Our Digitalisation Strategy

Stakeholder update December 2024

Cadent
Your Gas Network

Welcome to our Digitalisation Strategy

Stakeholder update December 2024

We are committed to providing a safe and resilient low-cost gas network.

We recognise the growing role of Data and Digitalisation in shaping our ambitions and commitments to our customers and stakeholders.
This strategy demonstrates our plans to leverage digitalisation to maintain our investments in the gas network, reduce emissions of harmful greenhouse gases, expand the quality experience we provide for our customers and innovate to reduce our costs, delivering efficiencies through digitalising our ways of working.

Embracing digitalisation

Digitalisation is part of everything we do at Cadent, helping us shape the future of the energy sector. Our Digitalisation Strategy is an enabler to deliver for our Customers, Colleagues and Communities. We would welcome your feedback, so together we can shape the future of our industry.

Embedding digital thinking

Our Digitalisation Strategy forms part of how we drive efficiencies; serving our stakeholders, engaging organisations we collaborate with, engaging our communities, running a safe and resilient network, digitalising the way we work and helping accelerate the journey towards net zero.

Evolving digital Products and Services

This Strategy is driven by a diverse and skilled workforce and key partners who collaborate to design and deliver products and services that enable our staff, address stakeholders' needs and support communities. We are expanding our digital capabilities and maturing our Data Products to provide more open and accessible insights and contribute to achieving the net zero goal.

I'm delighted to share our latest Digitalisation Strategy with you. It outlines our digitalisation ambition for the rest of the current regulatory period and proposed digitalisation investments for the next regulatory period. It explains how we are embracing a digital mindset to deliver for our stakeholders and help shape the future of the energy sector.

Steve Fraser
Chief Executive Officer

I'm pleased to ensure that our Digitalisation Strategy is embedded in our business, driving better outcomes for our customers, partners, community and wider industry.

Howard Forster
Chief Operating Officer

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Our Digitalisation Strategy

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We explain **who Cadent are** and share **our purpose and vision.**

We share **our commitments** and our **view on the future of the energy sector.**

We explore the **needs of our customers, colleagues and communities** and the role that digitalisation plays in making our organisation more relevant to them.

We explain our **digitalisation framework** and the outcomes our key **digitalisation investments** will deliver over the next regulatory period.

We explain how our stakeholders can contact us and **share feedback and ideas** to evolve our strategy, as we continue our digitalisation journey.

Cadent

1 | Cadent Today

Cadent Today

Our responsibilities and geographical reach

Cadent is the largest gas distribution company in the UK. We deliver natural gas to 11 million homes and businesses throughout the North West, West Midlands, East Midlands, East of England and North London - helping keep consumers on our network safe and warm.

In doing this we are responsible for maintaining our network, ensuring that it operates safety and reliably for those who rely on it. We also help homes, businesses and renewable gas suppliers connect to our network.

Cadent supports the commitment to net zero emissions by 2050. We know that the fossil gas we deliver through our network today is part of the problem and not part of the solution. Low carbon heating technologies need to be deployed across our network - and beyond.

Even as a gas network we are clear that there is a significant role for both heat pumps and low carbon heat networks in the future mix. We also believe that green gases such as hydrogen will be needed if we are to be successful. This requires us to consider where there might be a role for our gas distribution network in the future energy system.

Cadent
Your Gas Network

North West
Manchester
Liverpool
Sheffield
East Midlands
West Midlands
Birmingham
Eastern
Norwich
East of England
North London
London

