SIF Round 3 Project Registration

Date of Submission

May 2024

Project Reference Number

10061346

Initial Project Details

Project Title

Wayl-ease

Project Contact

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Challenge Area

Whole system network planning and utilisation to facilitate faster and cheaper network transformation and asset rollout

Strategy Theme

Optimised assets and practices

Lead Sector

Electricity Distribution

Project Start Date

01/03/2024

Project Duration (Months)

3

Lead Funding Licensee

UKPN - Eastern Power Networks Plc

Funding Mechanism

SIF Discovery - Round 3

Collaborating Networks

UK Power Networks

Technology Areas

Asset Management

Stakeholder Engagement

Project Summary

Gaining consent from public and private landowners to dig up their ground and install network equipment presents a huge challenge to network operators. When a customer wants to connect to our network or operational works are required, delays in securing consent from landowners is a blocker, causing frustration to all.

Wayl-ease seeks to create a transparent, but secure, external-facing record of consents and link network operators and landowners via an online engagement and digital payment platform. By automating manual processes and giving customers visibility of the consent progress, Wayl-ease will facilitate improved planning, faster network transformation and more informed customers.

Add Third Party Collaborator(s)

Digital Catapult

Project Budget

£122,930.00

SIF Funding

£110,637.00

Project Approaches and Desired Outcomes

Problem statement

Wayleave agreements govern network operators' use of someone else's land to install, access and operate equipment. In return, landowners are entitled to an annual payment of compensation under agreed terms.

The current tools, processes and data used by DNOs to manage these agreements with landowners are antiquated, undermining efficient network planning, timely connections and the DNOs ability to provide a high-quality service to customers.

Key issues include:

Low visibility of landownership: There is generally a lack of visibility and understanding of landownership across DNO networks in GB. Landownership is constantly changing, with thousands of wayleave claims made each year across UKPN's licence areas. DNOs are becoming increasingly disconnected from landowners, with over half of UKPN's network subject to wayleave renewal every time there is a change in ownership.

Conversely, landowners often have limited awareness of DNO infrastructure on their premises.

Manual consent and payment processes: Existing processes for confirming consents and generating wayleave agreements is fundamentally paper-based, involving exchange of letters and cheque payments. In some instances, the situation can lead to a three-month wait or inaccurate compensation payments to landowners, which in turn, leads to increased costs for DNOs to address

Lack of transparency for customers: Ensuring network resilience requires constant extension, upgrades and maintenance. This requires access to land, customer information and local planning data, which due to current lack of visibility in the consenting process often leads to repeated site visits and delayed works. Connecting customers currently don't have visibility of this process, so when delays occur, they remain in the dark, left frustrated.

Wayl-ease is a customer-facing platform that addresses these issues by digitising outdated processes, developing novel and automated approaches to landowner engagement, and providing customers visibility of the consents process and progress against it. This will improve planning to facilitate faster and cheaper network transformation, through digital techniques (Challenge 1, Theme 1).

There are three main users:

Utility networks: Unlocks faster land access and reduces delay to physical works including maintenance, fault repair, network upgrades, faster connections and improved whole system network planning.

Landowners: Ensures access to up-to-date records and allows simplified self-service wayleave agreement processing. Integration with DNO's payment systems will ensure landowners receive accurate payments in a timely manner.

Customers: Provides connecting customers visibility of the consenting process improving transparency and customer satisfaction.

No known public or network innovation funded work is relevant or contributing to this project area.

Video Description

https://youtu.be/GMpNFk3vquA

Innovation justification

Wayl-ease aims to transform the management of wayleave agreements, creating an industry first digital tool and engagement platform. This innovative solution will enable proactive consent management between networks and landowners adding self-serve functionality for landowners to assess wayleaves and receive digital payments. Once proven successful, it could serve as a platform for all utilities that face this common problem.

UKPN have already linked ownership of land and property records held by the HM Land Registry with existing infrastructure and wayleave agreement records. The ambition now is to develop a digital solution that:

1.   Enables the proactive and automated management of consent records between networks and landowners

2.   Provides an end-to-end self-serve digital tool for landowners to assess their entitlement to a consent and payment without the need for a claim agent

3.   Offers customers that have a stake in the consent process, such as those wanting to connect to the network, visibility of the process and progress against it.

