Cadent

Your Gas Network

Our Digitalisation Action Plan

Stakeholder update June 2022

Our Digitalisation Action Plan – June 2022 update

Our Digitalisation Action Plan is now reflecting the progress we made in our digitalisation journey throughout the first half of 2022.

This document provides details on steps we are taking towards fulfilling our RIIO-2 commitments through digitalisation.

We continue to invest according to four Digital Themes we defined in our Digitalisation Strategy and welcome this opportunity to provide transparency and increase the visibility of our work to Stakeholders.

Our Digital Themes

Enhance the experience of our customers

Simplify the life of our employees

Optimise our operations

Explore and Innovate

Optimising Delivery Capability

Digitised Data Capture

Who will benefit


Domestic Customers


Business Customers

Customer Service


Field Engineers


Network Planning

Streamline processes and transform field operations

Field Service Management (FSM) is an investment that is replacing end of life IT systems used by Cadent Field Operations teams (Emergency, Repair, Maintenance and Connections). The current software will be replaced with a market leading product that brings many opportunities for future digital capabilities.

Service we provide today

Cadent Field Operations teams use aged technology for data capture in the field related to different job types (e.g. gas escape, repair, survey). This software is inflexible to the needs of the Field Operatives lacking key capabilities such as capturing photographs and creating new surveys quickly and the software is approaching the end of its useable life**.** Moreover, there are multiple, siloed systems being used for field data capture that impact overall data quality.

Back Office Operations teams use a different technology for scheduling and assigning of work to field operatives. This software is missing key capabilities such as the ability to track job durations and allow customers to book their own appointments. Furthermore, Cadent Operations is very segmented and it is difficult to assign different types of work to the different subdivisions of Operations (e.g. Emergency, Repair, Connections, Maintenance) which creates resource inefficiency.

Service in the future

Upon completion, Field Service Management will:

- Enable new capabilities such as customer appointment booking and streamlined field data capture. These capabilities will enhance both the customer and employee experience of working with Cadent.
- Provide a simplified technology offering to our field operatives and increased quality of our operation data.
- Allow back office Operational teams to allocate any type of job, to any field operative, anywhere, thus optimising how operatives' working time is used.
- Mitigate the existing IT asset longevity concerns ensuring a stable IT solution for critical operational activities.

Delivery Plan – Upcoming milestone

- **Milestone: Roll out Scheduling to the remaining 3 networks**
  - Milestone delivery: March 2021
  - Success measure : The solution is utilised on a day to day basis, support activities transfer from project to BAU function and exit criteria is met and signed off
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: North London Field force field data capture pilot**
  - Milestone delivery: June 2022
  - Success measure: Pilot shows positive results the tool is used day to day and criteria for full roll out to other networks is met
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Roll out field data capture tool to the whole of Cadent**
  - Milestone delivery: July 2022
  - Success measure: The solution is utilised on a day to day basis, support activities transfer from project to business as usual and exit criteria is met and signed off
  - Status **Planned** | **In progress** | **Completed**
- **Further milestones:** The ambition is to fully close the programme once all old systems are decommissioned in July. Post completion we would be making further configurations to the new solutions leveraging the maximum value.

Risks/Mitigations:

There is a risk that the hypercare could be extended due to the level of ongoing incidents which would impact the decommissioning. Daily tracking of incidents in place and currently volumes are low.

Using data to manage the integrity of our assets

Deliver a digitised system for risk based evaluation.

Bringing together disperse data sources to provide insights enabling data driven decisions which are subjective to the degree of risk identified.

Who will benefit

Field Engineers

Network Planning

Service we provide today

What we have done so far

The introduction of Pipeline Safety Regulations 1996, resulted in several solutions introduced for Cadent's LTS pipelines to demonstrate compliance.

It is proving increasingly time consuming to bring all dispersed data sources in one place to quickly analyse threats and the risk level on individual pipelines. Consequently it is becoming onerous for Cadent to ensure optimal decision making in relation to decisions on extending the life of our assets, detecting impending failure and include external impacting factors such as flood risk etc.

