Notes on Completion: Please refer to the appropriate NIA Governance Document to assist in the completion of this form. The full completed submission should not exceed 6 pages in total.

NIA Project Registration and PEA Document

Date of Submission

Sep 2024

Project Reference Number

NIA_UKPN0103

Project Registration

Project Title

Almee

Project Reference Number

NIA_UKPN0103

Project Licensee(s)

UK Power Networks

Project Start

November 2024

Project Duration

2 years and 1 month

Nominated Project Contact(s)

Charlie.Barnes@ukpowernetworks.co.uk

Project Budget

£1,389,091.00

Summary

UK Power Networks is working to deliver support at scale to vulnerable consumers at risk of being left behind by the energy system transition. This project will develop a new digital tool that aims to utilise cutting edge technologies such as machine learning and artificial intelligence to enable tailored support to be effectively delivered to vulnerable consumers at scale. By working closely with current service delivery partners, the aim is to build a tool that supports existing services while also providing new options for consumers that would prefer to self-serve using digital channels.

Nominated Contact Email Address(es)

innovation@ukpowernetworks.co.uk

Problem Being Solved

During RIIO-ED2, UK Power Networks is working to deliver support at scale to vulnerable consumers at risk of being left behind in the energy transition (aka Leaving No one Behind, LNB). This requires a step change in volumes of vulnerable and disadvantaged customers that are identified and supported. This is especially important in a context where other factors, such as the increasing cost of living, digital exclusion, increased inflation and increasing energy costs will contribute to increasing numbers of people at risk of being left behind.

A key challenge currently faced is an inability to scale services to meet the required significant increase in volumes compared to RIIO-ED1. Many of the partners funded by Distribution Network Operators (DNOs) to provide support to vulnerable consumers do so manually and are operating at capacity so unable to address the volumes of customers that require support. Many partners have growth plans to expand their reach, but this requires additional time and resources.

It is relevant to note that across the existing portfolio of services and initiatives that UK Power Networks provides, there has currently been a low uptake of digital products despite novel solutions being available. This comes despite an increased expression of interest from consumers in digital self-serve channels. This project looks to address this challenge in two ways:

Utilising innovative technologies to provide a tailored experience for customers. This will allow customers to interact with the tool to provide bespoke support, with the aim of providing a high level of customer service.

Working with frontline service delivery partners from the outset in design of the tool. Delivery partners could utilise the tool to enhance their existing service, support the growth of their service, or promote the tool to customers who can self-serve. This reduces the risk of under-utilisation of the tool relative to investment and will help increase the reach.

Method(s)

Overview of Solution
To solve the problems, we intend to build a tailored digital vulnerable customer experience, which will use Artificial Intelligence (AI) and Machine Learning (ML)to triage customer issues and provide in-depth support. This solution could be used by customers in a self-serve capacity or by advisors working for DNOs to enhance their support.

The tool will be used across delivery partners to increase the reach of support for vulnerable customers. Whilst the final set of capabilities and features of the tool are subject to scoping and design, the key features proposed are:
Interface to provide advice and information to customers, replicating the service currently provided by human agents. This could include:
Energy efficiency advice.
Grant eligibility and application support.
Net zero transition advice
Information about the Priority Services Register
AI generated educational videos in multiple languages, based on user demographic, supported with British Sign Language/narration.
Provide a multi-language capable mobile application (e.g., English, Arabic, Polish) able to provide support to customers in their native tongue.
For the visually impaired, incorporate voice-activated commands and responses, so users can navigate the tool without seeing the screen.
Optional final interaction with human operator for customer preference or to aid in trouble shooting that the AI interface is unable to resolve.