The key innovative aspects include:

·   The visibility and proactive management of consents across geographies is the first of its kind, not only in the industry, but across wider national infrastructure providers

·   Activities currently limited by manual processes and administrative burden, in many cases taking up to three months, will be accelerated through automation

By improving understanding and visibility of consents across the network, Wayl-ease will unlock novel routes to engagement with landowners and additional potential use cases for Land Registry data in whole system network planning

The current TRL and IRL is low (1-2) as this level of digitalisation has not been undertaken elsewhere. The scale of the Discovery phase aims to determine the feasibility and develop a roadmap for future solutions (TRL and IRL of 2-4). Different use cases and routes to commercialisation for Wayl-ease will also be explored. The findings will benefit networks and other infrastructure providers, either informing development of their own systems or a future commercial solution.

UKPN is afforded funding to maintain consents status quo but there is no dedicated development funding to offer this functionality to landowners or customers. Considerable investment , engagement is required to develop Wayl-ease into a solution that can facilitate faster and cheaper network transformation and asset rollout (Challenge 1), which would not be achievable as part of business-as-usual activity. The feasibility and feasibility development must be undertaken before widespread deployment, which is perfectly suited to the phased nature of SIF.

Impacts and benefits selection (not scored)

Financial - future reductions in the cost of operating the network

Financial - cost savings per annum for users of network services

Environmental - carbon reduction – direct CO2 savings per annum

New to market – processes

New to market - services

Impacts and benefits description

The current position against which we evaluate the success of Wayl-ease is spread across several key benefits and metrics. The volume and financial value of wayleaves payments made by UKPN per year, the value of erroneous payments and number of existing wayleaves that are out of date are key factors. This data and the associated financials will serve as today's counterfactual, however, as the project evolves and the visibility of data extends, other metrics will be established to serve as additional basis for evaluating impact.

We have identified the following benefits from successful delivery:

Financial - future reductions in the cost of operating the network

·   Minimise erroneous payments issued annually by UKPN (e.g. payment to the wrong landowner, incorrect compensation payment for assets and works)

o   Metrics: Number of erroneous payments, annual cost of wayleave payments

·   Faster asset maintenance and upgrade work on customer premises

o Metrics: number of site visits, upgrade time, reduction in repeat visits

·   Automation of manual wayleave processes drives efficiencies and leads to significant time savings

o Metrics: time and costs reductions

Financial - cost savings per annum for users of network services

·   Accurate compensation to the correct customers for the correct assets

o   Metrics: Number of erroneous payments, annual cost of wayleave payments

Environmental - carbon reduction – direct CO2 savings per annum

·   Reduced visits to customer premises decreases CO2 emitted by operational vehicles

·   Accurate wayleaves will allow for works to be performed faster through better network planning and timely connections, enabling more LCTs and unlocking carbon reductions

o   Metrics: direct CO2 savings per annum

New to market - services

· The project will develop a customer-facing consents tool, ensuring up-to-date records and allowing simplified self-service for wayleave agreements. This will reduce consent processing time and increase customer satisfaction.

o Metrics: Consent processing time (e.g. three months down to hours), measure of customer service (through surveys), New service developed and launched

New to market – processes

· Challenges related to wayleaves are not unique to the energy sector, all critical national infrastructure operators utilise wayleaves in some form, leading to benefits in many industries because of this innovation.

All benefits are linked to the deployment of the Wayl-ease solution into business-as-usual following Beta, although some may be realised during the Project.

Teams and resources

The Discovery Phase will be undertaken through partnership between two organisations with an existing working relationship within the SIF programme and beyond.

UK Power Networks (UKPN):

· UK's largest electricity distributor delivering power to 8.5 million homes and businesses across London, the east and southeast of England. We are responsible for owning and maintaining the cables and assets in our licence area. We will be the main end user of the innovation, being able to view up-to-date consents whilst on the ground. By using this new process, UKPN will be able to drive through network reinforcements and transformation faster and quicker, resulting in greater network security and reliability.