Service in the future

What we will have in place

A solution that will allow to overlay various information captured or calculated as part of our operational activities into one repository to allow easier data driven insights and a more accurate risk-based approach to maintain these assets. This will see:

1. Reduction in reactive maintenance of asset failures
2. Improvement in asset and equipment reliability
3. Optimised asset maintenance programmes and reduced frequency of cyclic maintenance intervals
4. Provide a systematic process for characterising the risks on our assets.
5. Prioritised investments and resources to optimise efficiency in our operations
6. Reduced disruption from our maintenance activities

How the service will be accessed

The service will be accessed anywhere, anytime by any device to all Cadent Operations, External Contractors and Stakeholders who will be supporting us to innovate as part of our Future of Gas Strategy.

Delivery Plan – Upcoming milestones

- **Milestone:** Deployment of 'Pipeline Integrity Management System' with high and intermediate pressure for East of England network
  - Milestone delivery: August 2022
  - Success measure: Users have access to base asset information
  - Status: Planned | In progress | Completed
- **Milestone:** Risk Methodology information available for East of England network
  - Milestone delivery: October 2022
  - Success measure: Risk Methodology and Risk Score allocation available in the solution
  - Status: Planned | In progress | Completed
- **Future Milestones:** Solution available in North West network
  - Milestone delivery: November 2022
  - Success measure: Users have access to North West asset information
  - Status: Planned | In progress | Completed
- **Future Milestones:** Solution available in all networks by end of March 2023 and additional data types to be added to the solution specified.

Risks/Mitigations:

There is a dependency on the other projects such us GIS solution upgrade and capacity of staff. Mitigation includes setting up the solution with minimal integration to limit the dependency and prepare integration plan as the next phase of deployment.

Digital Twin – Network Pressure and Control Management

Augment human decision-making and identify value for customers by having a more intelligent operation.

Who will benefit


Domestic Customers


Business Customers


Field Engineers


Energy Industry and Other Utilities

Digital twin use case will deliver better understanding of our energy consumption at a more granular and local level.

Service we provide today

What we have done so far

The current Pressure Monitoring and Control systems in Cadent is used to manage a two tier system:

1. The intermediate and high pressure networks are managed by a sophisticated powered telemetry system.
2. The low and medium pressure networks are managed by 10,000 controls and 1,000 mobile dataloggers.

Both systems are independent but provide critical information to control and manage security of supply to our customers, reduce environmental emissions and maintain system integrity and provide pressure data to validate the planning models.

Service in the future

What we will have in place

The creation of a virtual representation to simulate improved network pressure and control using Big Data will:

1. Provide insight to assist in our commitment on efficiency gains by optimising network efficiency (enables system analysis) using large data set from sensors.
2. Enable better planning (e.g. Future of Gas) by modelling potential connections and network constraints.
3. Accelerate emergency responses and reduce supply interruption frequency and duration.
4. Optimise operational efficiency of field services, providing richer field intelligence to make decisions.
5. Enhance Cadent's operational intelligence and agility of decision making – breaking of operational and data silos across the network and organisation, increasing visibility of and access to data on the network for employees and stakeholders – enable better whole systems coordination.
6. Improve asset performance (do more with less), by monitoring the behaviour of the asset and enriching data from any maintenance activities.

How the service will be accessed

Cadent will look to build Digital Twin(s) in an agile way, wherever possible. This means that small proof of concepts will be established and run in parallel with the current processes and technologies.

Delivery Plan – Upcoming milestones

- **Milestone:** Engineering and cyber-security assessment for available technology options
  - Milestone delivery : September 2022
  - Success measure: the data collected is deemed feasible and accurate and the mechanism to collect the data is fit for purpose
  - Status **Planned** | In progress | Completed
- **Milestone:** Decide on the most suitable use case for Proof of Concept based on available funding and technology required.
  - Milestone delivery : December 2022
  - Success measure: detailed use case prepared for design
  - Status **Planned** | In progress | Completed
- **Milestone: Use case design selected**
  - Milestone delivery: March 2023
  - Success measure: Use cases and benefits demonstrated and approved internally
  - Status **Planned** | In progress | Completed
- **Further Milestones:** Based on the outcomes of the POC and the identified use cases we are planning to conduct the gap analysis and explore the technologies on the market to determine the best way of advancing on developments for Digital Twin.

