

NIA Project Registration and PEA Document

Date of Submission

Oct 2026

Project Reference Number

NIA_ENWL_046

Project Registration

Project Title

Sure Comms

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Project Licensee(s)

Electricity North West

Project Start

November 2026

Project Duration

0 years and 11 months

Nominated Project Contact(s)

InnovationTeam@enwl.co.uk

Project Budget

£310,000.00

Summary

The industry is becoming increasingly dependent on single path cellular communications as we transition to Net Zero and seek to monitor and control more network and customer assets closer to the grid edge.

Sure Comms will investigate and recommend alternative resilient and future proof communications to support the role cellular communications currently perform.

The project will define communication requirements, identify alternative communication options, develop a cost benefit analysis for the most promising option(s) identified before selecting a preferred option to be taken forward.

Nominated Contact Email Address(es)

innovation@enwl.co.uk

Problem Being Solved

Areas of the SP ENW network can suffer from limited and unreliable telecommunications coverage, and many locations are dependent on single-path cellular connectivity that can be unavailable or degraded during storms or peak demand periods. This lack of resilient, multi-path communications results in poor real-time visibility of the network, constrained ability to monitor and control DER and reduced situational awareness in hard-to-reach, underground or low-signal areas. As customers increasingly adopt low-carbon technologies and flexibility assets, these communications gaps will restrict SP ENW's ability to forecast demand, coordinate DER, and deliver efficient, reliable, and flexible operation of the network.

Method(s)

Sure Comms will investigate and recommend a resilient and future-proof communications solution designed to support the growing need for constant reliable connectivity with edge devices and services. This approach will integrate hybrid technologies: such as cellular, satellite, and IP-based systems to ensure secure, high-availability communication. The solution will include both primary and

backup pathways, providing redundancy and maintaining service continuity under diverse operating conditions.

Measurement Quality Statement

This project is a technology review, selection of most promising alternatives and development of initial high level CBA to inform continued development. Therefore, specific measurement data will be limited, The project outputs will be reviewed by SP ENW SMEs from the relevant business divisions.

Data Quality Statement.

Any data generated and/or processed during this project will be reviewed to provide assurance that output meets the required standards. Data will be managed in line with the RIIIO ED2 Data Best Practice Guidance and Data Assurance Guidance. However, the project is not anticipated to generate significant volumes of data, and no data that could be considered personal.

Scope

SureComms will be delivered in two phases:

Phase 1: Discovery, identification of possible solutions, option cost-benefit analysis and technical feasibility assessment

Phase 1 will focus on a representative network area, selected to reflect the communications, visibility, and resilience challenges experienced across SP ENW's wider network. This phase will define the technical, operational, and cybersecurity requirements for a hybrid network architecture, supported by system modelling.

Phase 2: Cost-benefit analysis and technical roadmap

Phase 2 will produce a detailed cost–benefit analysis to quantify performance improvements, resilience benefits, customer impact, and whole-life cost implications. This phase will also define the implementation roadmap, setting out the investment requirements, rollout approach, and prioritisation framework needed to extend the solution across SP ENW.

Benefits

The benefit of the project is a series of reports and CBA that hopefully identifies alternative communication technologies, their likely costs and benefits and a recommendation that one or more alternatives could be taken forward for further development and trials toward adoption.

Objective(s)

- Phase 1: Definition of Issue & Identification of possible options.
- Digital Catapult review of alternative technologies, compared to current SP ENW issues and BaU plans.
- Digital catapult assessment of technologies to established need, and initial cost benefit for likely alternative technologies.
- SP ENW review of learning to date

Phase 2: Option refinement and CBA development

- Cost benefit Inventory for selected option(s)
- Cost benefit analysis for selected option(s)
- Solution Impact Modelling and final report documentation
- Delivery of a technical roadmap

Consumer Vulnerability Impact Assessment

An assessment of distributional impacts (technical, financial and wellbeing related) for this project has been carried out using a bespoke assessment tool, which assesses the project as having a positive, negative or neutral effect on consumers in vulnerable situations. To help inform the assessment, this tool considers the categories of consumers identified in the Priority Services Register.

