# SIF Alpha Round 2 Project Registration

### Date of Submission

### Project Reference Number

10061569

## Initial Project Details

### Project Title

Lightspeed

### Project Contact

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### Challenge Area

Accelerating decarbonisation of major energy demands.

### Strategy Theme

Flexibility and commercial evolution

### Lead Sector

Electricity Distribution

### Project Start Date

01/10/2023

### Project Duration (Months)

6

### Lead Funding Licensee

UKPN - South Eastern Power Networks Plc

### Funding Mechanism

SIF Alpha - Round 2

### Collaborating Networks

SP Energy Networks Distribution

## Technology Areas

Commercial

Demand Response

Electric Vehicles

## Project Summary

Lightspeed seeks to re-imagine how the UK rolls out on-street EV charging to facilitate the decarbonisation of transport. Almost 40% of UK households do not have off-street parking, and therefore the UK needs to rapidly accelerate the deployment of public charging infrastructure to meet consumer demand and government targets.

The project will develop a bidirectional lamppost-based EV charging solution for new and existing lampposts that can support both smart charging and V2X capabilities, while providing rapid EV charging without the need for major network upgrades. The solution will help ensure that DNOs are not a blocker to Net Zero.

## Add Preceding Project(s)

10061569 - Lightspeed

## Add Third Party Collaborator(s)

Brighton & Hove Council

Otaski Energy Solutions

SP Manweb

EV Dot Energy Ltd

## Project Budget

£585,831.00

## SIF Funding

£497,928.00

# Project Approaches and Desired Outcomes

## Problem statement

Lightspeed seeks to re-imagine how the UK rolls out on-street public EV charging to help facilitate the adoption of EVs and the decarbonisation of transport. Almost 40% of UK households do not have off-street parking and therefore to facilitate the decarbonisation of mobility and switch to EVs, the UK needs to rapidly accelerate the deployment of public charging infrastructure to meet consumer demand and government targets.

Deployment of on-street charging can be hindered by network capacity constraints, local planning rules and the desire for less street furniture. Current lamppost-based EV charging solutions, which address some of these issues, are slow, do not offer flexibility, are often expensive and therefore are not an attractive proposition for potential users.

Lightspeed addresses Challenge 4: Accelerating decarbonisation of major energy demands and Scope 1: Approaches to effectively facilitate, manage, and integrate multiple demands and demand-side solutions. The initial approach at the start of Discovery Phase focused heavily on the technical design requirements and challenges of the hardware for bi-directional lamppost-based EV charging. Lightspeed has evolved into a more holistic solution as through stakeholder engagement during Discovery, we have learnt that there are many other problems that need to be overcome for Lightspeed to be adopted. These include:

- Accessibility challenges and following the BSI PAS 1899:2022, Electric vehicles – Accessible charging specification
- Understanding user behaviours to encourage peak demand shift and improve grid resilience
- Offering flexibility, data security and interoperability of the whole system (hardware and software)
- Maximising GHG emission reductions by facilitating greener energy supply options
- Developing a prosumer first proposition for EV drivers to realise benefits
- Increasing charging network availability, output, and accessibility
- Circumventing parking, traffic and network challenges so as not to limit the streets suitable for Lightspeed
- Ensuring network and asset standards such as earthing, power quality, cable sizes for un-metered and metered connections are met
- Addressing EV driver anxiety over state of charge, lack of control of their EVs, and having to queue or wait too long
- Enabling local authority (LA) needs to reduce the amount of new street furniture whilst ensuring minimum lighting levels are met
- Alleviating LA challenges of owning and managing street-lighting infrastructure through managed services and innovative commercial models

The Lightspeed project has two main use cases for deployment on-street: retrofitting lampposts and new lampposts. These face different challenges due to the different requirements for un-metered and metered connections. When retrofitting existing lampposts, Lightspeed is constrained by the un-metered network infrastructure and therefore fast charging can only be achieved through the integration of battery storage. For new lampposts, Lightspeed will deploy a new purpose-built EV lamppost and network infrastructure that enables fast and rapid charging. In both use-cases, Lightspeed will provide flexibility services and smart charging to potential users of the solution.