Risks/Mitigations:

The success of the current phase is dependent on the engineering and cyber-security assessment completed as required by NIS regulation. The assessment findings can impact the timelines of this initiative.

Transforming our people services

Investing in HR Transformation Technologies

Who will benefit

Customer Service

Supply Chain

Network Planning

Field Engineers

Systemisation and automation of manually intensive processes that exist within our current process suite

Service we provide today

Service we provide today

- Multiple solutions with disparate access to our HR processes/HR systems;
- Offline talent management processes which makes succession planning challenging.

What we have done so far

As part of the investments in our internal capabilities we have already implemented some solutions that reduce friction and ease accessing and understanding of our HR records.

Service in the future

What we will have in place

As part of the further improvement, we are delivering:

- Online tool to manage HR cases;
- Self-service access for employees in relation to their HR records;
- Reporting solution to increase employee productivity and increase data driven decision making;
- Automation of the processes for our HR teams;
- Dedicated solution for delivering our People Strategy and Talent Management processes.

How the service will be accessed:

Our HR solutions are going to be available via all Cadent User devices.

Delivery Plan – Upcoming milestones

Completed milestones: Implemented Zoho Case Management, Implemented S4 for Payroll CD2, Established Power BI for HR reporting

- **Milestone: Success Factors Phase 1 implementation (PMGM, Compensation and Succession Modules):**
  - Milestone delivery date: July 2022
  - Success measure: Technical Go-Live achieved
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Success Factors Phase 2 (Employee Central, Recruitment, Onboarding, Learning) delivery partner selected:**
  - Milestone delivery date: August 2022
  - Success measure: Partner selected
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Success Factors Phase 2 deployed:**
  - Milestone delivery date: August 2023
  - Success measure: Partner selected
  - Status **Planned** | **In progress** | **Completed**

Risks/Mitigations:

The current Go live date for Phase 2 is an assumption and will be revisited once delivery partner is selected and the more detailed implementation plan is prepared.

Automation of Manual Activities

Robotic Process Automation (RPA)

Who will benefit

Field Engineers

Network Planning

Ambition to automate manual processes resulting in process efficiency and removal for the potential of human error

Service we provide today

What we have done so far

We have completed an automation initiative using technology as a proof of concept; this proved that automation tools can add benefit to our teams and allow our employees to increase the time spent on value-add tasks, decease processing times, error-proof parts of our processes and increase the consistency and assurance of the produced outputs.

How to access our current service

The automation capability was created to transact permit charges from Highway Authorities that Cadent incurs during our operational activities.

Service in the future

What we will have in place

We are exploring other processes where automation can add further value to our business. Cadent will deliver a right sized tool to enable automation to be implemented easily at pace and with the appropriate support and controls in place. The ability to create processes that leverage the automation technology is something our colleagues will to be able to access themselves without the need for heavy IS technical support or management. To enable this the appropriate controls, training and policy will be created.

How the service will be accessed

The ability to create automated processes will be delivered using the Microsoft Power Platform.

Delivery Plan – Upcoming milestones

- **Milestone: Feasibility and Use Case Analysis**
  - Milestone delivery: December 2022
  - Success measure : Confirmation that RPA would deliver a benefit that outweighs the cost to deliver
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Process design for building of RPA BOTs**
  - Milestone delivery: December 2022
  - Success measure: User acceptance testing of the platform
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Implementation of selected use cases and Training delivered to affected users**
  - Milestone delivery date: July 2023
  - Success measure: Reduction in time to transact a process, reduction in errors/ bad data, consistency in process
  - Status **Planned** | **In progress** | **Completed**

Risks/Mitigations:

There is a risk that the business cases for RPA might not be appropriately identified. This risk is mitigated by educating our people on the appropriate application of RPA.
There is also a risk that RPA can be applied where system changes should be made; this is mitigated by applying controls in our process that asses each case for RPA.

Evolution of mature Smart Network

Oil and Gas exploration have seen significant operating efficiencies and asset reliability improvements from collecting more granular data, this will provide opportunity for Cadent to improve asset reliability for our Stakeholders.