Approach
Design – the scoping of the tool will be conducted by Mesh-AI, a specialist data and AI consultancy, in collaboration with input from some of UK Power Networks' trusted service delivery partners.
Procurement – there will be a tender for the build of the tool
Build – the digital solution will be built and tested.
Trial – the tool will be trialled with customers

Measurement & Data Quality Statement:
The scope of this project is to provide a new service to vulnerable consumers. The project will deliver clear benefits to vulnerable customers who can benefit from the tool directly or through the enhanced service provided by delivery partners. Service delivery partners that utilise the tool will also benefit, through enabling them to more effectively provide support to consumers as well as supporting their ability to grow the scale of support they offer.

Data gathered during the trial will be kept securely and deleted within a suitable timeframe in accordance with data protection requirements. In compliance with GDPR requirements anonymised and aggregated data only, will be included in project reports for wider distribution.

Scope

1 Design
1.1 Tool Design
Mesh-AI will identify the solution requirements, and propose the design of the new solution:
Discover current state and define future direction and needs
Solution exploration
Recommendations and business case

The service delivery partners will be consulted through a series of workshops and interviews led by Mesh-AI. The delivery partners will share insights and expertise from their role of customer support – sharing information such as common queries from customers, value that customers derive from the service, and what solutions could most effectively support call agents supporting customers.

1.2 Service Design
UK Power Networks will also lead the design of the end-to-end processes of the new service that the tool will deliver for the Consumer Vulnerability team, supported by the delivery partners and Mesh-AI. The purpose will be to carry out process mapping and customer journey mapping. The output will be tested with key stakeholders for acceptance at this stage.

1.3 Trial Design
Outline plan for the live trial of the tool through stakeholder engagement. The proposal will include processes, timelines, measurement metrics and success criteria.

2 Procurement
The developed tool design will be used to inform an invitation to tender that will identify a supplier to build the tool, which will ensure that UK Power Networks receives a market-tested proposal for the tool build.

The preparation and delivery of the tender will be carried out with input from key stakeholders from the Consumer Vulnerability and Data and Analytics teams.

3 Tool Build & Test
The exact scope of this phase will depend on the outputs of earlier Design and Procurement activities. There will be an estimated five month build period plus iterative testing with key stakeholders prior to acceptance.

4 Service Trial
Once the tool has been built and accepted by UK Power Networks and the delivery partners and the service developed, there will be a trial period where the service will be launched prior to handover to BAU.

The trial will:
Gather customer and delivery partner feedback on tool operation
Capture the benefits of the tool to delivery partners

Data from the trial will be collated from multiple sources across project partners and analysed by the tool developer, to identify the success of the trial against pre-agreed metrics and criteria and assess whether the solution operated as intended.

Objective(s)

Primary objectives to be achieved by the project:
Build a tool that can be used to support vulnerable consumers, validated with delivery partners and key internal stakeholders.
Demonstrate the potential to increase the volume of vulnerable customers supported via LNB services.
Allow customers to self-serve by using the tool directly, or allow representatives of delivery partners to use the tool to enhance the service they offer consumers.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

The tool to be designed during this project will be used to deliver support to vulnerable consumers at risk of being left behind in the Net Zero Transition. It will also promote the PSR to consumers that meet the eligibility criteria.
The service delivery partners will provide insights and expertise into providing effective support to vulnerable consumers to inform the design of the tool. The solutions deployed by this project will take the form of two separate use cases, the effect that each solution is expected to have on consumers in vulnerable situations is detailed below. Both use cases anticipate that consumers will received tailored advice appropriate for their personal situation that aims to increase the wellbeing of the consumer.

Self-serve
As it is an automated interface the intention is that consumers may feel less embarrassed asking for support, and so may be more open in asking questions they need support with, and therefore having a positive impact.
It is proposed that there will be an option for consumers to speak to an agent over the phone if they are not getting the support they require from the tool, in case they need additional support the tool is unable to provide or find the experience challenging for any reason.

Delivery Partner supported
This service will, to a customer, be very similar to the existing service they receive from the service delivery partners, as they will still receive tailored advice from the front-line support staff. The aim is to ensure that the support they receive is more effectively processed

by the front-line support staff, and so overall the conversation with the consumer is more efficient.