The beneficiaries of the Lightspeed solution are EV users, LAs, flexibility and energy aggregators, charge point operators,

developers, and DNOs/DSOs.

Lightspeed will apply learnings from two previous innovation projects that OtaskiES have led and supported respectively:

· The BEIS (now DESNZ) funded Vehicle-to-everything (V2X) bi-directional charging Phase 1 project which focuses on the technical development of bi-directional converters; and

· Department for Transport's (DfT) Future of Freight Innovation Fund which looked at the application of bi-directional converters in freight and fleet management.

These two projects helped OtaskiES to conceive Lightspeed and provided the basis for the initial technology design and requirements.

## Innovation justification

How does your Project demonstrate novel and ambitious innovation in the energy networks? How does it build upon your previous SIF Discovery Phase or other funded innovation Project? Why is it suitable to be funded by SIF rather than other sources?

Lightspeed seeks to decarbonise transport by re-designing how on-street EV charging is deployed and operated in LA areas Lightspeed will achieve this by both retrofitting existing lampposts and building and deploying new lampposts and network infrastructure specifically designed for the Lightspeed EV Charging solution. Lightspeed aims to increase the accessibility of on-street EV charging infrastructure by developing a bidirectional lamppost-based charging solution that provides flexibility to EV users and the grid, thus addressing Challenge 4 - Accelerating decarbonisation of major energy demands.

Lamppost EV chargers already exist; however, these solutions typically provide AC charging at 3-5 kW, which diminishes their benefits. Lightspeed will develop a first of its kind V2X capable lamppost solution that consists of a multifunctional DC converter and integrated underground battery storage and renewable generation. Lightspeed will develop a control management system that integrates customers' needs, the grid's available capacity and DER to dynamically alter charging capacity and provide flexibility to networks. This will enable a street of lampposts to be managed as an EV charging network.

This solution is highly innovative in the context of on-street public charging. Current bi-directional DC-DC designs in the market are limited, lack advanced power conversion configurations, control systems, and face interoperability issues. The two closest technology providers looking at similar innovations in the market are Enphase and Wallbox. However, these chargers rely on AC transformers for bi-directional power and therefore face different limitations.

During Discovery Phase, the project engaged with a wide range of stakeholders. Over fifty user stories and functional requirements were documented and prioritised to meet the needs of different stakeholders and used to design the technical specifications for the solution's hardware and software. In Alpha, Lightspeed will take the user stories, requirements, and specifications to build and test a prototype and undertake other readiness activities.

How Discovery learnings have informed Alpha Phase:

· To build the energy management system and software, we need to understand how Lightspeed will interact and interface with customers especially for flexibility. In Alpha, ev.energy are a new project partner who will be leading on this work package.

· There are many testing requirements that need to be met for Lightspeed to be rolled out. In Alpha, we will develop a Beta deployment plan which includes testing, certification, manufacturing, and installation.

· There many different connection scenarios that Lightspeed may encounter. To understand the network integration in detail, during Alpha we will shortlist streets and assessing the network capacity for these streets.

· Accessibility needs to be included as part of Lightspeed's design. In Alpha, we will be engaging with Brighton & Hove City Council's (BHCC) Disabled Car User Advisory Group.

The proposed scale at Beta is ~1,000 EV chargers deployed in BHCC's local area, which is based on their EV targets and current tender for lamppost chargers. This scale is appropriate and feasible as it enables Lightspeed to demonstrate the solution's value through aggregating flexibility services, enables scaling challenges to be identified and resolved, and will therefore provide the confidence to replicate the solution across other LAs. By the end of Alpha, the TRL, IRL and CRL of the Lightspeed innovation will be 7.

Development of Lightspeed innovation cannot be funded elsewhere within the price control or as part of business-as-usual activities given the nascent lamppost EV bidirectional charging technology and complexity and risk in approach. Other innovation funding has been explored but is not suitable as Lightspeed needs the flexibility to pivot between use cases, bring on new partners when needed, and scale when ready. Therefore, the SIF provides the right funding and ecosystem for the project to develop in an agile way.

