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

Oct 2020

Project Reference Number

NIA_NGN_272

Project Registration

Project Title

DoorStop

Project Reference Number

NIA_NGN_272

Project Licensee(s)

Northern Gas Networks

Project Start

October 2020

Project Duration

0 years and 8 months

Nominated Project Contact(s)

Steve Dacre

Project Budget

£115,060.00

Summary

According to the Office of National Statistics, there are between 5,000 and 8,000 reports of doorstep crime per year in the UK (5,784 in 2017, 6,233 in 2018, 7,107 in 2019) Whilst these are instances where a demonstrable offence has occurred, it is estimated that only 5% of cases ever get reported so the actual number of attempts is certainly much higher. On average, a victim of doorstep fraud loses around £3,000, but it is the emotional and mental scars that become the bigger and longer-lasting impact, not to mention a loss of trust in even genuine officials who need access to the home. 65% of doorstep scam victims are aged 75 and over. Trading Standards put this figure even higher and state 85% of victims are aged 65 and over. Scams cost the UK economy up to £10bn every year.

Citizens Advice reports that nearly 20% of people have experienced attempted doorstep fraud and of the people surveyed, no one had taken any preventative measures to help protect themselves from doorstep fraud. Only 14% of people were confident they could identify a doorstep scam if it happened to them. Currently utility engineers attending a property typically show their ID badges to gain entry which appears to be often effective. However, the above outlines how an increasing number of customers are likely to have been victims of doorstep fraud and therefore may be less trusting of unknown visitors. It also shows there is an increasing risk that fraudsters may pose as utility staff in order to gain access to someone's home - a scenario which people are not confident in being able to spot, are unlikely to report and are not well equipped to deal with. It is also possible that customer metrics within a utility company do not reflect the actual picture given the very low public reporting of this type of fraud across the sector.

Third Party Collaborators

Northumbrian Water

Northumbrian Water

Nominated Contact Email Address(es)

innovation@northerngas.co.uk

Problem Being Solved

According to the Office of National Statistics, there are between 5,000 and 8,000 reports of doorstep crime per year in the UK (5,784

in 2017, 6,233 in 2018, 7,107 in 2019) Whilst these are instances where a demonstrable offence has occurred, it is estimated that only 5% of cases ever get reported so the actual number of attempts is certainly much higher. On average, a victim of doorstep fraud loses around £3,000, but it is the emotional and mental scars that become the bigger and longer-lasting impact, not to mention a loss of trust in even genuine officials who need access to the home. 65% of doorstep scam victims are aged 75 and over. Trading Standards put this figure even higher and state 85% of victims are aged 65 and over. Scams cost the UK economy up to £10bn every year.

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Method(s)

This solution will transform doorstep engagement and mitigate the risk for both customer and colleague, enabling a best-of-class safeguarding processes to be adopted. We will harness facial and voice recognition technologies to redefine how utility companies and potentially other organisations can interact with customers by producing a web-based application to allow customers to scan the face or analyse the voice of a visitor using smart phone or tablet technology and receive instant feedback from the system providing reassurance to the customer.
The DoorStop system will immediately recognise the caller as a genuine employee of a utility company or conversely report directly to that company if they are not recognised. The application will be accessed and used through a normal web page without the need for a dedicated mobile app or any special technology, making it as accessible to as many customers on as many devices as possible.
Egnida will produce a production-ready application which will be tested in a discrete geographic area with live customers and staff.
For customers who may find visual identification difficult, there will be the option to use voice recognition whereby the caller will be asked to give their name and organisation, and their voice will be analysed and matched to identify the caller.

Scope

Following a number of external and internal stakeholder sessions which have helped scope the opportunities and technologies available the project will be scoped into 3 stages.

Stage 1
Utility company admin portal - a portal which selected staff can use to add, remove and update staff information, view metrics on app usage and follow up on failed recognition attempts reported by customers.

Stage 2
Customer facial recognition web application – a web page which the customer can use to scan the face of a visitor claiming to work for a utility company to ensure they are a genuine employee and report if not. The page will be designed to work on a wide number of devices which have a camera and web browser, not just latest smart devices. The page can be accessed from any existing domain or a bespoke version for a utility company can be hosted on their own web offer, with the required code hosted on secure Amazon Web Servers. The facial recognition service will also use Amazon Web Services to store and analyse the faces of staff and callers. For customers who may find visual identification difficult, there will also be the option to use voice recognition where the caller will be asked to say their name and who they work for, which will be used to identify the caller.

Stage 3
Limited geography trial across NGN and Cadent footprint- generate user experience data from a customer perspective by soliciting feedback from the customer through the application during a trial period. This will look to gauge how comfortable a customer is asking to scan a visitor's face and to suggest best practice such as using it whilst the front door is on the chain.

The 3 stages will then deliver a final project report which will include feedback and recommendations for further roll out across the country using customer and colleague feedback.