This project has been assessed as having an overall positive impact on consumers in vulnerable situations. The assessment has identified that this project will aim to improve the exchange of information between networks and customers while reducing the number of disruptions to them in the home. Other considerations, including the projects' impact on supply, immediate health and safety in the home have been made in carrying out this assessment.

Success Criteria

- Publication of a technical report that summarises the alternative options, costs and benefits to deploy an alternative or supporting communication technology to cellular.
- Publication of a technical roadmap.

Project Partners and External Funding

Digital Catapult

Potential for New Learning

The project will determine the options to support the requirement currently delivered through cellular communications, and for those identified as most promising, to develop a CBA and high-level deployment strategy.

The expectation is that there will be alternative technologies that could be utilised to mitigate some or all of the current and future limitations of the cellular network, and that these technologies will be proven to be suitable for continued development in a future project. This learning will be documented in a series of reports that will be published on the SP ENW website, and via the ENA Smarter Network Portal as appropriate.

Scale of Project

Electricity North West communication network in relation to select elements of SP ENW network. (eg Urban / Rural communication needs and Issues). The focus will be on LV networks where the use of cellular communication is anticipated to expand greatly.

The scale of this project is to be the minimum necessary to allow a market review and CBA to be performed, using the minimum amount of SP ENW network data, to determine a follow on project of greater scale allowing additional development of any relevant technologies towards an ultimate BaU solution

Technology Readiness at Start

TRL1 Basic Principles

Technology Readiness at End

TRL2 Invention and Research

Geographical Area

North West of England.

Revenue Allowed for the RIIO Settlement

0

Indicative Total NIA Project Expenditure

£279,000

Project Eligibility Assessment Part 1

Requirement 1

Facilitate the energy system transition and/or benefit consumers in vulnerable situations

Please answer **at least one** of the following:

How the Project has the potential to facilitate the energy system transition:

The Project has the potential to facilitate the energy system transition by improving the communication connection to/with electricity connected devices at a variety of locations (eg behind meter or DNO assets). In doing so allowing these assets to have a more robust ability to be part of the energy system transition.

How the Project has potential to benefit consumer in vulnerable situations:

The project may help to identify technologies to mitigate known weaknesses in the UK cellular network, improving service to all customers including those that are vulnerable.

Requirement 2 / 2b

Has the potential to deliver net benefits to consumers

Project must have the potential to deliver a Solution that delivers a net benefit to consumers of the Gas Transporter and/or Electricity Transmission or Electricity Distribution licensee, as the context requires. This could include delivering a Solution at a lower cost than the most efficient Method currently in use on the GB Gas Transportation System, the Gas Transporter's and/or Electricity Transmission or Electricity Distribution licensee's network, or wider benefits, such as social or environmental.

Please provide an estimate of the saving if the Problem is solved

n/a

Please provide a calculation and/or description of the expected benefits of the solution

The initial study is a desktop research piece (TRL 1) so will not yet have the expected cost benefits calculated.

Please provide an estimate of how replicable the Method is across GB

The project is likely to identify technologies that could be made available UK wide. All DNOs are familiar with the use of Cellular for less critical asset communications, and will be capable of understanding the disseminated learning and the applicability to their detailed needs.

Cellular communications are used for most network devices located beyond the HV busbars at Primary substations, and for any LV connected devices which are currently limited in number. HV related installations currently number over 10,000 in SP ENW which would be replicated across other DNOs.

Please provide an outline of the costs of rolling out the Method across GB.

The output of the project will be a high level CBA for the technologies identified as the most likely to meet the required need.