· Role: UKPN are responsible for the successful delivery of the project and provide an oversight governance role over the project. Also leading on engagement planning and coordination with UKPN subject matter experts to facilitate user research and validation. Experts including, network operations, planning, connections, and wayleaves support teams, who will contribute with relevant information on related processes and procedures.

Digital Catapult (DC):

· The UK authority on advanced digital technology. Through collaboration and innovation, Digital Catapult accelerates industry adoption to drive growth and opportunity across the economy. Digital Catapult supports the adoption of advanced digital technologies by breaking down barriers, de-risking innovation, opening up markets and responsibly shaping the products, services and experiences of the future. Part of the UK's Catapult Network, Digital Catapult has 10 years' experience in supporting the energy sector in adopting advanced technologies to enable a secure, resilient and sustainable network.

· Role: DC are responsible for the detailed project management activities governing resources across all workstreams. DC bring data, machine learning and innovation expertise. They will capture the technical, business and data requirements before producing a solution architecture and roadmap for development of the Wayl-ease system in future phases.

Across the two project partners, there are sufficient inhouse resources, equipment, and facilities to deliver the Discovery Phase of this project.

In addition, a group of existing wayleave users will be interviewed to understand existing processes and identify user requirements. This is in addition to the HM Land Registry, who will be a vital data owner to the success of the project.

Project Plans and Milestones

Project management and delivery

An iterative, agile delivery approach will be used to coordinate the resources in this design research project that involves continual user engagement, insight capture, validation, and solution development.

UKPN will define and facilitate project governance using agile best practice ceremonies including daily stand ups, sprint planning and retrospectives. Working closely with the DC project manager to define, plan and estimate tasks and activities for the relevant delivery roles to achieve the objectives of the project.

This also includes weekly programme manager reviews and meetings with a dedicated planning resource to support programme adherence, and mitigation of delays if any occur.

There are four work packages proposed for Wayl-ease:

WP1: Requirement identification (DC)

· Aims: Identifying the different aspects of the challenge to be addressed. Engagement with stakeholders to map the existing wayleave processes, define the improvements that Wayl-ease would provide and to develop user requirements and customer journeys for the solution.

· Success criteria: problems, use cases and user requirements defined and validated

WP2: Assessment – Business value, organisational and technical analysis

(DC)

· Aims: Market scanning to identify potential technical and commercial solutions, assessment of their ability to meet the user requirements identified in WP1.

· Success criteria: Each potential solution assessed according to business value, organisation and technical criteria while validating if usable, feasible and desirable.

WP3: Recommendations and Road-mapping (DC)

· Aims: Consolidate and review findings from WP2 assessment to identify roadblocks and potential solutions., development of a roadmap for future Wayl-ease development

· Success criteria: Agreement by partners on findings and next steps

WP4: Project Governance and Engagement (UKPN)

· Aims: To deliver the project objectives on time and to budget. Ensuring the partners are aligned on the project context,

challenges, drivers, risks, timeframes and success.

· Success criteria: Project delivered to plan, budget and UKPN satisfaction.

Key risks and mitigations are set out in the risk register. We will manage risks and issues using a standard risk management approach, refreshed for fortnightly project meetings.

An example risk for Discovery is:

· Technical: There is a risk that data that is necessary to streamline the wayleave user journey is locked in legacy systems and is disproportionately expensive to integrate or migrate to a new solution. This will be mitigated by assessing the feasibility of solutions as well as usability.

Currently, there are no identified risks in relation to policy and regulatory changes with regards to deployment. There is no potential for supply interruptions to customers. We will engage with landowners (energy consumers as part of WP1)

Key outputs and dissemination

The expected output for the Discovery Phase will be a full analysis of existing processes related to the wayleaves challenge, an understanding of what is technically achievable over the course of SIF Alpha and Beta phases to automate and optimise the management of wayleaves.