Success Criteria

The tool provides support to vulnerable consumers with positive SROI.
The tool is suitable for use by service delivery partners.
The tool provides support to customers as part of the trial, to demonstrate the effectiveness of the service.

Project Partners and External Funding

This project will be delivered in partnership with a technology developer (Mesh AI) and three existing Consumer Vulnerability Delivery Partners.

The Design phase, undertaken by Mesh-AI, costs £220,000. Mesh-AI are providing contribution to the project through discounts in the form of labour in kind and discount labour rates totalling £66,958 – 23% of total costs for the design phase.

Potential for New Learning

Expected Key Outputs
Analysis of key areas of support: the delivery partners will advise on the most common queries they are asked by vulnerable consumers when seeking support. A summary of these topics and how they are typically addressed will be used to shape the support the tool will prioritise delivering.
Supporting vulnerable consumers at scale: learnings about how increasing the scale of the support impacted the existing delivery partner process, and the new service offered.
Utilising ML and AI to support vulnerable consumers: A summary of the benefits and challenges that have been identified during the development and implementation of the tool during this project.

Dissemination Approach
This approach is based on UK Power Networks' previous experience of running successful innovation projects. The aim is to update the dissemination plan as the project progresses.

The planned dissemination activities include:
Engagement with stakeholders: UK Power Networks will actively engage with stakeholders such as third sector partners that are funded by us to deliver support to vulnerable consumers.
Mesh-AI's network: Mesh-AI will leverage its network and contacts to disseminate the outcomes of this project, ensuring wide reach and impact.
Public summary report: A public summary report highlighting the key outputs, deliverables, and learnings of the project will be published on the UK Power Networks innovation website.

UK Power Networks will look to share project successes and discoveries via its social media channels with the possibility of publishing external press media where appropriate.

Scale of Project

The project aims to role out a tool that will have two applications. The self serve element will allow customers to access and utilise the tool directly to receive tailored support. This element could be utilised by any UK Power Networks customer, and the aim is for it to have a high reach.

The other tool use case is for service delivery partners to use the tool to enhance their service. Front line support staff can use the tool to more efficiently provide advice and information to the consumers they are supporting, and the organisations could use the tool to be able to grow the volumes of consumers they are able to support.

The scale of the investment is to design a tool that brings multiple relevant and personalised benefits (such as energy efficiency advice, smart meter advice and grant information) to a wide demographic of disadvantaged consumers, and trial it with a sufficient sample size of customers and service delivery partners. We have selected the scale to maximise the benefit and a lower scale will impact the likelihood of transition to BAU. Furthermore, by scoping and building the tool in separate phases it ensures that the relative cost of the build and the benefits each feature provides can be considered to ensure value for money and the most effective outcomes delivered.

Technology Readiness at Start

TRL3 Proof of Concept

Technology Readiness at End

TRL7 Inactive Commissioning

Geographical Area

Participants for the trials that benefit from the new tool and service will be located within UK Power Networks' licence areas (Eastern Power Networks plc, London Power Networks plc and South Eastern Power Networks plc.

Revenue Allowed for the RIIO Settlement

he outputs and deliverables produced as part of the project will conform to the default treatment of IPR. Background IPR from Mesh-AI, the tool build partner and the service delivery partners will be essential to develop and build some of the foreground IPR. However, the scope of the tool will be developed so that multiple suppliers could be capable of providing a similar background IPR that allows the replicability of this project.

Indicative Total NIA Project Expenditure

The total project budget, after the additional contribution by the partner, is £1,389,091, of which £1,250,182 (90%) will be recovered from NIA.

Project Eligibility Assessment Part 1

There are slightly differing requirements for RIIO-1 and RIIO-2 NIA projects. This is noted in each case, with the requirement numbers listed for both where they differ (shown as RIIO-2 / RIIO-1).