The project will determine IF there is an alternative technology and provide an initial high level CBA for further development. At TRL 1 costs are not currently available for a GB rollout

Requirement 3 / 1

Involve Research, Development or Demonstration

Projects must have the potential to have a Direct Impact on a Network Licensee's network or the operations of the System Operator and involve the Research, Development, or Demonstration of at least one of the following (please tick which applies):

- ☐ A specific piece of new (i.e. unproven in GB, or where a method has been trialled outside GB the Network Licensee must justify repeating it as part of a project) equipment (including control and communications system software).
- ☐ A specific novel arrangement or application of existing licensee equipment (including control and/or communications systems

and/or software)

- ☐ A specific novel operational practice directly related to the operation of the Network Licensees system
- ☐ A specific novel commercial arrangement

Involve Research, Development or Demonstration - Please select all that apply

- ☒ A specific piece of new equipment (including monitoring, control and communications systems and software)
- ☐ A specific piece of new technology (including analysis and modelling systems or software), in relation to which the Method is unproven
- ☐ A new methodology (including the identification of specific new procedures or techniques used to identify, select, process, and analyse information)
- ☐ A specific novel arrangement or application of existing gas transportation, electricity transmission or electricity distribution equipment, technology or methodology
- ☐ A specific novel operational practice directly related to the operation of the GB Gas Transportation System, electricity transmission or electricity distribution
- ☐ A specific novel commercial arrangement

Specific Requirements 4 / 2a

Please explain how the learning that will be generated could be used by the relevant Network Licensees

The project will deliver learning on the potential alternative technologies to cellular communications and an indication which of these technologies may have a high level CBA for future development and adoption.

This learning, plus any further development (should an appropriate technology be identified) will be understandable by the relevant other DNO operational Technology teams who could utilise the identified technology on a fast follower basis.

n/a

Is the default IPR position being applied?

- ☒ Yes

Project Eligibility Assessment Part 2

Not lead to unnecessary duplication

A Project must not lead to unnecessary duplication of any other Project, including but not limited to IFI, LCNF, NIA, NIC or SIF projects already registered, being carried out or completed. Networks must explicitly mention similar projects that they have considered and how these differ.

Please demonstrate below that no unnecessary duplication will occur as a result of the Project.

The Smarter Network Portal has been checked prior to project registration and there were no previous or similar project in the same area relating to the proposed project.

If applicable, justify why you are undertaking a Project similar to those being carried out by any other Network Licensees.

N.A.

Additional Governance And Document Upload

Please identify why the project is innovative and has not been tried before

The project is innovative as it seeks to identify new or alternative communication technologies not currently used as part of current DNO technologies. The project is using a partner who has the experience and resources to perform a much broader horizon scanning than BAU teams, and have access to the development stages of many innovative technologies that would not be visible to BaU work.

Relevant Foreground IPR

N.A.

Data Access Details

All data will be shared in line with the SP Electricity North West data sharing policy as published on our website.
(<https://www.enwl.co.uk/future-energy/innovation/our-innovation-strategy/our-innovation-data-sharing-policy/>)

Please identify why the Network Licensees will not fund the project as a part of it's business and usual activities

Current BAU activities and commercial suppliers are focussed on improving current BaU approaches. This project is not BaU as its looking to seek innovative alternatives.

There is a risk that alternative technologies may not be available to support cellular communications, and that those that may exist will not be sufficient mature for adoption. This expected low TRL supports the use of Innovation funding.

Please identify why the project can only be undertaken with the support of the NIA, including reference to the specific risks (e.g. commercial, technical, operational or regulatory) associated with the project

This project is to identify potential technologies to mitigate known current and future limitations of the cellular network. These technologies may or may not be proven in a non DNO capacity and as such are likely to be at a low TRL. A NIA project allows us to better understand the potential alternatives, and likelihood of these alternatives being developed towards a viable solution. BaU does not consider the broad open scope of this project as defendable use of BaU funding, and therefore very unlikely to secure business funding.

This project has been approved by a senior member of staff

☒ Yes