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

Mar 2021

Project Reference Number

NIA_CAD0070

Project Registration

Project Title

Connecting with Customers – Intelligent Virtual Surveying Tool for Vulnerable Customers

Project Reference Number

NIA_CAD0070

Project Licensee(s)

Cadent

Project Start

March 2021

Project Duration

0 years and 8 months

Nominated Project Contact(s)

Project Budget

£122,550.00

Summary

Cadent provide a connections service to customers that request a new gas connection or a change to an existing gas connection. As a part of this process Cadent carries out site surveys for any connection request that is received. Surveys are normally carried out in person, on site, by a surveyor. The number of surveys possible in a day are therefore limited due to travel time. In addition to this 5-10% of jobs are aborted once a team arrives on site and the site is not ready to be surveyed.

The cost to perform 400 surveys in a month in West Midlands is circa 36k, including the cost of aborted visits. Customers also face a lead time of 6-7 days from acceptance to initial survey, and a further 1-2 weeks for the customer to then receive a planned date.

In addition, during COVID, it was identified that many customers who were in lock-down or shielding preferred to limit access of our teams into their homes.

The proposed solution is a product called Vyntelligence, which will enable Customers to control the survey process as they will be able to capture the initial survey requirements themselves. This solution will allow surveyors to remotely survey sites, reducing the cost per survey and increasing the number of surveys possible in a day. This also reduces the lead times for customers and provides a better customer journey if the customer can use the proposed solution. In addition to allowing video capture of surveys, Vyn offers further computing intelligence to pick out words and prompt actions, driving “right-first-time” data capture.

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.

Nominated Contact Email Address(es)

Innovation@cadentgas.com

Problem Being Solved

Cadent provide a connections service to customers that request a new gas connection or a change to an existing gas connection. As a part of this process Cadent carries out site surveys for any connection request that is received. Surveys are normally carried out in person, on site, by a surveyor. The number of surveys possible in a day are therefore limited due to travel time. In addition to this 5-10% of jobs are aborted once a team arrives on site and the site is not ready to be surveyed.

The cost to perform 400 surveys in a month in West Midlands is circa 36k, including the cost of aborted visits. Customers also face a lead time of 6-7 days from acceptance to initial survey, and a further 1-2 weeks for the customer to then receive a planned date.

In addition, during COVID, it was identified that many customers who were in lock-down or shielding preferred to limit access of our teams into their homes.

The proposed solution is a product called Vyntelligence, which will enable Customers to control the survey process as they will be able to capture the initial survey requirements themselves. This solution will allow surveyors to remotely survey sites, reducing the cost per survey and increasing the number of surveys possible in a day. This also reduces the lead times for customers and provides a better customer journey if the customer can use the proposed solution. In addition to allowing video capture of surveys, Vyn offers further computing intelligence to pick out words and prompt actions, driving “right-first-time” data capture.

Method(s)

To develop upon the Vyn solution provided by humanLearning Ltd to provide an Interactive video-based solution allowing for videos to be provided by the customer showing site conditions and site set up. This allows a surveyor to remotely conduct a survey and agree a plan date having liaised with network support and planning. A video function will also be built in for a site engineer to provide a customer with a completion video to further inform customers of works completed and next steps.

The solution will be a Secure App-less smart video interface for customers with an Android/IOS app for field operatives. It will have ability to produce custom reports and dashboards with AI-powered analytics. It will also provide an indexed and searchable video library for training and collaboration.

Scope

The sanction value is to fund design and development of workflows and storyboards for the connection process utilizing the Vyn solution. The project comprises on an initial set up process where the storyboards are developed followed by a trial period.

Preparation/Set Up (3 weeks):

- Development workshops
- Storyboarding of customer video touchpoints
- Intelligent word searching – speech to text

Trial (12 weeks):

- 3 Video touchpoints
- 200/300 customer journeys
- Up to 5,000 Vyns included
- Period of up to 3 months
- Black country region of West Midlands network
- All customer connections work types

Benefits Review (2 weeks):

- Review of data (uses, CSAT, aborted visits)
- Review of learnings and next steps

Objective(s)

To deliver a remote surveying solution for connections that will provide customers an easy to use, app free, method of submitting videos for use by Cadent surveyors and planning teams. The solution will:

- Be app free for the end customer
- Be a standalone application for engineers/surveyors and planning teams
- Easy to navigate and be user friendly
- Adhere to GDPR legislation

In addition to this the trial will:

- Identify whether remote surveying is effective and on which job types
- Provide feedback from customers on the customer journey
- Reduce customer related aborted visits
- Reduce lead time for connection requests from acceptance to planned date
- Increase productivity of surveyors and reduce cost to survey
- Reduce customer waiting for a survey backlog and customer awaiting plan date backlog
- Limit contact with customers that are shielding and prefer to limit access of out teams into their homes

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

The success of the trial will be measured against the following measures at a minimum:

- Reduced lead time for customers from enquiry to planned date
- Reduced survey back log
- Increased connections CSAT
- Reduced aborted visits
- Reduced enquiries and complaints relating survey/planned date connections

Ultimately, we want to understand if this would be a scalable solution and what job types this would work for across all networks, thus the trial needs to provide enough data and feedback to provide this understanding.

Project Partners and External Funding

Vyn is provided by humanLearning (hL) Ltd.

The project will be wholly NIA funded

Cadent Gas Ltd - £91k NIA funding, which is made up of the following:

- Development and trial cost: £45k
- External Consultancy and Management: £48k
- Contingency: £9.1k

humanLearning (hL) Ltd – Nil contribution to external funding

Potential for New Learning

The project will produce an example of a remote surveying solution useable by end customers and Cadent. This can be used across all GDNs with a similar connections process to Cadent.

In addition, the following learning will be delivered as part of the trial:

- Can remote surveying be used?
- What connections jobs types lend themselves to remote surveying?
- Can person to person contact be reduced through this process?
- Do remote eyes on site to increase confidence in site readiness?
- What is the level of customer readiness for technology-based solutions which enable remote surveying?

Scale of Project

The scale of this project will be limited to the West Midlands network for the purposes of the trial. Learnings will be shared across all networks in Cadent and if a solution proves to be beneficial it is anticipated that this will be implanted in the connections process across all Cadent Networks.

This provides the smallest scale investment to prove the feasibility of the solution, whilst allowing for the solution to then be implemented as BAU if successful.

Technology Readiness at Start

TRL7 Inactive Commissioning

Technology Readiness at End

TRL8 Active Commissioning

Geographical Area

This project will be trialled in the Blackcountry region of the West Midlands Cadent network

Revenue Allowed for the RIIO Settlement

No revenue allowed for in the RIIO settlement

Indicative Total NIA Project Expenditure

£102,100

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 likely savings expected are as follows:

- Lead time reduction for customers – reduced by 2 weeks
- Avoided re-planning time – circa 6% aborted work where customer site is not ready, potential to reduce by at least 50% for jobs that utilize the Vyn solution
- Up to 400 journeys removed per month per network leading to reduced mileage and carbon footprint
- Reduced risk of RTCs due to reduced travel for surveyors
- An increase in the number of surveys possible in a day by surveyors

Please provide a calculation of the expected benefits the Solution

Base minus method cost = £91.2k per annum for the West Midlands network (based on 50% of connections being suitable for remote surveying.)

This can be scaled across all Cadent networks.

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

Each GDN could utilise the technique, in approximate proportion to networks size.

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

Implementation costs specific to this technique will be minimal as the proposed deployment model is contract service offered by humanLearning Ltd. It will be dependent on the number of customer journeys required and the number of storyboards and workflows that need developing prior to roll-out.

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 GDNs have obligation to provide connections service to customers so possible solution applicable to all UK GDNs, especially those that currently have a similar connections process in place to Cadent.

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

This project supports to the drive to meet the needs of consumers and network users. Specifically transforming our customer operations to allow us to consistent meet customers' needs an expectation, specifically for connections in this case.

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.

This solution is a new and unique technique to a known and yet unsolved problem.

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

We are not aware of any other network that provides customers with smart video notes to enable surveyors to complete site survey without attending site.

Technology was not previously available to trial and there was therefore an assumption that every site needs physical attendance over site conditions.

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 trial is required to understand if this solution can be used for various connections job types and whether it provides any benefit both to Cadent and customers

The technology is also unproven and customer receptiveness to the solution and their ability to provide the required videos is an unknown.

Although the potential for cost saving has been demonstrated there is still a high degree of risk associated with the project and, as such, Cadent Gas is unable to fund the project as part of its business as usual activities.

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 can only be undertaken with the support of the NIA because of the customer readiness and operational risk associated to the project, which will only be mitigated through testing as defined.

Cadent will also need to ringfence resource to this trial and thus these resources will not be performing BAU activities for the trial duration.

This project has been approved by a senior member of staff

☑ Yes