11m
Homes and businesses Connected to our network

6.155
Employees helping consumers on our network keep safe and warm
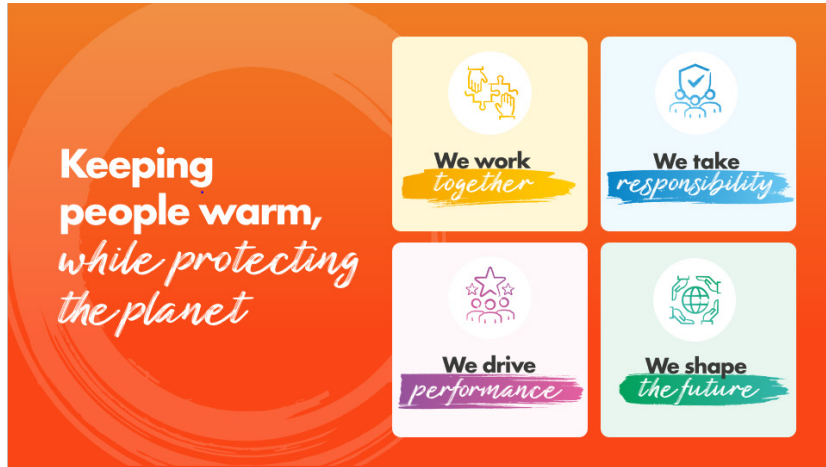
132 396km
Of pipe across our region

Cadent Today

Our purpose and values

Keeping people warm, while protecting the planet.

We aim to be a force for good in society, making a real, sustainable difference to the communities we serve, always going above and beyond to give back to those that need us most. We aim to generate a significant, positive community impact, demonstrating our commitment to making everything 'Easier, Fairer and Greener' for our customers, stakeholders and communities.

Easier *Warmth*

We are committed to providing Easier Warmth for those living within our communities.

We want to ensure everyone has easy access today and tomorrow to secure, affordable heating. Putting the customer at the heart of the journey and maintaining an ongoing, customer focused approach is a priority for us. We want to ensure a smooth and seamless transition to low-carbon heating where everyone's needs are considered.

Fairer *Opportunities*

We are committed to creating Fairer Opportunities for all individuals living within our networks.

We want to ensure the potential to thrive is inclusive within our organisation, supply chain and communities. By building a diverse, motivated workforce, we can work towards boosting social mobility, ensuring all individuals are provided inclusive opportunities to create successful careers in the energy sector and beyond.

Greener *Society*

We are committed to developing a Greener Society and creating a thriving, net-zero future for coming generations by reducing carbon and tackling climate change.

We aim to lead the way in the decarbonisation of the energy industry through developing low-carbon technologies and proving the case for cleaner, greener fuels such as hydrogen.

2 | Our Commitments

Our Current Commitments

Since the start of our regulatory period (RIIO-2) in 2021, we have been focusing on delivering our Digitalisation Strategy aligned to the four key commitments we made as part of the 2021 - 2026 business plan.

Keeping the energy flowing safely and reliably	A quality experience for all our customers and stakeholders	Tackling climate change and improving the environment	Trusted to act for our communities
"Efficient costs driving a 10% reduction in customer bills and delivering a safe and reliable supply for less than 33p a day"	*"Enhance services to make a real difference to customers in vulnerable situations driving a social value of over £537m"*	*"Creating practical solutions to deliver clean gas to meet the UK's net zero emissions challenge"*	*"We will be fair and transparent, building trust in how we operate and making a sustainable difference in our communities"*

Our customers expect us to maintain the exceptional levels of safety and reliability performance that we deliver today.

We are investing in the health of our assets, keeping the energy flowing safely and reliably whilst keeping investments at an affordable level.

We are working to enable a blended network where we can enable new and green sources of energy.

Our customer strategy goes well beyond customer satisfaction and complaints handling improvements; we are striving to identify and understand the needs of all our customers and stakeholders better.

Our aim is to create an accessible and inclusive service for all. We have set up a multi-faceted customer vulnerability strategy helping to keep our customers safe, warm and independent in their homes and never leave them without gas.

The gas networks play a key role in supporting the energy transition in the most secure, affordable and sustainable way.

We continue to play a leading role in creating a vision of the pathways for the energy system transition through our innovation projects.

Our network evolves to support the use of clean gas such as hydrogen and facilitate renewable resources onto the network.

Through our engagement insight, we have an in depth understanding of our stakeholder expectations and where they value us going above and beyond.

We are committed to making a real and sustainable difference to the communities we support and demonstrating fairness in our approach.

We are committed to making our business performance more transparent to our stakeholders.

Shaping our Future Commitments

We have submitted our 2026 – 2031 business plan to Ofgem in preparation for our next regulatory period (RIIO-3) which will commence in 2026. This will enable us to build on the work we will have delivered throughout the RIIO-2 period.

