

EIP018

## Can we automate vibration monitoring on AGIs?

### Problem Statement Details

Vibration monitoring on above-ground installations (AGIs) is limited today. An alternative to manual vibration monitoring and assessment is required – one which can be automated and include alarm settings for when vibration patterns are altered. Vibration monitoring is a challenge on today's assets and will continue to pose a challenge in a hydrogen future, especially if flow rates are increased. Any solution will need to be retrofitted to existing assets, fitted within new assets, be ATEX-certified to work in hazardous areas, *and* be able to communicate to central systems for monitoring.

### Key Stakeholders

Hydrogen, Operations, Construction, HR

### Target Market

Gas, nuclear, construction, automotive, aerospace, maritime... (i.e., any industry managing vibration)

### Enablers and Constraints

NIA\_NGGT0038: Novel vibration measurement technologies  
[https://smarter.energynetworks.org/projects/nia\\_nggt0038/](https://smarter.energynetworks.org/projects/nia_nggt0038/)

### Scalability and Target Implementation Date

RIIO-2, RIIO-3 and onwards.

## Innovation Strategy Target Areas

Innovation Theme	Target Area	Primary or Secondary
<b>Data and Digitalisation</b>	<p>The shift to data-driven, digitally-enabled networks is critical as we move towards Net Zero.</p> <p>We need your help to drive standardisation, interoperability, security and digital skills whilst accelerating our transformation to data-driven networks by the mid 2030s.</p>	Secondary
<b>Flexibility and Market Evolution</b>	<p>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.</p>	Not applicable
<b>Net zero and the energy system transition</b>	<p>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.</p> <p>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.</p>	Secondary
<b>Optimised assets and practices</b>	<p>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.</p>	Primary
<b>Supporting Consumers in Vulnerable Situations</b>	<p>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.</p>	Not applicable
<b>Whole Energy System Transition</b>	<p>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.</p>	Not applicable