SIF Alpha Future Fleet

Kick-Off Meeting

09/03/2026

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UK Power Networks
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Project Partners

Baringa

CATAPULT Energy Systems

MARITIME

UK Power Networks

voltloader
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VOLTEMPO™

Project Partner – UK Power Networks

1 2 3 4

Electricity distributor delivering power to 8.5 million homes and businesses across the East of England, London, and the South-East.

Our Capability to Deliver

- Directly responsibility for ensuring network readiness, with a clear commitment to enabling net zero
- Well positioned to scale learning across our region and share learnings nationally
- Proven track record in transport electrification innovation projects
- Highly effective at cross-industry collaboration, building strong and productive partnerships
- Our Connections Team provides hands-on expertise, grounded in real-world requirements and operational readiness
- Our DSO Team brings deep system-level insight, feeding into DFES forecasting and leveraging flexibility market expertise

Definitions: DSO = Distribution System Operator, DFES = Distribution Future Energy Scenarios

Project Partner - Baringa

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Are a leading consulting partner to global utilities and energy companies, supporting strategic planning through to transformation implementation.

We have been active in networks innovation for 15 years and have delivered c.20 SIF project phases. We work extensively with I&C customers on smart energy management schemes.

What makes us different

- ✓ **Unashamedly geeky, rather than generalists:** we are leading experts in our chosen disciplines
- ✓ **Client engagement:** Our client Net Promoter Score is in the top 5% across industry. Our clients tell us that they enjoy the distinctive experience of partnering with Baringa
- ✓ **Employee engagement:** Our employee Net Promoter Score is the highest in the consulting industry, and it's in the top 5% of all businesses worldwide
- ✓ We are the only consultancy to receive a **Financial Times Gold Award** in the energy sector every year for the **last 7 years running**
- ✓ We have been in the **Top 10 Great Places to Work for 15 years.** This creates a highly motivated, engaged and passionate consulting team

We work across the full energy Value chain

Baringa in Future Fleet

We will assess **"smart energy management" opportunities** to reduce energy system costs – building on experience with large I&C customers

We will conduct **geospatial modelling of eHGV charging needs** and the **detailed network impacts**

We will develop **Cost/Benefit Analyses** to prioritise and select the most promising strategies for trials

Dan Bolton
Commercial design lead

Finlay Mixon
Project Analyst

Ben Hall
Networks Innovation Lead

Marcel Volkerts
Geospatial Modelling Lead

Definitions: I&C = Industrial and Commercial, eHGV's = electric Heavy Goods Vehicles

Project Partner - Energy Systems Catapult

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Energy Systems Catapult are uniquely placed to facilitate collaboration between the energy and transport sectors.

Our knowledge and understanding of transport decarbonisation alongside wider energy sector challenges and emerging demand patterns give us a whole systems perspective to help contextualise impacts and support effective planning.

Our Team:

Fred Payne, Technical Lead
Senior Systems Engineer - Transport Decarbonisation

Tara Dunning
Project Co-ordination

Usama Ahmed
Transport Modelling Analyst

Reace Edwards
Senior Business Model Innovation Consultant

Fiona Twisse
Whole Systems & Networks Advisor

Lowri Williams, QA
Transport Business Practice Lead

Project Portfolio

eFREIGHT 2030

We supported the eFREIGHT 2030 consortium to provide analysis & insight and ensure evidence gathering during the trial phase

Power Wheels

For the NIA project Power Wheels we assessed how EVs on the Motability Scheme could lower bills & enhance resilience for users

The Catapult's Consumer Insights team studied industry perspectives on adoption of eHGV's into the UK

Insights & blogs

Seeing the eHGV transition through each other's eyes

Charging ahead for eHGVs: How to better meet the energy needs of greener trucking

Switching on to local and community energy: Planning local power

Will plugging the Budget gap unplug Britain's EV revolution?

