

Data Gathering Using Drones for Overhead Line Inspections

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,

What is the problem?

Data gathering using drones has become a standard practice in electricity networks, particularly for overhead line inspections. This is due to their cost efficiency, time-saving capabilities, and improved data quality. However, the use of drones within substations is less common due to the higher complexity of the space and access restrictions. This gap presents an opportunity for development, with significant potential benefits in cost savings and data quality improvements in substation inspections.

What are we looking for?

Developing a drone that will be able to fly inside a substation autonomously. This would include the production of a set of drone requirements that will guarantee a safe use of those devices inside the substations.

What are the constraints?

- Civil Aviation Authority (CAA) regulations for drone flights
- Autonomous navigation and maintenance of safe distances from assets.
- Ability to take multiple photos of specific asset sites from optimal angles and positions.
- Adherence to SPEN security policies.
- Collaboration with data analytics companies to ensure optimal data quality.

Who are the key players?

TOs, drone developers, CAA, data analytics companies.

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

No.

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](#).