## Impact and benefits (not scored)

Financial - future reductions in the cost of operating the network

Financial - cost savings per annum on energy bills for consumers

Financial - cost savings per annum for users of network services

Environmental - carbon reduction – direct CO2 savings per annum

Revenues - improved access to revenues for users of network services

New to market – processes

## Impacts and benefits description

Lightspeed has a discounted NPV of £3.03m by 2030 within BHCC area only.

This Discovery CBA is conservative as some benefits need more qualification during Alpha. For example, there will also be benefits in 'Revenues - improved access to revenues for users of network services', 'Financial - cost savings per annum for users of network services' and 'New to market – processes' as the Lightspeed solution will expand access to flexibility services and provide a new way for LAs to manage EV charging and street lighting.

The Discovery CBA is based on the following assumptions:

· The ambition is to deploy 1,000 chargers over 2025-26, split evenly between the retrofit and new build.

· If Lightspeed is not deployed, 500 lampposts will be retrofitted with non-bi-directional slow EV chargers and 500 new lampposts will not be installed with EV chargers as there is not currently a market ready solution.

· Lightspeed will help to increase the uptake of EVs from diesel/petrol cars by giving residents without off-street parking access to on-street EV charging. We assume three new EVs for every charger installed.

Financial - future reductions in the cost of operating the network (£1.93m undiscounted)

Baseline: Assume seven LV substations that Lightspeed would save from needing upgrades, do still require upgrades.

Solution: There are 564 LV substations in BHCC. During RIIO-ED2, UK Power Networks (UKPN) forecasts 4.7% of these substations need upgrading. Assuming Lightspeed can alleviate 25% of these due to the scale of the Beta Phase, the energy management system and by providing flexibility services to the grid, we forecast we could save seven substation upgrades.

Lightspeed will monitor the number of LV substations in RIIO-ED2 that require upgrades. We will identify if the difference between forecast and actual can be attributed to the Lightspeed solution based on energy management and performance of the Lightspeed solution and the amount of flexibility that UKPN procures from Lightspeed.

Financial - cost savings per annum on energy bills for consumers (£0.27m undiscounted)

Baseline: There is an annual cost to a consumer of EV charging which has been calculated by multiplying the average electricity price of on-street chargers by the average number of kWh an EV uses. This is calculated by multiplying the number of annual EV miles by the EV efficiency.

Solution: The annual Lightspeed cost to a consumer is calculated in the same way, however, we've assumed a 13% saving on the electricity price and therefore cost to consumer which is based on the saving customers typically see from smart EV charging*.

Lightspeed will measure and track the electricity price and incentives offered to Lightspeed users to work out an average cost of charge for a Lightspeed EV and compare this to industry and competitor benchmarks to work out the actual percentage cost saving.

*https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Sep/IRENA_EV_Smart_Charging_2019.pdf

Environmental - carbon reduction – indirect CO2 savings per annum (£1.66m undiscounted)

Baseline: The GHG emissions associated with petrol cars is calculated based on the average number of petrol miles, the petrol fuel efficiency, and the carbon emissions factors for petrol.

Solution: The CO2 savings from consumers switching from petrol cars to EVs is calculated using the EV efficiency, annual EV miles and electricity carbon emissions factor*.

The CBA does not include the GHG emission benefits from switching from current EV chargers to bi-directional EV chargers that can shift demand to off peak low carbon periods. In addition, if renewables are integrated into the solution, this will lower the emissions factor further. Air quality benefits which have not yet been included.

Lightspeed would measure and track the number of new chargers installed to calculate the actual CO2 savings.

*https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

## Teams and resources

For Discovery Phase the Project Partners were UKPN, OtaskiES, SP Energy Networks (SPEN) and BHCC.

For Alpha Phase, ev.energy will be added as Project Partners and OtaskiES will be sub-contracting Newcastle University/Driving Electric Revolution Centre North East.