Who will benefit

Government Authorities and Policy Makers

Network Planning

Energy Industry and Other Utilities

Sensor telemetry and smart devices to transform the way in which we collect data and deploy commodity sensors across the network.

Service we provide today

What we have done so far

The commitment to invest in hydrogen networks and hydrogen blending, brings complexity in operation and billing that our current network is not designed for. Hence, Cadent need to obtain greater insight in the demands from our 11.8 million customers. Currently Cadent have approximately 1,000 loggers which are placed across various strategic points in our network that inform our network modelling tools used to create network designs and operating strategies. There is a growing need to collect more information and adopt new types of solutions and devices deployed within our network.

Service in the future

What we will have in place

The new low cost smart devices and sensors will collect new data, at different levels/pressures of the network or on new assets and this will enable Cadent's maturity of the smart network by;

1. More real time operation of the network;
2. Intelligent decisions on capacity and our investments;
3. Intelligent asset management decisions such as predictive maintenance;
4. Enable design of all aspects of hydrogen/green gas transition in preparation to create safety and feasibility case for hydrogen;
5. Opportunity to create an asset portfolio of IoT connected devices with alternative communication as moving to agnostic devices will enable a more competitive choice, eliminating single source supplier risks.

How the service will be accessed

The additional data from these sensors will be introduced to increase efficiency by implementation of RPA, Digital Twin and Mobile Application use cases that can be implemented across the key processes.

Delivery Plan – Upcoming milestones

- **Milestone 1:** Complete Proof of Concept (PoC) to roll out new sensor and observe the data from our partner's platform. The sensors have been installed in Stoke areas and are being monitored for next 9 months.
  - Milestone delivery date: August 2022
  - Success measure : Confirmation if new sensors provide opportunity to Cadent to decrease the cost and risk associated with collecting sensor data.
  - Status **Planned** | **In progress** | **Completed**
- **Milestone 2: Installation of Street Level pressure sensors across selected areas of our network**
  - Milestone delivery: March 2023
  - Success measure: Successful installation and collection of sensor data
  - Status **Planned** | **In progress** | **Completed**
- **Further milestones – exploring available options and funding for acceleration of work**:
  - Exploring opportunities for leveraging funding from Shropshire and Herefordshire Grant to support Net Zero.
  - Shaping plans for installation of 600 smart District governor sensors and across the network.
  - Assessment of opportunity to install sensors around electricity power generation sites that will allow integration.

Risks/Mitigations:

Within this rapidly developing technology we recognise that data collection cost, additional data storage and processing needs to be better understood form the cost benefit perspective. Additionally, the cyber security considerations and impact of the additional insight from data will need to be weight against our operating strategies and investment decisions.

Using Data to improve our Safety & Sustainability

Implementing a new Incident Management System (IMS) and Environment Recording & Reporting System (ER&RS)

Who will benefit


Regulatory Reporting


Business Customers


Supply Chain


Field Engineers


Energy Industry and Other Utilities


Low Carbon Connecting Parties

Expanding our data literacy in our Safety and Sustainability department.

Service we provide today

Access to our current service

The Safety & Sustainability team own and manage various critical processes that enable us to comply with legislation, complete and ensure risk assessment, audit and complete technical work efficiently and safely. Two key areas that are fundamental in achieving our ambition and ensuring that the right service is provided to customers, stakeholders and regulators are incident and environmental recording and reporting.

Current system and methods/practices employed by Cadent restrict our ability to report on several legislative requirements and there is a need to manage the underlying data better. There is an increased need to automate and systemised our information to ensure insights into current performance and trend analysis is easy and transparent.

Service in the future

What we will have in place

A self-service system available to employees, contractors and third parties to capture and record real time data enabling timely access to the right information. Having a holistic view of our safety data will enable us to better protect our people, our assets and the communities we serve. The system will support Cadent to deliver high standards of environmental performance, enhance the environment, and seeking innovative, sustainable ways to lighten our environmental footprint.
The system will provide interactive dashboards with informative data, future trends and analysis to drive action. This will enable data manipulation and stratification down to levels where action and improvements can be identified and communicated. This system will be a key enabler to deliver Cadent's environmental commitments throughout RIIO-2 and beyond, and support delivery Regulatory Reporting Process and the new Annual Environmental Report.