Definitions: NIA = Network Innovation Allowance

Project Partner - Maritime

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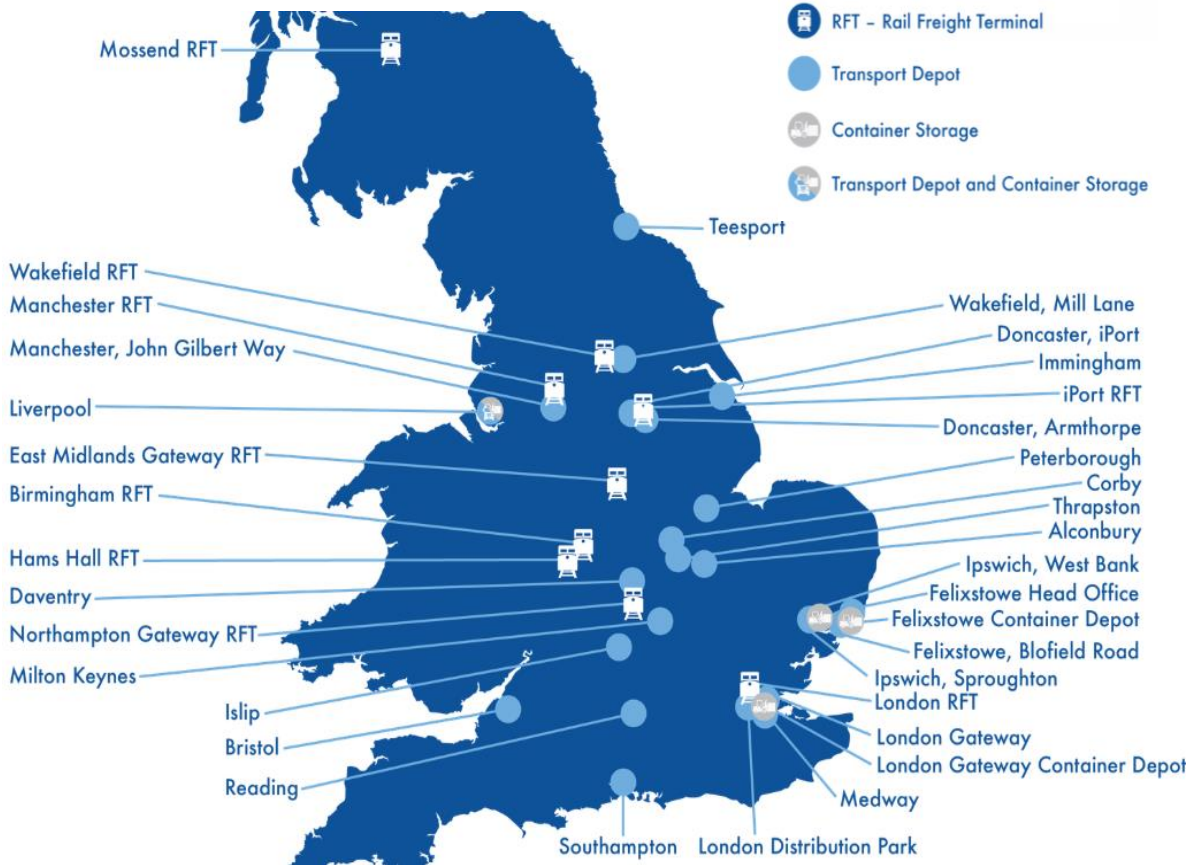
One of the largest privately owned logistics companies in the UK specialising in full load distribution and container transport. The company owns and operates nine rail terminals across the UK and has become the leading aggregator of intermodal volumes.

Overview:

In 2025, Maritime ZERO was launched by the company. This division represents the companies move into zero emission solutions. By the end of 2026, it is expected that Maritime ZERO will own and operate the largest dedicated eHGV charging network with 96 plugs and circa 17MW of power. In addition, plans are underway to develop a dedicated eHGV charging hub at the Port of Felixstowe with a further 6MW deployed.

Alongside this comprehensive charging network, Maritime ZERO will operate 56 eHGVs made up of 5 of the leading OEMs. This deployment represents one of the largest eHGV fleets in the country and evidences Maritime's commitment to finding and providing innovative zero emission solutions into the logistics industry.

This deployment is supported through Maritime's involvement in several industry leading projects, notably ZEHID, delivered by Innovate UK on behalf of the Department for Transport



Definitions: OEMs = Original Equipment Manufacturers, ZEHID = Zero Emission HGV and Infrastructure Demonstrator Programme

Project Partner - Voltloader

Voltloader are on a mission to accelerate the take up of eHGVs - initially focusing on regional supply chains.

