EIP004
What does the future Operator Console look like?

Problem Statement Details

The ESO control room manages multiple complex data sources across several tools with minimal use of automation, therefore requiring significant user interactions to maintain system operation. As the complexity of operating the whole energy system grows, the pressure on operators to maintain secure and economic operation of the system increases. We would like to explore how to deliver a high level of situational awareness into the future Control Room, considering human factors associated with UX/UI design and control room operations, including operator interactions with complex data flows and intelligent tools for system operation.

Key Stakeholders

ESO – various teams across National Control.

Target Market

At this stage, we are looking at a research project to understand the different elements of a future operator console, but we are looking to engage with a wide range of suppliers to build a future proof of concept.

Performance and efficiency of the ESO Control Room operations will ensure better decision making, ultimately resulting in lower costs for consumers and progression towards zero-carbon operation.

Enablers and Constraints

Enabler: Operator Console is a deliverable as part of the ESO's RIIO-2 Business Plan, however we would like to explore beyond this, to ensure the future control room and operator console beyond this time frame are industry leading, to improve system operation.

Scalability and Target Implementation Date

We would like to further inform the Control Room of the future and build in some key principles for situational awareness and human factors. We foresee that this challenge area may result in multiple projects exploring different avenues of these topics in relation to control room operations.

Innovation Strategy Target Areas

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.	Not applicable
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.	Primary