We have submitted our 2026-2031 business plan proposal to Ofgem for consideration. The first regulatory feedback is expected in July 2025 and this will inform the agreed scope of the work we will commit to deliver in this strategy. The overall business plan is based on four key outcomes that were set out by Ofgem and have been used to underpin our Digitalisation Strategy.

The four outcomes are presented below:

Safe, Secure and Resilient Supplies	Infrastructure Fit for a Low-Cost Transition to net zero	High Quality Service	System Efficiency and Long-Term Value for Money
To maintain investment in the gas network to ensure it continues to deliver world class safety, reliability and resilience.	To drive down methane leakage from our pipes – we will reduce emissions of harmful greenhouse gases by rolling out state-of-the-art-technology we have invested in through innovation in RIIO-2.	To drive a quality experience for all customers and to support customers in vulnerable situations by implementing and expending the sector-leading initiative we have developed over the past five years.	To continue to innovate to reduce our costs, continually striving to be efficient in order to keep our component of the customer gas bill as low as possible but also ensuring that the plan we put forward is investible, which is driven by the rate of return Ofgem sets and the overall incentive framework.

Our Vision of the Future Energy System

The four pillars of a future energy system

The future of the energy system is shaped through continuous engagement with our stakeholders. The journey towards net zero continue to expand any discussions about the role of our gas distribution network in the future system evolve.

1 **Our Stakeholder Ecosystem**

- Our ecosystem of stakeholders includes government (DESNZ), our regulator (Ofgem) and National Energy System Operator (NESO) providing the direction and pace
- As decarbonisation accelerates the digital needs of our stakeholders drive new requirements across our services for any net zero pathway chosen

2 **The Journey to net zero**

- We are committed to decarbonising our operations by 2026
- Low-carbon gasses such as biomethane and hydrogen are a vital part of the future energy mix in future energy scenarios
- Partnerships with a diverse range of stakeholders and partners continue to drive innovation in areas of greenhouse gas emissions reduction

1 **Our Stakeholder Ecosystem**
A quality experience for all our Customers and Stakeholders

Our Customers
- Domestic Customer
- Customers in Vulnerable Situations
- Business Customers
- Low Carbon Connecting Parties

Our Community
- Safeguarding Organisations
- Government Authorities and Policy Makers
- Supply Chain
- Energy Industry and Other Utilities

2 **The Energy Data Community**
Trusted to act for our communities

3 **The Journey to net zero**
Tackling climate change and improving the environment

4 **A Safe, Secure and Resilient Network**
Keeping the energy flowing safely and reliably

3 **The Energy Data Community**

- The energy network and system operators must have better visibility of all data assets involved from generation to transmission and distribution to end use
- There is a need to ensure the future energy system is interoperable
- Innovation requires new data and insights to be shared amongst current and potential Data Users to design the future ways of working in the sector

4 **A Safe, Secure and Resilient Network**

- The future energy system is going to have many stakeholders responsible for system operation at different levels, they will need to collaborate and coordinate to deliver a stable and secure system
- Managing resilience is the priority, and by recognising where people and processes interact, cascades of failures can be contained and business continuity maintained
- Understanding climate resilience and the physical impact of climate disruptions on our assets is a key element of delivering a high standard of service to our customers

3 | Delivering for our Stakeholders

Stakeholder Engagement Methodology

The foundation of our Digitalisation Strategy and the definition of our digitalisation themes is underpinned by the data needs of our customers, colleagues and communities.

We have implemented a digital design thinking approach, articulating the needs and expectations of both current and prospective data users through user stories.

These needs are categorised according to digital persona profiles, which describe the type and specific context in which different stakeholder groups utilise or intend to utilise our Data Assets, digital products, and the services provided by Cadent.