Launched in 2023, Voltloader are the UK's first all-electric HGV transport service alongside a reliable network of conveniently located chargers.

Key Facts:

- Operates one of the largest UK electric HGV fleets
- Install chargers both at own purpose-built sites and at our customers' depots
- We've won awards at the MTAs and Supply Chain Excellence Awards for innovation in clean transport
- We provide modular haulage and charging services to our customers – trucks, trailers, drivers and a range of charger speeds (typically 250kW+ or 40kW overnight chargers)

Definitions: MTA's = Motor Transport Awards

Project Partner - Voltempo

1 2 3 4

VOLTEMPO™

Voltempo's vision and mission is to decarbonisation of commercial transport through electrification and to accelerate the adoption and optimisation of electric freight solutions.

Key Focus Areas

SITE & GRID DEVELOPMENT

From proximity to power sources, to grants and incentives, we can identify the best sites and routes achievable, and get businesses connected to the grid – minimising disruption at every stage

CHARGING SOLUTIONS

At the heart of our end-to-end eHGV optimisation services is the ultra-fast HyperCharger – delivering 1MW+ of dynamically distributed power to up to six vehicles at once

SERVICE & OPTIMISATION

We offer high quality, ongoing repair & maintenance service and access to ongoing data analysis, product support and e-fleet optimisation opportunities – from our leading team of experts

Project Introduction

Background • Building on Previous Work

Baringa CATAPULT Energy Systems MARITIME UK Power Networks voltloader CHARGED FOR TOMORROW VOLTEMPO™

Project Background

Problem

Siloed decarbonisation of the logistics industry risks excessively straining electricity networks with clustered loads which will increase costs for operators and society.

Context: Decarbonising the logistics industry will be challenging due to the diversity of journeys, operators, and freight types, combined with high customer expectations, tight margins and the relative novelty of eHGVs.

Networks

- Lack detailed knowledge of how, when, and where operators will decarbonise
- Difficult to efficiently plan network investment
- Risk of becoming a blocker to net zero with potential long connection timelines

Logistics Operators

- Unfamiliar with smart energy management opportunities
- Operational and commercial models do not consider grid impacts
- Face longer connection timescales, high connection costs & volatile charging costs

Society

- Lagging decarbonisation of freight and slow progress to net zero
- Risk of additional network charges and higher bills
- Highly congested local networks delay other demand projects

Project Background

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Solution

Future Fleet aims to **bridge the gap between the transport sector and the energy system by developing a comprehensive framework to support heavy goods vehicle decarbonisation.** This includes smart energy management, flexible connections, behind-the-meter assets, operational flexibility, and coordinated access models.

Objectives

- Understand eHGV uptake archetypes for logistics operators
- Investigate the smart energy management opportunities for eHGV operators to minimise grid impact & costs
- Accelerate connection times and decarbonisation by exploring operational flexibility & coordinated business models with eHGV operators
- Map the network impact

Outputs

- Logistics decarbonisation framework
- Optimal business models for different logistics operator archetypes
- Optimal smart energy opportunities for different operator provider archetypes
- Geospatial network impact of main logistics decarbonisation options

Building on Previous Work

1 2 3 4

- Identified challenges and opportunities across stakeholders and operations of eHGVs in the real world.
- We will use the analysis and insights in Future Fleet to support a commercially successful and rapid decarbonisation of the freight sector.


eHGVs in Operation


Future Business Models


Wider System Impacts


Market Development

Our high-level recommendations from the eFREIGHT 2030 work:

- Fleet operators should familiarise themselves with eHGV technology, the electricity market and charging market so they can make informed choices for their future operations, as eHGVs could dominate zero emission HGVs
- The UK government should look at alternative incentive packages for Zero-Emission HGVs, especially those targeted at long-haul HGVs, while considering wider network impacts of eHGV uptake
- Electricity network operators should understand when fleets may switch to eHGVs, when they may charge and at what power. This can allow for electricity network infrastructure to be planned in line with this eHGV uptake
- Chargepoint operators should engage with fleets to understand what charging requirements they may have, both in terms of location and power ratings. They should also consider if V2X would be a worthwhile venture for eHGV

Definitions: V2X = Vehicle to Everything

Building on Previous Work

VOLTEMPO™

Voltempo is leading the eFREIGHT 2030 initiative, part of the UK government's £200m Zero Emission HGV and Infrastructure Demonstrator Programme (ZEHID) to accelerate the uptake of zero emission HGVs

