plan-edi-2016/>).

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 <https://epsrc.ukri.org/funding/equalitydiversity/> for further information.

Further Information

- You can download a PDF version of the Opportunities Fund call guidance here: <https://petras-iot.org/wp-content/uploads/2020/01/PETRAS-Opportunities-Fund-Guidelines.pdf>
- You can download a PDF version of the Opportunities Fund call for proposals' application questions here: <https://petras-iot.org/wp-content/uploads/2020/01/Opportunities-Fund-Application-Form.pdf>
- You can download a PDF version of the call FAQs (will be updated): <https://petras-iot.org/wp-content/uploads/2020/01/PETRAS-Opportunities-Fund-call---FAQ.pdf>
- For any enquiries not covered in the FAQ document, please email petras-proposals@ucl.ac.uk

Eligibility

The applicants must demonstrate they meet the following requirements:

1. Activities must be led by a PI from one of the existing PETRAS academic partner universities who is eligible to hold an EPSRC grant. If proposed 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/>.
2. Proposals must be novel, and address intellectually inspiring challenges in the cybersecurity of devices and networks at the edge of the internet.
3. Proposals must be co-created with and involve, user partners.
4. Proposals must be able to demonstrate how beneficiaries will be engaged, and describe how they will make a real difference to IoT security at the periphery.
5. Proposals must demonstrate how their impact will be maximised through the project/activity plans, for example by addressing clearly defined research challenge(s), demonstrating how they have been co-created with the end-user(s)/HEIs/non-PETRAS academic collaborators, through undertaking research/joint activities and appropriate knowledge exchange and early stage 'proof of concept' activities.
6. Substantial support from User Partners, HEIs (where applicable), and/or non-PETRAS academic collaborators must be demonstrable (including the details of leveraging and additional funding), as well as collaboration and engagement with innovative businesses including SMEs.