Roles, skills, and experience of project partners

UKPN are the DNO for Brighton & Hove City Council and the project lead and will be leading Work Package 1 – Project

Management and Work Package 6 - Connections and Network Planning. UKPN is the largest DNO in the UK serving 8.5m customers, and has deep expertise in developing innovative and smart solutions to facilitate charging infrastructure and the uptake of EVs and flexibility services e.g. innovation projects such as Shift, Enable and Transpower that delivered smart charging, V2G and Blue Badge holder solutions respectively.

Otaski Energy Solutions (OtaskiES) are the technology innovators and are a smart infrastructure and AI-based energy management company that innovates to create circular economies for smart infrastructure. They led and supported the aforementioned DESNZ and DfT funded bi-directional charging projects. They are the EV technology developers and are leading Work Package 2 – Prototype Build and Work Package 5 – Roll out Plan.

Brighton and Hove City Council and their residents are Lightspeed's prospective users and customers. They serve nearly 300,000 residents on the south coast and have already rolled out around 200 lamppost chargers in the city. They will be leading Work Package 3 – Street Shortlisting and Customer Engagement.

SPEN are the additional network licensee. They are leading Work Package 3 – Scaling to other areas. They also have experience in EV charge point integration, EV innovation projects such as Charge and EV-Up that both involved LAs and will contribute to test the scalability of the solution. SPEN undertook a high-level assessment of the suitability, impact and benefit of the Lightspeed solution with regards to their network areas in the Discovery Phase.

ev.energy are a flexibility aggregator and have developed a smart, cloud-based platform that automatically optimises EV charging, for a greener, cheaper and simpler charge. We learnt in Discovery that to build the energy management system and software, we need to understand how Lightspeed will interact and interface with customers especially for flexibility. Therefore, ev.energy have been chosen to lead Work Package 7 – Customer Interaction & Flexibility and will provide vital experience and expertise in designing user interfaces, understanding customer behaviours, and utilising flexibility.

Roles, skills, and experience of sub-contractors

· Driving Electric Revolution Centre North East will be supporting OtaskiES on Work Package 2 'Prototype Build', they will undertake the testing of the Lightspeed charger. The Centre forms part of the Government's Driving the Electric Revolution challenge, which aims to help the UK Power Electronics Motors and Drives (PEMD) supply chain. They have the facilities and expertise to undertake pre-certification testing. The Centre in the North East and is led by Newcastle University.

Additional materials:

OtaskiES will be sourcing additional equipment and materials via their own supply chain and procurement channels to build the prototype. Given global events, a risk around supply chain delays has been recorded, but the probability is expected to be low as only a small number of parts are required.

Additional parties:

The Disabled Car User Advisory Group work with BHCC to explore and resolve issues faced by disabled people. As part of Work Package 2, we will be engaging with this group to ensure accessibility requirements are built into the design and

proposition.

# Project Plans and Milestones

## Project management and delivery

UKPN will be accountable for overall project management in Lightspeed, and the approach that successfully delivered Discovery Phase will be followed. This includes weekly progress meetings where the risk register, action tracker, Gantt chart and project plan are reviewed and updated. The UKPN SharePoint site will be used for collaborating on documents.

UKPN also has a highly effective innovation governance procedure. This includes robust stakeholder engagement, programme management reviews and monthly meetings with planning resources to support and ensure programme adherence.

In Alpha Phase, Lightspeed aims to develop a pre-certified EV Charger prototype, identify streets within Brighton for deployment and get real customer feedback. We will also aim to develop the route to market, strategic relationships, scaling plan to other networks and design the user interface and proposition. This will provide the foundation for a successful Beta implementation.

WP1 - Project Management & Governance (UKPN)

WP2 – Prototype Build (OtaskiES)

Aims: This WP aims to define all the development and prototyping of the hardware and software for the bidirectional EV charger infrastructure up to the level of whole systems testing and integration.

Key Milestones: EV Charger software and hardware prototype built and tested

Dependencies: D2.6 is dependent on D2.1, D2.2, D2.3, D2.4 and D2.5 as to test the prototype, it first needs to be built.

Gate Stages: M2.3 will act as a gate stage for M2.4. Completion of the hardware and software build will unlock spend for testing.