Objective(s)

Following on from a series of user stories to describe the required system functionality the objectives for each stage will be as followed:

Stage 1 :

- Design and implement a robust data security model
- Create a user administration portal
- Develop the user administration functions within the admin portal
- Develop a mechanism where failed identifications are reported to NGN/Cadent
- Define and develop analytics requirements with NGN/Cadent

Stage 2:

- Deploy a live customer web application
- Design an accessible user interface
- Develop robust technology fall-backs to accommodate older technology
- Ensure that visitors can be identified within five seconds for facial recognition (and ten seconds for voice recognition)
- Collect feedback through the customer app and NGN/Cadent staff survey

Stage 3:

- Identify most appropriate trial area(s). Ideally on a adjoining Cadent and NGN patch
- Make customers in trial areas aware of the availability of the DoorStop app
- Gather and action defects and enhancements
- Draft and deliver DoorStop trial report

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

For the project to be deemed as successful the following success criteria must be met:

- Data Security Sign Off from Partner's IT security Teams
- GDPR Compliant signed by the Partner's Data Protection Officer
- The application must be Accessible, fast & user friendly, easy and quick to administer accepted by User Acceptance testing and signed off from Partners IT, Customer, Communications & Operational Teams.
- Failure workflow and fallbacks must be identified through extensive testing and feedback
- Buy in from other parties following results eg trading standards etc

The Final Project Report will provide feedback and recommendations for Networks which will enable progression for a network wide business as usual application.

Project Partners and External Funding

Funding Partners –
Northern Gas Networks
Northern Powergrid
Cadent

Non-Funding Partners –
Northumbrian Water
UK Power Networks
SP Energy Network

Potential for New Learning

This project will identify challenges that both customer and employees are faced with during Door Stop interaction. This will inform how future Door Stop interaction could improve the overall customer, colleagues and safety experience.

Scale of Project

This project will develop a final report with feedback and recommendations for Utility Networks/wider industries to roll out the application to decrease potential Door Stop fraud to its customers.

For the most effective feedback, the scale of the project will be across 3 funding partner networks and 9 non-funding partners.

Collaborative partners – Northern Gas Netwotks, Cadent and Northern Power Grid

Non-financially contributing partners or interested groups.

Yorkshire Water
Northumbrian Water
National Trading Standards – Scams Team,
UK Power Networks
SPEN
ERVIA
Gas Safe

RNIB
Alzheimer's Society

Technology Readiness at Start

TRL2 Invention and Research

Technology Readiness at End

TRL6 Large Scale

Geographical Area

The project will be constrained to Northern Gas Networks/Cadent geographical area,

Revenue Allowed for the RIIO Settlement

N/A

Indicative Total NIA Project Expenditure

External funding = £110,000
Internal cost = £27,500

Total Cost = £137,500

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:

n/a

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

n/a

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)

The project will contribute to an educed social cost to the community, through an informed report which will inform networks how to prevent customers becoming a victim of Door Stop Fraud.

Please provide a calculation of the expected benefits the Solution

The benefits of this project are solely qualitative, enabling an improved and safer customer experience of door step interaction by protecting the customer from door step fraud and scams, and logging when a member of staff is on site / visiting a property. The output will be in the form of an informed recommendation of the rollout for utility networks. The outcome of which, is intended to shape the future design and layout of Door Stop customer and user interaction.

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

The challenge being addressed by the solution is applicable to all GDN's and therefore could be readily adopted across the entire GB gas network.

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

The final report with recommendations will provide a detailed cost of rolling out this application.

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

All network licensee has door stop interaction with customers This Project is to enhance the customer experience and safety. This opportunity is applicable to all GDNS; therefore the learning can be readily adopted. Not only will network licensees benefit from this work but any company that engages with door stop interaction with the public. Providing the UK with a firm basis to provide the public with more robust safety and security.

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

Safety and Emergency

☑ Has the Potential to Develop Learning That Can be Applied by all Relevant Network Licensees

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.

Several checks have been undertaken to ensure no current solution exists to address the outlined challenge.

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

This unique method to identify callers has not been trialled or tested in the UK. This project provides an opportunity for the GDNs and wider industry to prevent customers being exposed to Door Stop Crimes. This project reduces the dependency and provides an alternative to the ID card identification method which is easily circumvented and is inaccessible to many vulnerable customers.

Relevant Foreground IPR

n/a

Data Access Details

n/a

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

activities

The project is a feasibility study, with the outcome relatively unknown. It is possible the project may identify challenges that cannot be practically addressed in the future. It is this that presents the project has a ‘risky venture’; beyond the current level of risk appetite.

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 project presents uncertainty in both the commercial and operational undertaking. Whilst, it is the ambition that the project will enable the improvement of the customer experience and safety for Door Stop interaction, the practically of overcoming the discreet challenges, both commercially and operationally are unknown. Therefore, the project is considered above the internal risk appetite threshold.

This project has been approved by a senior member of staff

☑ Yes