Voltempo is the only UK manufacturer of MCS chargers, bringing the latest technology, insights and knowledge on charging infrastructure to the project, as well as the foundational work, experience and network from eFREIGHT 2030

4,000
on the road by 2031

c.200
Charging bays

500+
Charging hubs projected

35+
sites

140,000
Tonnes of CO_2 saved annually

100+
eHGVs today

Definitions: MCS = Megawatt Charging System

Project Outline

Deliverables • Work Package Breakdown • Finances
Communications and Engagement • SIF Specific Conditions

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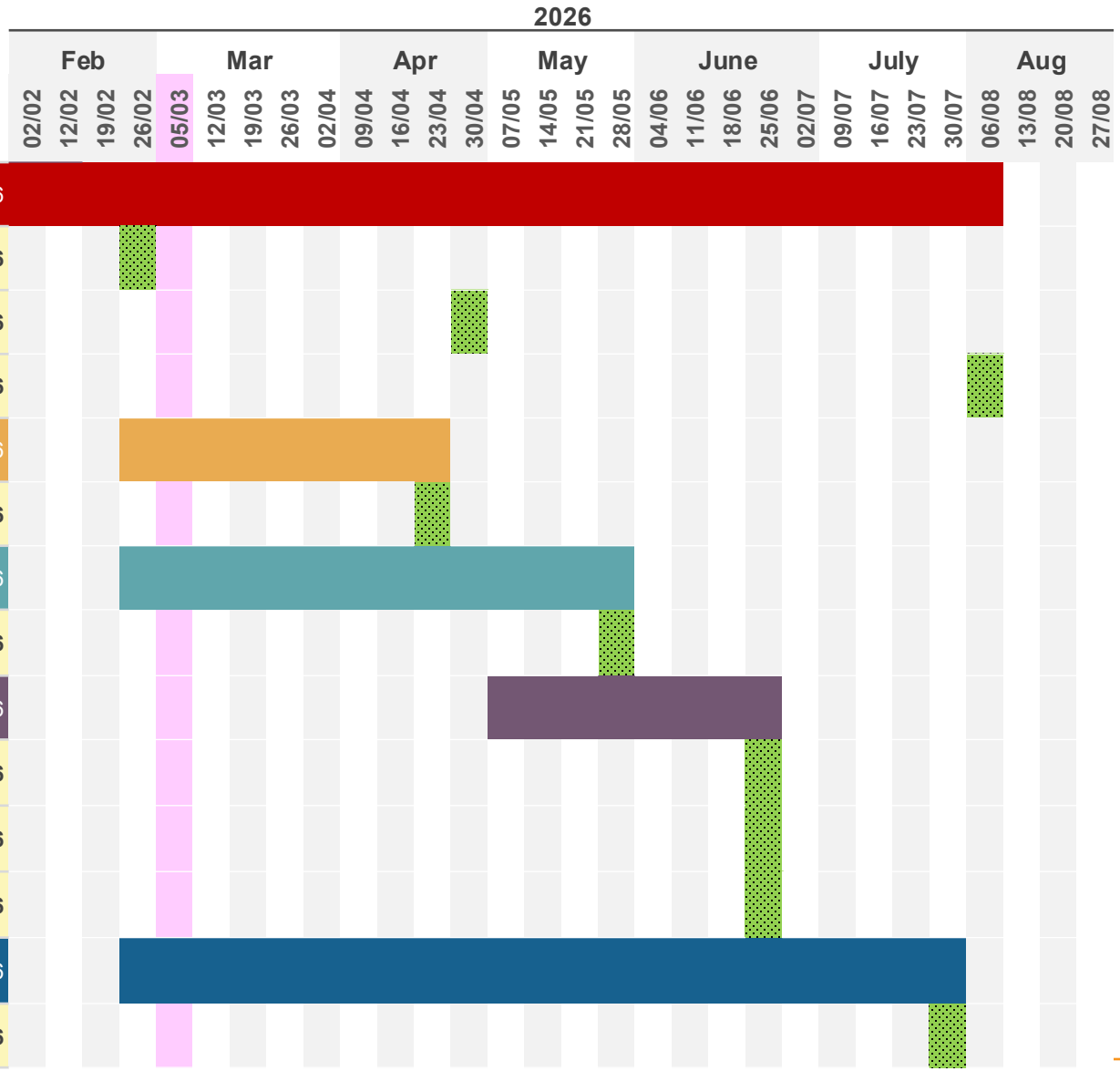
Deliverables