WP3 – Street Shortlisting & Customer Engagement (BHCC)

Aims: Identify sites for deploying the Lightspeed solution and validate customer willingness to participate.

Key Milestones: Beta Sites Shortlisted and Customer Engagement Completed

Key Dependencies: D3.4 – Customer engagement insights and feedback report is dependent on D3.3 – Customer engagement surveys and plan.

WP4 – Scaling to other areas (SPEN)

Aims: Identify additional sites for Beta deployment in SPEN's licence area based on their needs and requirements.

Key Milestones: Additional Beta sites shortlisted and assessed

WP5 – Roll out Plan (OtaskiES)

Aims: This WP aims to define all parameters required for full scale deployment and commercialisation in Beta. This includes the development of strategic relationships and reassessment of partners to ensure Beta success. Including, but not limited to, manufacturing and installer partners.

Key Milestones: Beta installer deployment plan completed, Route to market and roll out plan defined, CBA completed.

Key Dependencies: D5.3 - Beta Route to market and commercialisation report is dependent on D6.3 – Budget estimates for

Beta Connections and D7.3 – Flexibility assessment report

WP6 – Connections & Network Planning (UKPN)

Aims: Plan how the Lightspeed solution will connect to the network and the costs and conditions Lightspeed will need to meet

Key Milestones: EDS 08-5055b (Electric Vehicle Charging Point Data Collection Form) completed by OtaskiES and budget and time estimates for Beta connections provided

Key Dependencies: D6.2 – Network model and assessment report is dependent on D3.1 - List of Beta streets for Use Case 1 and Use Case 2 Beta Deployment

WP7 – Customer Interaction & Flexibility Report (ev.energy)

Aims: Ensuring EV drivers can be encouraged to use on-street smart charging facilities by understanding their needs, developing a proposition and a clickable prototype.

Key Milestones: Customer Interaction & Flexibility Reports completed

Lightspeed does not anticipate any planned or potential unplanned supply interruptions for consumers or any changes to consumers access to energy services.

Key risks:

- Security and privacy impacts to central systems
- Data exchange and interoperability issues
- EV users in Brighton are not engaged or willing to participate in Beta
- Design and software does not prove flexibility value to the grid or consumers
- Prototype is not delivered within Alpha Phase timelines and/or testing fails
- Supply chain issues in procuring materials for the prototype

## Key outputs and dissemination

By the end of Alpha Phase, Lightspeed aims to have validated, qualified, and tested the Lightspeed solution and have completed a sufficient amount of readiness activities to give confidence in the progression to Beta Phase and implementation of the solution at scale. This includes key objectives such as successful testing of a pre-certified bi-directional charger, positive engagement with residents, sufficient streets shortlisted for Beta Phase scale, a clear route to market finalised, and a robust roll out and connections plan, with detailed costs that demonstrate a strong business case. All outputs and organisations responsible can be found detailed in the Project Management Book and Gantt chart. Lightspeed will maintain and update a lessons learned tracker throughout Alpha Phase to ensure we identify and capture all lessons learned for dissemination.

WP2 – Prototype Build and Testing (OtaskiES)

Key Deliverables for Dissemination: EV Charge Prototype testing report and Plan for integration into flexibility platforms.

WP3 – Street Shortlisting & Customer Engagement (BHCC)

Key Deliverables for Dissemination: List of Beta streets for Use Case 1 and Use Case 2 Beta Deployment and Customer engagement insights and feedback report

WP4 – Scaling to other areas (SPEN)

Key Deliverables for Dissemination: Network and connection assessment report of Lightspeed technology in SPEN's licence area and a list of locations where the Lightspeed solution could be suitable for them and their LAs in Beta Phase

WP5 – Roll out Plan (OtaskiES)

Key Deliverables for Dissemination: Beta Route to market and commercialisation report, Beta install, manufacturing and testing deployment plan, Beta readiness report and CBA. The CBA will expand on the benefits quantified in Q5 considering SPEN and national boundaries, assess the unquantified benefits in Q4 and Q5 and quantify where applicable, as well as consider the capital and operational costs of the Lightspeed solution against the slow non-bi-directional EV charger counterfactual.