Requirement 1

Facilitate the energy system transition and/or benefit consumers in vulnerable situations (Please complete sections 3.1.1 and 3.1.2 for RIIO-2 projects only)

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

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

The tool developed as part of the project aims to facilitate scaling up the provision of support to vulnerable customers at risk of being left behind in the energy system transition. By providing this support, it reduces the risk of vulnerable consumers being left behind in the transition.

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

Providing direct advice and support to vulnerable consumers at risk of being left behind in the Net Zero transition.
Enabling service delivery partners to more effectively provide advice and support to vulnerable consumers at risk of being left behind in the Net Zero transition.
Promoting the Priority Services Register to consumers that meet the eligibility criteria.

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 (RIIO-1 projects only)

N/A

Please provide a calculation of the expected benefits the Solution

The total benefit of this project is estimated based on the following points:
Only additional customers that self-serve contribute to SROI – it is assumed that customers that receive support through service delivery partners would receive that support regardless
SROI is calculated using proxies from the DNO rulebook and evidence of the anticipated advice and support for energy efficiency, net zero transition and income maximisation advice.
Approximately 23,000 customers are estimated to benefit from the tool between launch and the close of RIIO-ED2 if successfully implemented
Based on the above assumptions, the project is projected to produce societal benefits of £8m (gross) during RIIO-ED2.

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

Once successful, the solution has the potential to be rolled out to all network operators across Great Britain.

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

The roll out costs will be comprised of:
The licence cost of using the proposed solution
The costs associated with integrating the solution into BAU processes

Requirement 3 / 1

Involve Research, Development or Demonstration

A RIIO-1 NIA Project 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

RIIO-2 Projects

☐ 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 share learnings from the application of cutting edge technologies such as AI and ML to the provision of support to vulnerable consumers. The learnings of using these technologies to enhance services for vulnerable consumers could be used to inform the improvement or future development of services funded or provided by relevant industry organisations.

Or, please describe what specific challenge identified in the Network Licensee's innovation strategy that is being addressed by the project (RIIO-1 only)

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.

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

A check has been completed on the Smarter Networks Portal and no similar projects utilising artificial intelligence to provide direct support to vulnerable consumers exists within the electricity distribution industry.

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 aims to utilise new and innovative technologies such as AI and ML to develop a new tool and services to provide effective

support to vulnerable consumers at risk of being left behind in the energy transition. To our knowledge, the application of these technologies in this way has not been undertaken before in this industry in GB.

Relevant Foreground IPR

The outputs and deliverables produced as part of the project will conform to the default treatment of IPR.

Background IPR from Mesh-AI, the tool build partner and the service delivery partners will be essential to develop and build some of the foreground IPR. However, the scope of the tool will be developed so that multiple suppliers could be capable of providing a similar background IPR that allows the replicability of this project.

Data Access Details

To view the full Innovation Data Sharing Policy, please visit UK Power Networks' website here:
https://d1oyzg0jo3ox9g.cloudfront.net/app/uploads/2023/10/UKPN-InnovationDataSharingPolicy-Nov-23-v1.0.pdf
UK Power Networks recognises that Innovation projects may produce network and consumption data, and that this data may be useful to others. This data may be shared with interested parties, whenever it is practicable and legal to do so, and it is in the interest of GB electricity customers. In accordance with the Innovation Data Sharing Policy, UK Power Networks aim to make available all non-personal, non-confidential/non-sensitive data on request, so that interested parties can benefit from this data.

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

The project aims to trial and new and innovative technology, which to our knowledge has not been applied to the support of vulnerable consumers in this way across the industry. Due to this it is deemed high risk for the business to trial such a solution without any prior validation. Innovation can help fast forwarding this technology which will facilitate the business as usual transition once the project succeeds in delivery its objectives.

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

The NIA funding will enable UK Power Networks to undertake a project which has technical risks associated with it, in terms of a lack of certainty on results as it is seeking to utilise new, cutting edge technologies in a new application. Due to the level of impact on vulnerable consumers, extra care must be taken to ensure that those supported by the project outputs are not put at additional risk due to the outputs of the tool.

This project has been approved by a senior member of staff

☑ Yes