The objectives for the Discovery Phase are:

· Identify and assess the technical feasibility and business value of solutions and relevant use cases - Ensuring to address the user requirements and customer journeys for the various stakeholder groups that interact with wayleaves

· Assess the gap between wayleaves existing technical position & what UKPN needs to implement the proposed solution – based on costs, resources, capabilities and implementation plan

· Qualified recommendations and define a roadmap for the selected solution - Detailed project planning and design exercise for the agreed solution, produce a full delivery plan mapped against SIF phases

The key outputs against each work package will be:

WP1: Identification of requirements (DC)

Identification of requirements document: This document maps out existing wayleave processes and identifies user requirements, customer journeys for the Wayl-ease solution.

WP2: Assessment – Business value, organisational and technical analysis (DC)

Assessment document: to assess identified options and confirm gaps between UKPN current technical position and what could be required. This document includes a market and technical assessment of the solutions.

WP3: Recommendations and road-mapping (DC)

Final recommendation report: to consolidate findings from WP2 and provide a business case, roadmap of a proposed design as well as final recommendation and action plan for the solution.

WP4: Project Governance and Engagement (UKPN)

A non-technical summary of the project, the final view of deliverables, including annexes, datasets as appropriate.

Knowledge Dissemination

The project outputs will be uploaded to the ENA Smarter Networks Portal and feature on the UKPN website with project learnings disseminated at the IUK Show & Tell events. The project will be presented at other UKPN events should the opportunity arise, as well as wider industry events. Project insights and successes will be announced via social media channels.

As detailed above the outputs of the Wayl-ease Discovery Phase will be made available to all networks and will not undermine competitive markets. Some outputs may have commercially sensitive information which will be either redacted for external sharing or made available upon request.

Commercials

Intellectual Property Rights (IPR) (not scored)

The parties agree to adopt the default IPR arrangements for this project as set out in Section 9 of the SIF Governance document.

Value for money

The total project cost for Discovery is £122,930 and the total SIF funding requested is £110,673. This is balanced across the project partners as follows:

UKPN:

· Total costs: £42,575

· Total contribution: £4,257 (10%)

· Total SIF funding requested: £38,318

Digital Catapult:

· Total costs: £80,355

· Total contribution: £8,036 (10%)

· Total SIF funding requested: £72,319

The project will meet the minimum 10% compulsory contribution from the Project Partners as an in-kind contribution via labour. There will be no sub-contractor costs, nor any other additional funding from other innovation funds.

Key points in relation to value for money:

Wayl-ease is an ambitious project and will bring together two partners that are leaders in their fields. The partners have carefully prepared the Discovery Phase project plan and the resources used are necessary to fulfil the scope and to deliver a quality output. We are confident that the likely benefits of the project significantly outweigh the initial cost of launching the project through Discovery and then developing it through later phases. As this is a digital solution, the future Alpha and Beta phases can be rapidly grown cost-effectively utilising a range of existing software tools and Agile development processes delivering value for money.

We have maximised value for money by implementing the following mitigations:

1.   Competitive labour rates: As a not-for-profit organisation, DC's staff costs are generally well below market rates compared to industry equivalent roles. This extends the team's ability to deliver more for less.

2.   Efficient technology development practices: DC are highly efficient in organising and delivering complex technology developments. We have well-established processes built around sprints and the Agile methodology. Our experience across several SIF projects means that the risk for increased development iterations is significantly reduced and the likelihood of dead-

ends is far smaller -- non-trivial given the ambitious scope and complexity of our proposed concept.

Effective stakeholder engagement: ultimately, consumers benefit most from innovations that deliver on operational potential. DC will have good access to a wide range of UKPN's subject matter experts during the Discovery Phase which is crucial for prioritising our development focus and improving prospects for delivering value-adding innovation.

Supporting documents

File Upload

Wayl-ease - Discovery - Show and Tell Presentation (for upload).pdf - 1.3 MB
Wayl-ease - Discovery - End of Phase Presentation (for upload).pdf - 1.4 MB
SIF Round 3 Project Registration 2024-07-08 10_36 - 63.9 KB
SIF Round 3 Project Registration 2024-05-13 10_00 - 63.8 KB

Documents uploaded where applicable?

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