How the service will be accessed

The solution is going to be available via all Cadent User devices.

Delivery Plan – Upcoming milestones

Milestones completed: Requirements collected and vendor confirmed.

- **Milestone:** Detailed Solution Design
  - Milestone delivery date: January 2022
  - Success measure: Technical approval of the detailed solution design
  - Status: Planned | In progress | **Completed**
- **Milestone:** User Acceptance Testing (UAT), Training and **Go-Live**
  - Milestone delivery date: July 2022
  - Success measure: UAT signed off
  - Status: Planned | **In progress** | Completed
- **Milestone:** Training and **Go-Live**
  - Milestone delivery date: August 2022
  - Success measure: Deployment of the Solution in production environment
  - Status: **Planned** | In progress | Completed

Risks/Mitigations:

Risk: There is a risk that the guidelines or requirements for Annual Environmental Report (AER) might further develop within RIIO-2 period. Mitigation involves close partnership with our regulation team to ensure any changes or updates in relation to AER are timely communicated and understood.

Better Supporting Our Customers in Vulnerable Situations

Encapsulating how to support PSR customers and those in vulnerable situations whilst automating the delivery of the necessary supporting services

Who will benefit

Field Engineers

Customers in Vulnerable Situations

Supply Chain

Aiming to deliver a fully integrated application for use when assisting our customers when in a vulnerable situation

Service we provide today

What we have in place

Our engineers rely on published guidance and personal knowledge to support customers in vulnerable situations.

This means there are further improvements can be made to increase consistency of our safeguarding services to customers, standardisation of support measures we provide relating to customer need and traceability of the support equipment we make available to customers when in a vulnerable situation due to our works.

Service in the future

We encapsulated the guidance and knowledge within a single application that allows our engineers to leverage this information easily and consistently in order to best assist our customers impacted by our works when in an off-gas situation. We aim to integrate this Personal Welfare Decision Tool with logistics providers so once a need is identified within the application the required items are ordered, tracked and monitored as part of the process.

What we will have in place

Fully automated safeguarding support tailored to the needs of our customers. We aim to integrate with our existing applications and with future providers via an API based application that enables automation, traceability and security in the delivery of our support PSR customers, or those in a vulnerable situation.

How the service will be accessed

The service will be accessed via a Web based UI by our Field Force.

Delivery Plan – Upcoming milestones

- **Milestone: Deliver a limited trial of Personal Welfare Tool to West Midlands network**
  - Milestone delivery date: August 2022
  - Success measure: App in use by engineers in West Midlands network
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Deliver Personal Welfare Tool to all networks**
  - Milestone delivery: October 2022
  - Success measure: App in use by engineers in all networks
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Enhance Personal Welfare Tool to provide delivery of services**
  - Milestone delivery: December 2023
  - Success Measure: Cadent network information available as part of the platform
  - Status **Planned** | **In progress** | **Completed**

Risks/Mitigations:

This requires full cross-partner collaboration. In order to hit each milestone, there are dependencies upon delivery by separate partners. There is a risk to reputation and the service that we provide to our PSR customers (and those in vulnerable situations) if we fail to deliver to these milestones, Also the Ofgem specific CVP rewarded to Cadent on Additional Welfare Products (RRP relevant) is also negatively impacted without delivery.

Empowering Customer Self Service Through Technology

Using guided video capture to enable customer self-survey for new gas connections

Who will benefit

Energy Industry and Other Utilities

Field Engineers

Domestic Customers

Trialling video capture in our new connections space within the West Midlands to simplify the survey process

Service we provide today

At the moment surveys always require a physically present Surveyor and our customers have to be available when we come to survey. There are wait times for this service and currently no way for our customers to opt to 'self-survey' in their own time, avoiding the potential inconvenience of a survey visit.

What we have done so far

Our new connections process is made available to our customers currently via telephone or email.