WP6 – Connections & Network Planning (UKPN)

Key Deliverables for Dissemination: Network model and assessment report and Budget estimates for Beta roll out plan.

WP7 – Customer Interaction & Flexibility Report (ev.energy)

Key Deliverables for Dissemination: Proposition development and design report, User research and behavioural insights report, Flexibility Assessment report and User Interface clickable prototype.

UKPN will lead and coordinate the dissemination activity. A summary report for all key outputs of Alpha will be developed by OtaskiES and published publicly online on UKPN's innovation website. For specific and detailed technical or non-technical reports and deliverables, these will be made available on request.

Details of all Alpha Phase projects awarded will be uploaded to the Smarter Networks Portal and feature on the UKPN innovation website with specific project learnings being disseminated at the IUK Show & Tell events. In addition, UKPN will host an in-person event in London to disseminate the learnings and key outputs of all our successfully awarded Alpha Phase projects to a wider audience. UKPN will share project successes and discoveries via its social media channels with the possibility of publishing external press media where appropriate.

Lightspeed will host three dissemination virtual webinars for different audiences. One for local councils, one for charge point operators, flexibility aggregators and technology providers and one for other DNOs to share the findings and results of Lightspeed and gain interest in participation. The project partners will use their networks, contacts, and social media to publicise these events.

The project partners will also work with Charge Safe and other organisations that are experts in assessing the safety and accessibility of charge point and their locations.

# Commercials

## Intellectual property rights, procurement and contracting (not scored)

The IPR arrangements for this project will be in line with the terms set in the SIF Governance Document Chapter 9 and the project participants agree to comply with the default IPR conditions.

Sub-contractors Driving Electric Revolution Centre North East identified in 'Team and Resources' will be direct sourced by OtaskiES.

The background IP brought to the project includes a patent by OtaskiES for the smart lamppost AI control (GB 201907454 D0 - Artificial intelligence/business intelligence (ai/bi) backed streetlight dimming solutions). The consortium partners have agreed that any necessary rights to background IP will be granted free of charge during the project under strict non-disclosure.

The partners recognise that knowledge transfer is one of the key aims of the SIF, and that the benefits of this project will be maximised by the ability of other licencees to be able to learn from the Project so as to create improved outcomes or reduce costs for consumers. The partners do not anticipate that the Alpha Phase (or any potential subsequent phases) will result in the creation of IPR that cannot be freely disseminated, and have no expectation of creating income streams or royalties from IPR outside of participation in a competitive marketplace for services that may be informed or stimulated via the outcomes of the project.

## Commercialisation, route to market and business as usual

Lightspeed aims to reimagine how local authorities, charge point operators and networks can deploy on-street EV charging.

There is a clear customer value proposition and business case for funding as Lightspeed will reduce the overall cost of installing and operating on-street EV charging and provide grid flexibility services through smart charging, wholesale arbitrage and V2G/X services. This solution enables more fast EV charge points to be deployed and for local authorities, it can remove the difficulties of managing and owning street lighting furniture.

The route to market for this project is to develop a viable and innovative lamppost EV charging solution that LAs, charge point operators and others (e.g. street-lighting contractors, property developers) can deploy or operate. The commercialisation of the Lightspeed solution will be led by OtaskiES who are in dialogue with LAs and charge point operators and leading the relevant Work Package in Alpha Phase.

There are multiple options which will be assessed in more detail in Alpha Phase. One option for commercialisation is for the hardware and software developed in the Lightspeed project to be sold and/or licensed to charge point operators and street-lighting contractors who will use this solution to deploy and operate Lightspeed on behalf of local councils and EV users in a similar model to how they are currently contracted for services. The second option is for the hardware and software developed in the Lightspeed project to be sold and/or licensed to LAs directly for them to manage and operate. The third option for commercialisation is for OtaskiES to act as both a charge point operator and/or street lighting contractor and install, manage, and operate the Lightspeed technology and service on behalf of LAs and EV users directly.