Agreed Project Start Date: **01/03/2026**
UKRI Project completion deadline: **01/09/2026**

= Deliverable due

NAME	DESRIPTION	START	END
WP1	Project management	02/02/26	07/08/26
D1.1.1	Project Kick-off	02/03/26	02/03/26
D1.2.1	Deliverable: Midpoint Report	01/05/26	01/05/26
D1.3.1	Deliverable: End of Phase materials and Show and Tell slides	07/08/26	07/08/26
WP2	eHGV fleet charging archetypes	02/03/26	24/04/26
D2.1.1	Deliverable: Fleet and charging location archetype report	24/04/26	24/04/26
WP3	Smart energy management schemes and business models	02/03/26	29/05/26
D3.1.1	Deliverable: Smart energy schemes and business model options report	29/05/26	29/05/26
WP4	Grid impacts and business case	12/05/26	26/06/26
D4.1.1	Deliverable: Geospatial grid impact model and methodology report	26/06/26	26/06/26
D4.2.1	Deliverable: Energy system cost/benefit assessment model and report	26/06/26	26/06/26
D4.2.2	Deliverable: Fleet operator TCO cost/benefit assessment model and report	26/06/26	26/06/26
WP5	Grid impacts and business case	02/03/26	31/07/26
D5.1.1	Deliverable: Trials protocol document	31/07/26	31/07/26



Definitions: TCO = Total Cost of Ownership

Work Package 1

1 2 3 4

Project Management, Lead Partner: UK Power Networks

Activities and Deliverables

Project Mobilisation

- Managing the collaboration agreement
- Timelines and work packages agreed
- Kick-off meeting co-ordinated

Mid-point review

- Review project progress & documentation
- Q1 Presentation

End of Phase & closure

- Delivery & approval of all work packages
- Governance reporting complete
- Project Specific Conditions addressed & evidenced

Main risks: If project requirements and deliverables are too broadly defined, then scope creep may occur, leading to increased complexity, extended timelines, and higher costs.

Mitigation: Along with the project scope being designed in collaboration with all project partners, we have had an internal kick off meeting prior to this to establish resourcing, timelines and highlight dependencies. We have planned a project team workshop ensure all partners are aware of the details behind each requirement for the project.

Success will be that deliverables are delivered on time and to budget while meeting reporting requirements, Project Conditions and ensuring that the knowledge generated is effectively disseminated

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Work Package 2

1 2 3 4

eHGV fleet charging archetypes, Lead Partner: Energy Systems Catapult

Leading the development of fleet and charging archetypes, building on our models developed during the eFREIGHT 2030 project funded via the ZEHID Programme.

Main activities include:

- Categorisation of fleet archetypes
- Understand fleet ownership models
- Develop duty cycle assumptions and translate into energy needs
- Capture energy management opportunities
- Develop charging facility archetypes
- Cross-reference fleet and charging archetypes

Deliverables:

- eHGV fleet charging archetypes report
- Fleet operator TCO cost/benefit assessment model outputs report

Potential risks: Large data gathering exercise required at the start of work package. This requires inputs from a range of project partners. This work is required for other work packages and creates critical dependency for project success.

Mitigation: Full day workshop dedicated to detailed mapping of requirements and dependencies across all partners.

Success will be that fleet and charging location archetypes are defined and tested with wider stakeholders and are suitable for use in Work Package 3

CATAPULT Energy Systems

Work Package 3

1 2 3 4

Smart energy management schemes and business models, Lead Partner: Baringa

Assessing the potential for smart energy management strategies to support the integration of eHGV charging demand into the energy system, by reducing grid impacts and wider energy systems costs

Main activities include:

- Define a long-list of smart energy management opportunities that could reduce grid demand peaks and energy costs (e.g. charging dispersal, smart charging, use of DG/storage, I&C co-location, etc.)
- For prioritised schemes, assess use cases and benefits (grid demand peak, energy cost, carbon); set out required enablers (technical, business model, market, regulatory) and assess cost and complexity
- Investigate the impact of business model options that can provide charging access across the range of fleet archetypes, with a focus on affordable charging access for smaller fleets

Deliverables:

- Opportunities defined for input to grid impacts and business case scenario assessment
- Smart energy schemes and business model options report

Potential risks: Analytical scope across a wide range of potential charging location and fleet types.

