EIP139 - Accurate Asset Planning and Information for Pre-construction Information.

The following problem statement has been developed by the innovation teams within the UK's Gas and Electricity Networks for the 2024 Energy Innovation Basecamp.

Theme: Building Better, Faster and Safer

Network Areas: Electricity Distribution, Electricity Transmission, Electricity System Operator, Gas Distribution, Gas Transmission (Delete as Appropriate)

Accurate Asset Planning and Information

What is the problem?

The lack of accurate asset information for UK energy networks has broad implications for operational efficiency, safety, regulatory compliance, risk management and the ability to adapt to future energy needs. Addressing the issue is crucial for maintaining service reliability through the transitions, reducing costs and supporting the broader transition to a more sustainable energy system. Throughout the energy systems transition, energy networks will be required to adapt their existing infrastructure. Accurate asset information is critical to integrating new technologies into the existing network, ensuring that future energy demands can be met while maintaining reliability and safety.

During operational activities networks need precise asset information to optimize resource allocation, streamline maintenance schedules and plan for future growth of infrastructure. Without accurate information, operators might waste resources on unnecessary work or miss opportunities for cost saving measures, eg predictive maintenance.

What are we looking for?

We are looking for solutions that can accurately predict and/or locate the positions of assets within the network. Currently the NUAR (National Underground Asset Register) project is working on depicting a large number of underground assets owners infrastructure data on their mapping site. The main reason behind this was to reduce the number of asset damages due to lack of available data or inaccurate data. However with this we would be looking for a solution that is less intrusive that can use artificial intelligence coupled with machine learning capabilities to more accurately predict the locations of assets. This can also be linked to more intrusive in field data where engineers or contractors have logged positions of such assets.

For this type of project it would start at a low TRL as currently there isn't anything on the market, this would then be able to be developed with the networks inputs of asset data alongside, the assumptions that can be added into the system.

What are the constraints?

The key constraints with this will be the volume of the assets that are buried below ground and have no existing data on them, such a services splitting from the main line/pipe up to the property. In some cases this can be linked if the position of the main is known with the position of the meter on the property boundary.

The solution would ideally be a non intrusive solution that can be a desktop based review of the current network data that builds in assumptions to predict asset locations. Reducing the costs on staff attending site in person, but have the ability to add in the correct information if someone does attend site.

Who are the key players?

Gas Distribution Networks, electricity distribution networks and water companies, who all supply to customers.

Does this problem statement build on existing or anticipated infrastructure, policy decisions, or previous innovation projects?

N/A

What else do you need to know?

Nothing further to add.

Innovator submissions to this problem statement will be open here during March and April, but we encourage you to submit your response as early as possible, as networks will be able to review submissions as soon as they come in.

You can also use the virtual Q&A on the Smarter Networks Portal to ask for more information about this problem statement. Questions may be answered online or at the ENA Problem Statement Launch in March 2024. More information on last year's Basecamp programme can be found here.