EIP050

# Can we remotely monitor our copper cables?

# Problem Statement Details

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| Copper buried within Transmission substations that are located under earthing mats can suffer from degradation over time. For general maintenance and overall safety, it is important that we can have efficient methods of assessing the integrity of this material. However, its general location and environment can often be challenging to access. Not only that, the remote locations of SSEN Transmission substations can also add significant operational challenges.To alleviate these challenges, we are seeking new methods that can enable the safe and effective assessment of copper integrity through remote monitoring solutions. |

# Key Stakeholders

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| Network operators, renewable generators, local communities, energy consumers. |

# Target Market

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| The intended solution(s) have the potential to have applications across all electricity network operators. |

# Scalability and Target Implementation Date

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| For safety criticality and overall operational efficiencies, new solutions and methods are needed right away to prevent further delays on future projects. As a result, there is significant interest in identifying new innovative solutions that have the potential to be deployed in the RIIO-T2 period. This essentially drives the requirement for higher TRL solutions; however, we will not limit ourselves to opportunities that may require further research with a protracted implementation time. |

# Innovation Strategy Target Areas

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| Innovation Theme | Target Area | Primary or Secondary |
| Data and Digitalisation | The shift to data-driven, digitally-enabled networks is critical as we move towards Net Zero.We need your help to drive standardisation, interoperability, security and digital skills whilst accelerating our transformation to data-driven networks by the mid 2030s. | Primary |
| Flexibility and Market Evolution | Energy networks must quickly and efficiently respond to the rapidly evolving needs of the energy system transition. We need your support to eliminate barriers to new market entrants, deploy novel commercial and network management solutions whilst ensuring fair participation and eliminating regulatory barriers within the RIIO-2 price control periods. | Not applicable |
| Net zero and the energy system transition | In order to meet the UK net zero targets of 2050 we must start converting our networks to deliver low carbon fuels today. We want to work with you to develop the role of our gas networks into the future by investigating, trialling, implementing and delivering safe, low carbon alternatives to natural gas such as Hydrogen. | Secondary |
| Net Zero requires connection of more low and zero carbon sources of energy generation, storage and demand to both the transmission and distribution networks. We need your innovative methods for effective network management and accessing flexibility to improve visibility, forecasting and modelling of low carbon technologies. |
| Optimised assets and practices | Innovation has a key role to play in ensuring our networks continue to remain reliable, safe, secure and resilient to our changing climate. We are constantly looking to improve and welcome support to identify methods to prevent interruptions, ensure resilience, reduce climate impact and future-proof our networks. | Secondary |
| Supporting Consumers in Vulnerable Situations | Equality and fairness are the foundations of a just transition to Net Zero. We hope you can provide insight into the transient and situational nature of vulnerability and how we can overcome the impact the energy system has on consumers, building strong relationships for the future. | Not applicable |
| Whole Energy System Transition | The energy system must consider the full range of opportunities, risks and interdependencies that exist across the energy networks to integrate and optimise them in a way that best serves the consumer. We are looking for ways to improve visibility of the networks and transitional options, co-ordinate approaches and collaborate across the UK. | Not applicable |