Service in the future

Cadent, in conjunction with VYN is developing a trial of a self-survey video capture application for use instead of a visit from a surveyor to the property. This is a trial of the concept and implementation of this technology and approach. The application is in development and trial phase. As such it is available to pre-selected customers and surveyors within the West Midlands region. Upon the completion of development and of a successful trial we will look to expand the scope beyond the West Midlands.

What we will have in place
A guided video survey tool for new gas connections that has been developed and trialled with both our customers and our engineers and allows our customer to self serve if so desired.

How the service will be accessed
The service will be accessed via an app and via a web application.

Delivery Plan – Upcoming milestones

- **Milestone: Develop the self-survey guided video capture application**
  - Milestone delivery date: July 2021
  - Success measure: Provision of trial to selected customers/surveyors
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Trial the self-survey guided video capture application**
  - Milestone delivery date: August 2021
  - Success measure: Provision of trial to selected customers/surveyors
  - Status **Planned** | **In progress** | **Completed**
- **Milestone: Phase 2 of the video capture application**
  - Milestone delivery date: March 2023
  - Success measure: Expansion of the Phase 1 capabilities.
  - Status **Planned** | **In progress** | **Completed**

Risks/Mitigations:

This Proof-of-Concept (PoC) investment has been extended to include phase 2 of the video capabilities. There is a risk at the end of the PoC, the decision could be made not to proceed, or it will be superseded by other investments.

Enhanced Customer Engagement Channels

Delivering a new channel of engagement and communication with our customers

Who will benefit

Customer Service

Domestic Customers

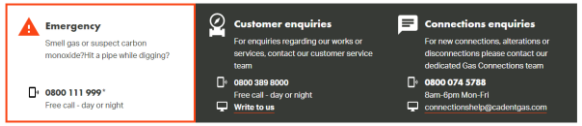
Leveraging technology to enable our customers to engage with us in ways not previously possible

Service we provide today

What we have done so far

Cadent does not have a customer facing app to allow for engagement and communication. We currently interact with our customers via the telephone or e-mail. We realise there is a need for alternate channels of communication and app based solutions.

How to access our service



The contact details and methods are available on Cadent website.

Service in the future

Utilising the Google Cloud Platform, we have built a trial application that allows engagement between Cadent and our customers from within a mobile application. This is currently being trialled on a limited basis internally and with selected customer groups.

What we will have in place
We will have a fully developed trial application that has been shown to be a success and will be ready for integration to our core systems, enabling greater customer choice.

How the service will be accessed
The service will be accessed via native app or web-based application.

Delivery Plan – Upcoming milestones

- **Milestone: Deliver a limited trial of an App to West Midlands network**
  - Milestone delivery date: January 2021
  - Success measure: App in use by engineers in West Midlands
  - Status **Planned** | In progress | Completed
- **Milestone: Deliver App to all networks**
  - Milestone delivery: July 2021
  - Success measure: App in use by engineers in all networks
  - Status Planned | In progress | **Completed**
- **Milestone: Update App to integrate delivery of services**
  - Milestone delivery: March 2023
  - Success Measure: Cadent network information available as part of the platform
  - Status **Planned** | In progress | Completed

Risks/Mitigations:

The app is currently a PoC however requires manual intervention to deliver a seamless customer experience. While we explore the value and benefit of core system integration, this will remain in place until the assessment is complete.

Presumed Open Data – Data Triage Process

Design of a centralised process to standardise all data sharing requests and assist the Data Users with data exploration.

Who will benefit


Energy Industry and Other Utilities


Government Authorities and Policy Makers


Low Carbon Connecting Parties


Network Planning

Making access to the our data easier

Service we provide today

At the moment there is no single, centralised process to effectively facilitate requests to open our data.

What we have done so far

Cadent has proactively supported and attended the ENA's Data Working Group, where a best practice approach to opening data using a data triage process has been developed and shared with all networks. This has included the development of an Energy Data Request Tool.