Mitigation: Definition of archetypes in WP2, and initial prioritisation of a longlist of opportunities to control scope of Alpha Phase.

Success will be a report delivered outlining smart energy schemes and business model options for affordable charging access across fleet types, including feasibility, scalability, and relevance to different fleet types.

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Definitions: DG = Distributed Generation, WP = Work Package

Work Package 4

1 2 3 4

Geospatial analysis and cost/benefit assessment, Lead Partner: Baringa

Assessing the impact of eHGV charging demand on the network at a granular level, and modelling the potential opportunities to reduce energy system costs from a range of candidate smart energy management schemes

Main activities include:

- Develop geospatial model for allocation of eHGV charging demand against UK Power Networks' network model for impact assessments
- Assess smart energy schemes from WP3 and develop cost/benefit assessment model to bring together grid cost, energy cost, and carbon benefits from smart energy schemes
- Adapt ZEHID TCO model to assess impact of energy system benefits for fleet archetypes, including impact of business model options on CAPEX/OPEX requirements for access to charging, with a focus on smaller fleets

Deliverables:

- Geospatial grid impact model and methodology
- Energy system cost/benefit assessment report
- Fleet operator TCO cost/benefit assessment report

Potential risks: Alignment between interconnected elements of modelling – including fleet archetypes, geospatial analysis model, UK Power Networks' grid impact assessment model, the smart energy management scheme CBA model and the feet operator TCO model

Mitigation: Early preparatory work across Baringa, Energy Systems Catapult and UK Power Networks to clarify architecture of analysis suite and interdependencies.

Success will be an energy system cost-benefit assessment report, comparing smart energy scenarios to business-as-usual, and a fleet operator TCO cost-benefit report, quantifying financial impacts of different charging and infrastructure strategies.

Baringa

Definitions CBA = Cost Benefit Analysis

Work Package 5

1 2 3 4

Future opportunities, trial requirements & stakeholder engagement, Lead Partner: Voltempo

Overview

Voltempo will further develop the learnings from the preceding work packages, moving them from theoretical actions into a realistic trial, with a specific structure, timeline, defined outputs and closing point.

Key Deliverables:

Business case for a successful trial as defined by key industry requirements in the previous work packages, with a focus on a diverse range of use cases, technical performance, energy cost outcomes, grid impact and the fleet operational impact. This business case should naturally flow into a Beta Phase proposal.

Potential Risks: The learnings and theoretical/paper-based trial scenario - with all technical and financial options available - may not be realistic for a real-world trial.

Mitigation: Validate assumptions early through stakeholder engagement, to understand site and resource availability, and work with OEMs to understand the requirements for technology sign-off.

Success will be the delivery of a design for a real-world ready trial, with a repeatable structure that will deliver the key information required by all stakeholders.

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Risk Register

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Ref	Risk Description (Summarised)	Likelihood	Impact	Mitigation (Summarised)
R2	**Partner Delivery Delays** Delays from partners could cause missed milestones and extend project timelines.	Medium	Medium	Good project management practices will be used, including weekly meetings, clear ownership of tasks, and active risk management. The team will be mobilised ahead of kick-off so all partners are resourced, aligned on roles, and clear on delivery timelines.
R6	**Stakeholder Unavailability** If key stakeholders can't participate in user research, understanding user needs will be delayed.	Low	High	Stakeholder engagement will begin early in the Alpha Phase to ensure relevant input is captured. Existing partner relationships, including those developed through ZEHID, will also be leveraged to support engagement.
R14	**Work package 2 timescales** Delays would impact overall project delivery	Medium	Low	The WP2 lead has already taken steps to prevent delays by selecting an experienced team with confirmed availability and a strong delivery record. Additional team members will be identified in advance to ensure continuity if any unexpected absences occur.
R17	**Smart energy management opportunities** If archetypes are too broad or complex, smart energy management options may not be easily scalable or replicable.	Low	Low	A top-down prioritisation approach will be used to focus on the most representative and impactful logistics segments. Logistics partners will be closely consulted to ensure the selected archetypes and interventions are appropriate and realistic.

