Theme 3: Infrastructure for Device Production 2024

Overview

The theme for this call is ‘Infrastructure for device production’. Creators of conventional electronic devices can generally create early prototypes by themselves, but as they look to refine and scale up, their interactions with external stakeholders inevitably multiply. In particular, engagement and collaboration with specialist designers, manufacturers, auditors, compliance testers and end users naturally increases. Before long, digital device production requires tools, techniques, standards and platforms which facilitate dynamic and nuanced interactions between a growing number of stakeholders across these disciplines and more. We believe that software infrastructure will play an increasingly important role in facilitating these interactions, helping device creators overcome the many barriers to working with other stakeholders as they refine and scale their designs for production.

The pro² Network+ is soliciting exemplars that demonstrate how infrastructure, beyond traditional production manufacturing, can play a role in overcoming the barriers to refining and scaling a device prototype. Infrastructure may include asynchronous or synchronous technologies, potentially leveraging advances in ubiquitous computing, XR (including augmented and virtual reality), the internet of things (IoT), data aggregation and AI, and computer-supported collaborative work (CSCW). We include below some examples of applications of infrastructure for device production, though this list is by no means exhaustive, and we also welcome proposals for innovative applications in this area.

To apply, please submit your funding application form and partner letter(s) of support to admin@prosquared.org by midnight GMT on 5 April 2024.

Total Fund	£240,000
Maximum Award	£80,000
Opening Date	28 February 2024

Closing Date	5 April 2024 by midnight GMT
Download	Application Form

Priority Areas

In this funding call we're looking for projects that meet one or more of the following criteria:

- Infrastructure for testing, including networked/remote evaluation, testing and debugging, and creating tools for prototyping that enhance progress towards isotypes, including design platforms which consider reliability, testability, compliance, inventory management and scalability.
- Infrastructure for audit, including enabling remote sustainability and ethical audits. This could either be for or in collaboration with standards and regulators. These systems might underwrite pay-as-you-go manufacturing approaches which lack supply chain provenance.
- Infrastructure for product iteration, including support for distributed manufacturing that refines IoT infrastructure in a way that bridges the gap between the highly iterative hackspace and the very linear production line.
- Infrastructure for replication, including an increased ability to share open-source hardware designs easily between makers and manufacturers. For example, what can we do with Instructables to make it more like GitHub?

Underlying all areas of interest is a key focus on sustainability and ways in which infrastructure solutions can have minimal negative impact on the environment.

Funding Available

Summary

Total Fund: £240,000

Maximum Award: £80,000

Each project is expected to last between 6 and 12 months and must not exceed 12 months. The total funding for this call is £300,000 (100% full economic cost), of which £240, 000 (80% fEC) will be funded by pro². The maximum size of each project is £100,000 (100% fEC), of which pro² will fund 80%. All costs should be inclusive of VAT and/or any other applicable tax. The terms and conditions for UKRI funding apply. Applicants must demonstrate in the application form how the funding will be spent. The sub-award document detailing the terms and conditions of the grant is available in the 'Useful Documents' section below. Please ensure these terms are acceptable for your organisation prior to applying for funding.

Proposals should be costed and approved by the applicant's organisation before submission.

Applicant Criteria and Descriptions

All funding recipients must be members of the network. It is free to join so please register for pro² if you haven't already.

Each project must include at least one academic partner and one industry-based project partner. The Principal Investigator (PI) must be based at a U.K. institution eligible to receive UKRI funding. The project team can also include Co-Investigators (CI's) and staff (e.g. post-doctoral researchers). Eligibility for the roles listed above is in line with EPSRC funding rules.

For industry-based project partners, there are two types of permitted collaboration:

Project Partner- a third party person who is not employed on the grant, or a third party organisation, who provides specific contributions either in cash or in kind, to the project. Entitlement to the outputs of the project and/or Intellectual Property will be determined between the parties involved, however any access to project outputs and/or IP must be in line with any relevant Subsidy Control regulation. As a rule, Project Partners are expected to provide contributions to the delivery of the project and should not therefore be seeking to claim funds from pro². However, where there are specific circumstances where Project Partners do require funding for minor costs such as travel and subsistence, this will usually be paid at 80% fEC unless otherwise stated by us; note that any applicable Subsidy Control regulation and HMRC guidance will also be taken into account which may affect the percentage of these costs that we will fund. These costs should be outlined and fully justified in the proposal and will be subject to peer review.

A Subcontractor- a third party individual who is not employed as staff on the grant, or a third party organisation, who is subcontracted by the host organisation to deliver a specific piece of work. This will be subject to the procurement rules of the host organisation. All costs that support the delivery of the subcontract are eligible and will be paid at 80% fEC unless otherwise stated, these should be outlined and fully justified in the proposal and will be subject to peer review. Entitlement to the outputs of the project and/or Intellectual Property will be determined between the parties involved, however any access to project outputs and/or IP must be in line with any relevant Subsidy Control regulation.