The Energy Data Request Tool

This tool will help support a more modern, digitalised energy system by creating greater data visibility and Opening up Energy Data. Access to the tool is available via the ENA's website: https://www.energynetworks.org/creating-tomorrows-networks/modernising-energy-networks-data
In parallel, data consumers can make a direct requests to Cadent for data about our network and these will be processed outside of the ENA's request process via .box.DataGovernance@cadentgas.com

Service in the future

Opening our data will help support a more modern, digitalised energy system by creating greater data visibility and makes our data available to a much wider audience for more innovative uses when combined with other data. This is essential for the continued decarbonisation of the energy system, delivery of net zero emissions and improvements in efficiencies.

What we will have in place

A single, robust, centralised process to effectively receive, triage and process all requests for data from external bodies & partners. This will include requests made via the ENA's Data Request Tool, and those requests made directly to our business. At the centre of this process will be a robust triage process that will ensure that data is shared safely and securely. All of our requests will be managed and recorded in an Open Data Request Management Tool.

How the service will be accessed

The service will be accessed via a dedicated webpage.

Delivery Plan – Upcoming milestones

- **Milestone: Cadent Data Triage process approved**
  - Milestone delivery: October 2021
  - Success measure: Approval from all internal stakeholders
  - Status: Planned | In progress | **Completed**
- **Milestone: Open Data Request Management Tool live**
  - Milestone delivery: April 2022
  - Success Measure: Tool in place for Cadent staff to effectively receive, manage, and record all requests made
  - Status: Planned | In progress | **Completed**
- **Milestone: Review of the type, volume and frequency of the data sharing requests to decide on the best way of automating the process.**
  - Milestone delivery: December 2022
  - Success Measure: Budget secured and high level design of the solution prepared.
  - Status: **Planned** | In progress | Completed

Risks/Mitigations:

Data sharing requests are predominantly related to gas asset type and location and fulfilled by business experts based on their availability that impacts the timely delivery of data to requestors. Automation of the process will require significant IT investment and we are exploring ways to secure budget to finance the required work.

My Heat – domestic heating model

Role out and future development of the MyHeat domestic heating model.

Who will benefit

National and Local Government and Policy Makers

Network Planning

Enabling easier decisioning on net zero heat solutions in homes

Service we provide today

What we have done so far

At the moment, regional government plans for decarbonisation, where they exist are very high level, and rarely include a robust plan that takes account of the realities and constraints of the existing housing stock. Our support for local authorities and regional bodies is very bespoke and labour intensive, and may not always help the establishment of coherent whole system plans both for the local authorities and the energy networks.

We have therefore developed the MyHeat tool which uses detailed housing information to determine potential future heating decarbonisation pathways, based on selected key input criteria. It provides an indication of likely domestic heating outcomes post code by post code, with associated costs and demand forecasts. This allows us to understand how demand may evolve across the network under different pathways to Net Zero.

Service in the future

Our ambition is to make outputs from the tool available to Local Authorities and other Stakeholders to assist with local and regional area energy planning and to show how different key assumptions can influence the likely choice on Net Zero solutions in homes across a region. This will enable a better-informed approach to decarbonisation planning and influence emerging heat and wider Net Zero policy.

What we will have in place
The proposal is to deliver a bespoke User Interface (UI) for the tool to allow expert users to study specific areas for a stakeholder, applying their own key input assumptions, and being able to interrogate the output at a street-by-street level.

How the service will be accessed
The service will be accessed by expert users via a dedicated web address.

Delivery Plan – Upcoming milestones

- **Milestone: UI development**
  - Milestone delivery date: December 2021
  - Success measure: Internal Sign-off of the model and UI
  - Status **Planned** | In progress | Completed
- **Milestone: User Acceptance Testing (UAT)**
  - **Milestone delivery date: March 2022**
  - **Success Measure:** Acceptance criteria met
  - Status: **Planned** | In progress | Completed
- **Milestone: Model Deployment Plan**
  - **Milestone delivery date: December 2022**
  - **Success Measure:** Agreement on model usage and high level deployment plan prepared
  - Status: **Planned** | **In progress** | Completed
- **Future Milestones:** Future milestones will be shaped as a consequence of the review of the model usage and model risk.

Risks/Mitigations:

UAT highlighted the challenges with controlling the model assumptions input by the users therefore more thoughts needs to be given into the most appropriate way of introducing the tool to the wider user group. Decision has been made to assess the model usage and the control mechanisms that need to be in place to ensure correct application of the model.