Finances

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Project Partner	Total project costs (£)	Project contribution (£)	Total SIF Funding requested (£)
UK Power Networks (Operations) Limited	£63,060	£6,306	£56,754
Baringa Partners LLP	£235,200	£23,520	£211,680
Maritime Transport Limited	£33,000	£3,300	£29,700
Energy Systems Catapult Limited	£124,490	£12,449	£112,041
Voltempo Group Limited	£74,600	£7,460	£67,140
Voltloader Limited	£25,000	£2,500	£22,500
Total	**£555,350**	**£55,535**	**£499,815**

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Communication and Engagement

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Project Workshops and engagement:

- Focus on stakeholder engagement, involving workshops bringing together internal stakeholders and logistics operators
- Project interest from other networks to be gauged with potential partnerships to be identified for Beta Phase
- Alpha Phase Show and Tell session

Publications and Outputs:

- UK Power Networks have issued a press release: ‘Funding fuels cleaner freight and a fairer energy future’ highlighting Future Fleets alongside the other SIF projects UK Power Networks secured
- A dedicated project-specific press release will be published as the project advances

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Project Specific Conditions

1 2 3 4

Condition	Description	Status
1	The Funding Party must not spend any SIF a until contracts are signed with the Project Partners.	In Progress
2	The Funding Party must report on the financial contributions made to the Project as set out in its Application. Any financial contributions made over and above that stated in its Application should also be reported and included on the Innovation Funding Service (IFS).	In Progress
3	The Funding Party must make reasonable endeavours to participate in all meetings related to the Project that they are invited to by Ofgem, UKRI and Department for Energy Security and Net Zero during the Alpha Phase.	In Progress
4	The Project will be allowed a flexible start date and duration within the 8-month period from the date the Project Direction is issued. The Project must tell the monitoring officer the start date and end date of the Project.	Complete
5	Prior to the end of Phase meeting, the Funding Party must provide to the Monitoring Officer a stakeholder engagement plan setting out how the Project will engage with a wider range of relevant stakeholders beyond the core consortium. This must include planned engagement with stakeholders from the Zero Emission HGV and Infrastructure Demonstrator (ZEHID) programme and with local and regional planning bodies, including Regional Energy Strategic Plans (RESPs).	In Progress
6	Prior to the end of Phase meeting, the Funding Party must provide to the Monitoring Officer an updated risk management summary addressing risks associated with data inputs, data quality, and data sources. This should set out mitigation measures and explain how data-related risks will be managed to ensure the Project can deliver its intended outputs in a timely manner.	In Progress
7	Prior to the end of Phase meeting, the Funding Party must provide to the Monitoring Officer: • a summary of how learning from relevant international case studies has informed the Project's approach. This should include specific examples of comparable freight electrification or charging hub operational models and a clear explanation of how this learning has influenced the Project's proposed solutions; • a dissemination summary setting out how key learning from the Project will be shared openly. This should include consideration of issues related to the provision, operation, and income distribution of electric HGV charging hubs, to support wider replication and competition.	In Progress

Looking Ahead

Project Outcomes • Q1 Activities

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Project Outcomes

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Alpha Success:

- Mobilised strong stakeholder engagement
- Defined eHGV fleet and charging location archetypes and tested with wider stakeholders
- Identified smart energy management opportunities and priority schemes for different depot types
- Completed geospatial analysis and initial grid-impact modelling to understand connection needs
- Position the project for a high-impact Beta Phase

Looking Forward:

- Integration of insights into UK Power Networks' business-as-usual processes (connections strategy, DFES assumptions, flexibility participation guidance)
- Enable cross-DNO knowledge sharing
- Support wider industry adoption of eHGV charging solutions through replicable archetypes and market-ready business models

Definitions: DNO = Distribution Network Operator

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Q1 Activities

By the end of Q1 (Mid Point) we aim to have:

Work Package	Completed Work Pieces	Deliverable?
1	Mid-point project review	Yes
2	Fleet and charging location archetype report	Yes
3	Identify smart energy management options and qualitatively prioritise them	
4	N/A	
5	Plan and run stakeholder workshops and engagement actvites	

Any Questions?