Your application must have a project partner as a minimum but may also have a subcontractor. The project partner and subcontractor cannot be the same. Applications with subcontractors alone will not be considered. Please indicate clearly in the application form where your team members are either project partners or subcontractors. Please also include, as a separate attachment, a letter of support from your project partner detailing the contribution they intend to make to the project.

If you would like assistance being matched with an academic or industry project partner, please get in touch with us at admin@prosquared.org.

Assessment Process

Applications for funding will be assessed via the pro^2 funding application form and a short interview. Applications will be anonymised and assigned a unique reference number for the review process to help eliminate unconscious bias. Independent reviewers will assess the applications and shortlist them for interview. Shortlisted applicants will then be interviewed by members of the pro² network steering group. The criteria used in the assessment process is as follows:

- Applicability to the theme of the funding call.
- Realistic and achievable objectives and workplan.
- Clear demonstration of how the project contributes to solving the problem.
- Does the project include an industry-based project partner? Evidence of project co-creation with them must be clear in the application.
- Adequate consideration of EDI (Equity, Diversity and Inclusivity). Bringing together individuals from different backgrounds and with different personal circumstances brings a wider range of experience, leading to improved decision-making, innovation and problem solving. We would like to see how EDI has been considered in the project from recruitment through to project outputs.
- Adequate consideration of sustainability. Environmental damage from the production and inappropriate disposal of electronics waste (e-waste) is an increasing problem, we'd like to see how this has been considered.
- Novelty.
- Likely impact of the work and applicability outside of academia.

Project Management and Reporting Expectations

Project PIs will ultimately be responsible for ensuring that projects are carried out within the agreed timescales and budget. Where the day-to-day management of the project is carried out by another project team member, they can be assigned as a point of contact for the work.

All applicants must work with our research designer from the beginning of their projects. The research designer will work with you to find innovative ways to visualise your work and communicate it to a diverse audience. We're keen to utilise interesting and accessible ways to communicate the outputs from your work, therefore, in addition to a traditional written report, we will be exploring the most appropriate way to do this and asking for your ideas in the application form. The research designer will work with you to create the agreed format for reporting your funding outcomes.

The pro² team are keen to stay up to date with your progress on the project and so, we will be arranging a site visit during the work. This is not intended to evaluate the project, but to offer advice/guidance where useful and to understand interim results.

At the end of the project, PIs will be required to submit an End of Project Report Form and a Financial Expenditure Statement, using the templates provided, to admin@prosquared.org.

Intellectual Property

The goal of the pro² network is to improve digital device production for all. To that end, we stipulate that any IP created with pro² funding should be available for all, via open access, for any purpose. Please see the sub-award agreement template.

Key Dates

- Question and Answer Webinar- 13th March 2024.
- Deadline for Applications- 5th April 2024, midnight GMT.
- Interviews- 1st and 2nd May 2024.
- Confirmation of Awards- 9th May 2024.
- Project Starts- September 2024.

Contacts

If you have any questions about the funding or application criteria, please contact Sarah Hughes or Maura Lydon at admin@prosquared.org.

GDPR Statement

pro² handles all personal data in accordance with current UK data protection legislation and the EU General Data Protection Regulation (GDPR) where appropriate.

Useful Documents

- Application Form
- Agreement Template

Your Questions Answered

For each funding call we hold a Q&A webinar to give you the opportunity to ask questions about the remit and logistics of the call. We will summarise the questions and answers from those webinars here.

Glossary

- Digital Device: A physical piece of equipment that contains a computer or microcontroller. Today, myriad devices are digital including smartphones, tablets and smartwatches (PC Mag).

- Isotype: An 'equal' copy of a prototype. It is likely that a prototype will need to go through one or more steps of refinement to (a) allow it to be replicated more easily, so that isotypes can be produced, and (b) to ensure it is suitably robust and performant that it's useful to make isotypes, e.g. for technical testing or user evaluation. Isotypes are, however, unlikely to be sufficiently refined to qualify as a products. [NB Isotype already has meanings in the specific contexts of biology, crystallography, immunology and picture language, Collins Dictionary].

- Platforming: A solid technological foundation upon which products can be created, incorporating open access to the necessary knowledge, standards, tools, capabilities

and facilities [NB Platforming already has meanings in the specific contexts of petroleum refinery (Collins Dictionary) or video gaming (Wiktionary)].

- Producer: An individual or organization taking a leadership role in the creation of a product, inclusive of the prototype to product phases [NB Producer already has meanings in the specific contexts of entertainment production (films, music etc) and industry, Cambridge Dictionary].

- Product: Something that is made to be sold, usually something that is produced by an industrial process (Cambridge Dictionary). Products must provide sufficient utility to justify the cost of production and operation, must comply with local laws and regulations, and may become relied-upon by their users, requiring practical and cost-effective ways of supporting their on-going use.

- Prototype: The first example of something, such as a machine or other industrial product, from which all later forms are developed (Cambridge Dictionary).

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