Energy Innovation Basecamp 2024
Problem Statement EIP100

Artificial Intelligence for Connection Offers

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 and Faster

Network Areas: Electricity Distribution, Electricity Transmission, Electricity System Operator

What is the problem?

DNO connection application process, especially on the HV and EHV levels can take substantial amount of time and involve various teams across the DNO business (i.e. connections, primary network design, engineering design, wayleaves, etc). In an attempt to introduce time efficiency savings, we would like to explore a feasibility of using AI to streamline an application process. This would begin with determining if an AI could correctly assess the category of application to ensure it was routed to the correct team. It could also include using AI to sense check the values on the application form to identify potential errors. This may also be useful to transmission connections and it would be useful to know if the same techniques could apply for different types of network.

What are we looking for?

How can we use AI to review a customer's connection application, suggest relevant connection offer types and then produce the connection offers? Can AI be used to identify key information on an application that is missing or likely to be incorrect and therefore speed up the resolution process? What algorithms and most importantly minimum amount of data and data quality is required to generate a connection offer on HV and EHV level. How can we establish and track a confidence level of the accuracy of an AI-generated offer? Can AI be used to carry out power system studies?

What are the constraints?

Understanding of the data requirements for AI-performed power system studies. Understanding the minimum data requirements and quality of the data to categorise connection requests.

Who are the key players?

DNOs, DNOs customers and consultants.

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

Previous projects in this area include;

- NIA2_NGESO060 FastOut - https://smarter.energynetworks.org/projects/nia2_ngeso060/
- NIA2_NGESO061 voltaVisor - https://smarter.energynetworks.org/projects/nia2_ngeso061/
- NIA2_NGESO08 InterCast - https://smarter.energynetworks.org/projects/nia2_ngeso058/

Relevant policy information can be found here: The future of the ESO and Artificial Intelligence | ESO (nationalgrideso.com)

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.

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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.