Hydrogen System Modelling Tools

Enable the detailed design of the transition plan for 100% hydrogen.

Who will benefit


Government Authorities and Policy Makers


Network Planning


Energy Industry and Other Utilities


Business Customers


Domestic Customers

Enable robust decisioning and plans for hydrogen in the future energy system

Service we provide today

What we have done so far

We are involved in several hydrogen projects in partnerships with the energy sector. The three main areas we lead on are blending, industrial power and decarbonising heavy transport and more details are available at: https://cadentgas.com/future-of-gas/hydrogen

To ensure the detailed design of the transition plan for 100% hydrogen, Cadent and other Gas Distribution Networks are working with BEIS to build the evidence for using hydrogen in our gas networks and buildings.

Service in the future

What we will have in place

The aim of the project is to deliver robust arguments and information to enable an objective assessment of feasibility of transitioning the gas networks and its consumers in respect of Net Zero targets.

How the service will be accessed

The outputs of the work are going to be delivered directly to BEIS.

Delivery Plan – Upcoming milestones

- **Decision:** It was agreed with BEIS that data supporting the System Transformation will be organised and stored within a SharePoint platform with controlled access, permissions and governance to enable collaboration between the participating organisations at this stage.
- **Future Milestones:** It is anticipated that as the System Transformation Modelling will mature there will be a need to agree on a digital solution to consolidate more structured and granular project data.

Risks/Mitigations:

None identified at this stage.

Biomethane Smart Control

Investigate ways of decarbonising country's gas networks

Who will benefit

Government Authorities and Policy Makers

Network Planning

Energy Industry and Other Utilities

Collaboration initiative optimise pressures and compressor operation for biomethane injections

Service we provide today

What we have done so far

We've been supporting increasing levels of biomethane onto our networks for several years now and it's great to see others sharing the excitement about this low carbon gas. More details are available at: https://cadentgas.com/future-of-gas/biomethane

Under the OptiNet initiative we collaborate with smart energy technology company and Wales & West Utilities to understand how intelligent control and compressor technology can be used to maximise flows from Biomethane Sites. (To find out more about Biomethane Sites read: https://cadentgas.com/nggdwsdev/media/Downloads/Biomethane/Biomethane-2020-FINAL-v3.pdf

We have investigated innovative ways of boosting the capacity and enhancing control.

Service in the future

What we will have in place

The aim of Biomethane Smart Control project is to develop capability to optimise pressure management and compressor operation as we see increasing levels of biomethane connecting to our network, alongside the installation of new compressors to manage flows.

To enable efficient connection of new biomethane plants to our network, we expect to see compressor installations to move gas up through our pressure tiers. How these compressors are operated alongside other pressure control equipment will play a significant role in enabling more green gas into our networks. This could then shape how we look at releasing capacity going forward.

Delivery Plan – Upcoming milestones

- **Milestone: Learnings from OptiNet project**
  - Milestone delivery date: December 2022
  - Success measure: validation of the concept of enabling increased biomethane flows by compressing gas on the network
  - Status **Planned** | **In progress** | **Completed**

- **Future Milestones:** Future steps will be based on the learnings and assessment from OptiNet project. It is expected that the Pre-Feed funding will have to be secured once the concept is validated based on successful trial.

Risks/Mitigations:

Project continuation is reliant on conclusions from OptiNet project and funding from Ofgem through our RIIO-2 Uncertainty Mechanism.
Covid has caused significant delays to the project, most notably for the manufacture of the compressor.
A process to help socialise the cost of compressors and other entry reinforcements will also be vital to remove a key barrier to new biomethane connections.

Open to You

Keeping the conversation flowing

Being open and transparent is part of our culture, we would welcome hearing from our customer, communities, colleagues and regulators to improve the value we deliver. Your comments and suggestions on our Digitalisation Action Plan would be valued.

There are multiple ways you can engage with us and share your views and comments

- Comment on Facebook
- Comment on Twitter
- Comment on LinkedIn
- Email us your feedback
- Send us your feedback by post