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

Apr 2014

Project Reference Number

NIA_NGGD0031

Project Registration

Project Title

Optimal use of Quick Response (QR) Codes

Project Reference Number

NIA_NGGD0031

Project Licensee(s)

Cadent

Project Start

April 2014

Project Duration

0 years and 7 months

Nominated Project Contact(s)

Suzanne Callington – Project Manager, Darren White - Innovation Portfolio Manager

Project Budget

£111,467.00

Summary

The scope of this project is to work in partnership with Enzen to develop the QR code technology for use on National Grid sites. This will include generating of the QR codes, producing the relevant software, collecting data and analysing the results.

Nominated Contact Email Address(es)

Innovation@cadentgas.com

Problem Being Solved

National Grid Gas Distribution carries out a number of Planned Works every year as part of our Mains Replacement Programme. These works can impact our customers living locally, and as a result we strive to provide the best information possible to minimise the impact. Working with our partner Elgin, we have set up Roadworks.org which provides real time information for Planned Work sites. However, ensuring that our customers can access this specific real time information at ease is an issue. Currently, if a customer has an enquiry about the works planned for their area, there is the option to find out further information by visiting Roadworks.org, or in most cases they will contact our General Enquiries line. Currently we receive approximately 350 enquiries a day across all 4 of our networks. We want to be able to reduce this number, as a reduction means customers are able to access the required information through more convenient alternatives.

This proposal aims to trial QR (Quick Response) codes to facilitate the provision of specific and easily accessible information on street works to our customers. A QR code is a unique square-shaped barcode, that when scanned with a smartphone, can take you directly to a specific web address. In order to facilitate our customers in accessing this real time data, we plan to trial the use of QR codes on street work signs, which link directly to the Roadworks.org website, showing the specific details of those street works.

Method(s)

National Grid will field trial the use of Quick Reponse (QR) codes in the North London Network area by placing QR codes on barriers

around streetworks and excavations.

This is with the aim that these can be scanned by mobile devices of customers to provide a method of obtaining information regarding streetworks, as well as point of contact for all enquiries should customers wish to get in touch.

Planned Work Sites will be selected to trial this technology, with 50% of the target sites displaying the trial QR Code signage, and 50% continuing with traditional signage, in order to provide a comparison of the benefit gained. Analysis of internet traffic statistics to the Roadworks.org website will also be conducted, alongside an analysis of the Planned Work Customer Satisfaction score, to determine whether there is a positive impact on the score for the QR Code sites.

Scope

The scope of this project is to work in partnership with Enzen to develop the QR code technology for use on National Grid sites. This will include generating of the QR codes, producing the relevant software, collecting data and anlysing the results.

Objective(s)

The objective of this project is to trial the use of Quick Response (QR) Codes on street work signs on site in order to determine the successfulness of providing additional information to customers.

The outcome of this project will inform the decision on integrating this method into all planned work activities as Business as Usual, through the use of QR codes linked directly to the relevant site information on the Roadworks.org website. This will also inform the potential use of QR codes on further customer communication such as Planned Work notification letters.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

The key success criteria will be:

- Development of the QR code technology for use on Natioanl Grid signage
- Trial of the QR code technology comparatively against that of traditional streetworks signage
- Process established and refined for generating and displaying QR Codes
- Analytical daya confirming successfulness of the QR code technology
- Production of a report detailing the project outcomes

Project Partners and External Funding

n/a

Potential for New Learning

n/a

Scale of Project

In order to ensure the successfull evaluation of the QR code technology a comparative trial will need to be carried out within a single geograghical area, to assess the effectiveness of QR code signage against that of traditional signage.

The project trial will be focused in the North London area and will be carried out in partnership with National Grid's Gas Distribution Strategic Partner; TRIIO.

Technology Readiness at Start

TRL6 Large Scale

Technology Readiness at End

TRL7 Inactive Commissioning

Geographical Area

North London

Revenue Allowed for the RIIO Settlement

No Revenue allowed in the RIIO Settlement

Indicative Total NIA Project Expenditure

£111,466.66 total NIA Expenditure

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)

There are expected to be significant potential benefits associated with customer and stakeholder satisfaction, as well as reputational benefits, if the use of this technology is proven to be successful.

It is envisaged that deployment of this technology across National Grid Gas Distribution would result in associated financial benefits in the following areas:

- Reduction in the number of Planned Work Enquiries, saving upto £100k per year, £0.7m over the remaining 7 years of RIIO.
- Reduction in the volume and cost of complaints, saving upto £50k per year (based on 5% reduction), £350k over the remaining 7 years of RIIO

Please provide a calculation of the expected benefits the Solution

(Current cost of planned work enquiries and customer complaints ~£1.897m per annum) – (Expected cost of planned work enquiries and customer complaints following implantation £1.747m per annum) = ~£0.15m saving per annum (£1.05m saving over 7 years of RIIO)

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

This method would be replicable at street works sites across the whole of GB.

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

Costs of roll out are to be confirmed as part of the scope of this project, and would include costs associated with the production of the relevant procedures and training requirements.

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 learning generated will outline the successfulness of the Quick Response (QR) code signage trial.

The process established for setting up an automated QR code generation and deploying to site as part of the trial can be shared across all Network Licencees, along with the recommendations for implementing QR Codes as an enduring solution.

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

Not applicable

☑ 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.

n/a

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

n/a

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

n/a

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

n/a

This project has been approved by a senior member of staff

☑ Yes