In the Alpha Phase, the project will work with LAs, additional network licensees and flexibility providers as project partners to

provide insights and guidance towards product commercialisation and real-world application. The Beta Phase will form the foundation of business as usual and enable a smooth transition as it will be a full demonstration of the value of the proposed solution at scale. For business as usual, Lightspeed aims to roll the solution out across all local authorities in the UK. The financing for adoption will depend on the option chosen for commercialisation and route to market but will likely involve commercial agreements between LAs, charge point operators, manufacturers and installers, flexibility aggregators and OtaskiES. The detailed commercialisation plan and agreements including route to market is a key component of the Alpha Phase . As part of this, Lightspeed will be looking at product certification process, establishing partnerships, Beta Phase deployment and scaling, supply chain management, marketing and market entry and the commercial and operating model.

This project has been supported and sponsored by senior stakeholders within UKPN, their connections & operations teams and they have been vital in shaping the requirements during Discovery Phase. During the Alpha Phase, UKPN in collaboration with SPEN will consider any changes needed to their standards and processes to accommodate Lightpseed, formalise these in Beta, and share with other DNOs ahead of business as usual.

## Policy, standards and regulations (not scored)

Lightspeed has not identified any existing regulatory barriers with regards to this project, and no additional policy considerations that would block a route to market for this solution. This is because the proposed solution development path falls in-line with existing regulation for lamppost and street furniture deployment and operations.

As part of the Discovery Phase, Lightspeed undertook a regulatory and standards assessment and gathered the requirements that Lightspeed needs to meet. We are confident that the solution can and will meet the requirements.

## Value for money

The Total Project Costs are: £585,831

The Total Contribution is: £89,903 (over 15% of the total cost)

The amount of SIF funding requested: £497,928

UKPN

Total Costs: £80,525

Labour: £78,525

Other: £2,000

Contribution: 10% (8,053, contribution via labour in kind)

Total SIF Funding Request: £70,672

BHCC

Total Costs: £11,098

Labour: £10,940

Travel and Subsistence: £158

Contribution: 11% (£1,200, contribution via labour in kind)

Total SIF Funding Request: £9,898

ev.energy

Total Costs: £84,608

Labour: £79,608

Travel and Subsistence: £3,000

Other: £2,000

Contribution: 11% (£8,500, contribution via labour in kind)

Total SIF Funding Request: £76,108

SPEN

Total Costs: £21,500

Labour: £21,500

Contribution: 10% (£2,150, contribution via labour in kind)

Total SIF Funding Request: £19,350

OtaskiES

Total Costs: £390,100

Labour: £261,700

Materials: £67,600

Subcontracting: £60,000 (Driving Electric Revolution Centre North East)

Travel and Subsistence: £800

Contribution: 18% (£70,000, contribution via labour in kind)

Total SIF Funding Request: £320,100

OtaskiES will be sub-contracting Driving Electric Revolution Centre North East for Work Package 2 'Prototype Build', they will be undertaking the testing of the Lightspeed charger. The Centres are part of the Government's Driving the Electric Revolution challenge, which aims to help the UK Power Electronics Motors and Drives (PEMD) supply chain. They have the facilities and expertise to undertake pre-certification testing.

Aside from the benefits in the BHCC area (forecast to be £3.05m by 2030), Lightspeed Alpha Phase represents value for money as the Alpha Phase Work Packages and outputs will de-risk the larger planned spend in Beta Phase and enable costs to be spent more efficiently. The learnings up to the end of Alpha Phase will help to influence other and future innovation projects and policy with respect to on street EV charging and flexibility. Lightspeed also demonstrates value for money as it has enabled collaboration between a diverse set of project partners.

## Associated Innovation Projects

- ○ Yes (Please remember to upload all required documentation)
- ◉ No

## Supporting documents

### File Upload

Lightspeed - Alpha - Mid Point Meeting.pdf - 906.5 KB
SIF Alpha Round 2 Project Registration 2024-01-23 4_36 - 80.1 KB

### Documents uploaded where applicable?

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