



A green, connected and
prosperous Britain



UKRI NetworkPlus: A Green, Connected and Prosperous Britain (GCPB) N⁺

Phase One - CALL FOR PROPOSALS

Title: Call for Feasibility Studies from the UKRI GPCB NetworkPlus in 5G (and beyond) and applications for resilient, flexible Renewable Energy Systems.

Closing date: Friday 12th of August 2022, 5 pm

Call for Research and demonstrations applications:

[A green, connected and prosperous Britain \(GCPB\)](#) is a successful 24-month £1.1million NetworkPlus project aimed at promoting, investigating and driving digital connectivity across urban and rural areas by synergising 5G (and beyond), the renewable energy sector, green innovations and end users.

The value proposition generated from this network is for a massively integrated urban-rural model, comprising real-time applications for enriching sparse measurement data through the application of digital twins informed by real data; scenario simulation appropriate to validate and refine policy for future energy, telecoms, mobility and carbon systems; benchmarking of digital communications and net-zero innovations at the pilot study stage.

Use cases examples are investigating the carbon emissions impact of constrained communications affecting electric vehicles' charging profiles; developing of hardware-software-app solution for behind-the-meter flexibility services using electric vehicles and heat pumps to ride-through, recover, and synchronise the electric power systems with the wider transmission system following extreme weather events and intermittency outages. The flexibility and resilience of the network bring the telecommunications, mobility, and Power industries closer together with enormous potential for a geographically spread, prosperous UKPLC future.

The project will develop Small-scale demonstrators (PoC) and reports with industrial partners in three phases, applying learnings from Network discussions. The first phase will last for a period of 3 to 6 months with opportunities for successful demonstrators to grow into the 2nd phase. Phase 2 will be co-mentored with the wider network members and feed into the overall integrated model objectives and demonstrator in phase 3. The Network has two calls for feasibility studies and the final phase will integrate the successful demonstrators for a working deployment with council partners. Flexible funds will be available for a range of projects (from £10k to £15k in each round, 3 to 8 months) and priority will be given to those bids that leverage additional funds for the benefit of the Network and are, possibly, already under development.

The project team aspires to embed 5G and its advantages into the local and national Grid, empowering prosumers, and egressing resilience, and flexibility at local and national levels. Through a series of feasibility trials, the network will grow on a larger scale for demonstration and testing, informing industry and beyond of the capabilities available for better integration across multiple levels. Particular interest lies in the cases above and local power recovery in emergency events, electric vehicle and mobile battery systems, vehicle to grid, connectivity between remote renewable sites and power delivery, and local energy requirements. For example, preparation and implementation of end-user essential and non-essential demand mechanisms through 5G as the power sector's electrification hinders supply flexibility at certain times. Another aspect is the recovery from large-scale outages that occur rarely but can have a catastrophic effect. Here again, essential, and non-essential demand knowledge along with mobile battery support for immediate recovery could implement 5G network slicing and networking topologies to ensure communication infrastructural support remains powered.

We now invite the 1st round of Feasibility Study Projects. Flexible funds will be available for a range of projects (from £10-15k in each round, 3 to 6 months) and priority will be given to those bids that leverage additional funds for the benefit of the Network and are already under development. Industrial partnerships are welcome, but the N+ team can provide this through the Network if requested.

- Please note that all expenses on this phase must be incurred by the end of February 2023.
- Projects should not exceed 6 months with deliverables reported every 2 months to the GCPG Expert Working group.
- Project costings can be up to £15k in total based on a typical IAA cost model (no overheads or estate costs allowed).
- Direct mentoring and other support from industrial partners in this space are available and equipment support can be provided for relevant projects. Please mention the need if requesting equipment potential equipment from partners below.

Selection criteria

The following criteria will be used by the review panel when assessing the proposals:

- Ability to deliver on time. A strict deadline applies. No extension beyond the end of Feb 2023 is possible in this phase.
- Proposals driven by demonstrable outcomes and industrial awareness
- Interdisciplinary teams with expertise appropriate to the proposal
- Partnership with innovative SMEs
- Clear outcomes including potential for deployment and future funding applications.
- Strong demonstration of impact
- Leveraging additional funding via industry partners or a new phase from an existing project

Proposals are expected to address challenges at Technology Readiness Levels (TRLs) 2-5. Proposals should demonstrate the potential to have a significantly wider impact in the Renewable Energy, prosumer empowerment, and 5G (and beyond) sectors.

The Network has a strong commitment to Equality, Diversity and Inclusion (EDI). Priority will be given to those bids that leverage additional funds for the benefit of the Network and/or are led by ECRs and/or are led by under-represented groups in engineering.

Eligibility: Standard [EPSRC rules](#) apply.

<https://epsrc.ukri.org/funding/applicationprocess/fundingguide/eligibility/investigators/>.

Should you be in any doubt regarding your eligibility, please do not hesitate to contact the team.

Eligible organisations include all UK Higher Education Institutions that receive grant funding from one of the UK higher education funding bodies, along with research institutes for which the Research Councils have established a long-term involvement as a major funder. Other independent research organisations (IROs) may also be eligible. Further information on the Eligibility criteria and a List of Eligible institutions could be found [here](#).

SMEs with relevant innovations in this space are welcome to submit their products for trial testing integration but cannot receive direct funding from UKRI.

Please note: this funding cannot be used for the purchase of one-off equipment or to support PhD studentships (top-up)

Budget remit

Each project should be no more than a £15k request on a typical IAA cost model (no overheads or estate costs allowed). This project funding can be used to cover the following.

- Directly Incurred: PDRA staff costs, Consumables.

All Estates, Infrastructure technicians and indirect costs are ineligible.

Application Process

Awards will be made via the Network website Pilot Trial Call tab <https://www.greenconnectedbritain.org/>

Application form Process: (from the website)

Part 1 of the application form requests contact, details of the project team and your track record. **Part 2** is the outline of the Case for Support, which will be considered anonymously by the selection committee panel of experts. Please ensure that both forms are completed and sent to the contact address below. **Part 2** should not be longer than four pages and please use the font details provided. References can be included as an appendix and will not be counted for word count.

A breakdown of the allocation of the funds with a short justification for each category is also required. The categories are:

- Directly Allocated (excluding estates costs)
- Directly Incurred

Completed forms should be emailed to the [Network Plus management team](#) by 5 pm on Friday, 12th of August 2022. The Application MUST Clearly State the call GCPB N+ RESEARCH AND FEASIBILITY STUDIES Phase One - CALL FOR PROPOSALS in the subject line.

Additional project requisites

In addition to the specific outputs outlined in your proposal, each feasibility study project team is required to:

1. Present work (in progress or completed) to annual conferences or Network Events.
2. Provide the Network with an information sheet on the project and the impact it has made (e.g. outreach, further funding awarded, collaborations made, IPs generated, technology developed) for a Research FISH submission to EPSRC as a GPCB N+ contribution.
3. Ensure that the work is acknowledged as being supported by UKRI and GPCB Network when promoting projects, either through articles, papers, or presentations. Both UKRI and GPCB Network branding should be visibly included in any relevant presentations.

Key dates

Call for proposals advertised: **17/7/2022**; Deadline for submissions: **12/8/2022, 5 pm**

Successful proposals are to be announced no later than the 25th of August 2022 via the Network Plus Website and email confirmation. All feasibility studies should be completed within the given period per the individual project timeline.

CONTACT

Ms Daniela DeGiglo, [Network Coordinator](#) for further information or to arrange an informal discussion with the N+ team before applying.

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