This approach is enabled by a three–dimensional Stakeholder Engagement Methodology that combines active and passive collection of data needs.
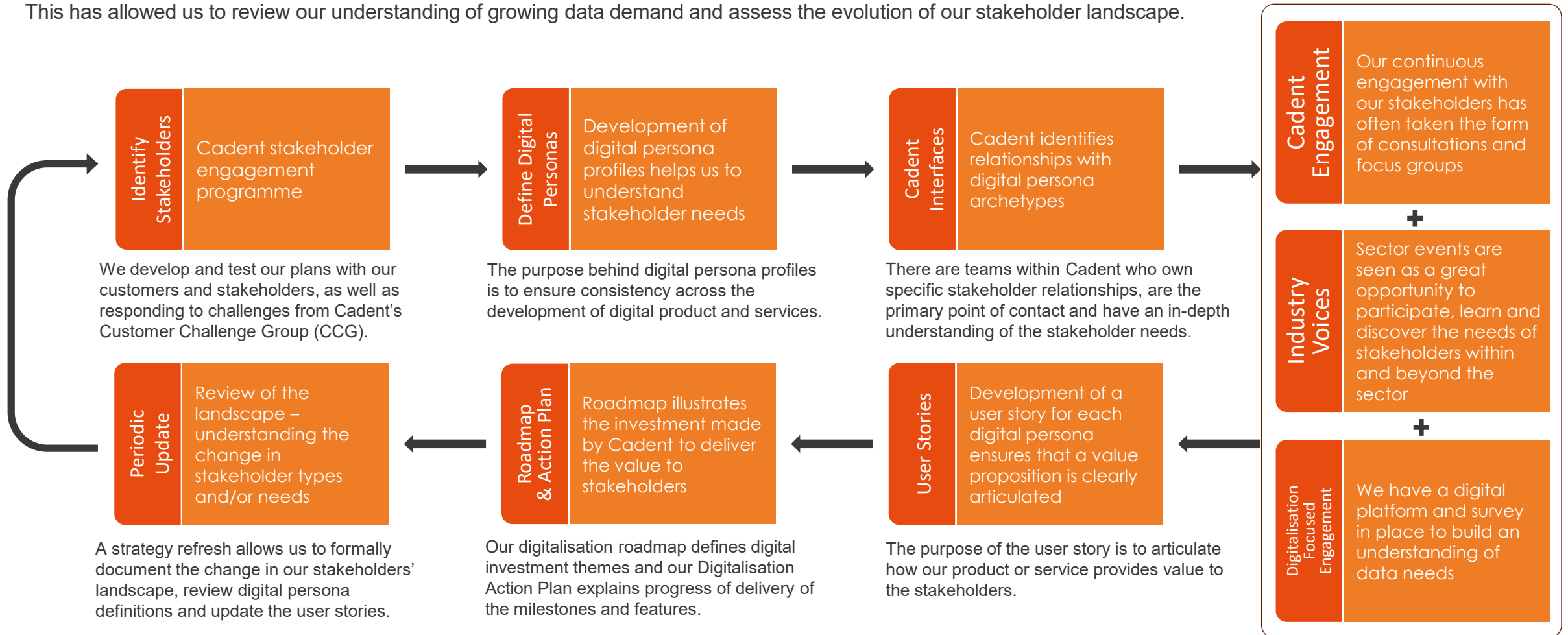
In preparation for the development of our RIIO-3 business plan we have engaged our current and potential data users to review and update digital persona profiles which guided us in shaping digitalisation investments.

The execution of the strategy is evidenced through reporting on progress on investments and digital actions through bi-annual updates to our Digitalisation Action Plan.

Stakeholder Engagement Methodology

Our engagement methodology has been designed to best reflect a variety of our stakeholders

We have expanded our stakeholder engagement over the last year introducing an online survey dedicated to capture the data and digitalisation needs of our stakeholders. This has allowed us to review our understanding of growing data demand and assess the evolution of our stakeholder landscape.

Identify Stakeholders	Cadent stakeholder engagement programme

We develop and test our plans with our customers and stakeholders, as well as responding to challenges from Cadent's Customer Challenge Group (CCG).

Define Digital Personas	Development of digital persona profiles helps us to understand stakeholder needs

The purpose behind digital persona profiles is to ensure consistency across the development of digital product and services.

Cadent Interfaces	Cadent identifies relationships with digital persona archetypes

There are teams within Cadent who own specific stakeholder relationships, are the primary point of contact and have an in-depth understanding of the stakeholder needs.

Cadent Engagement	Our continuous engagement with our stakeholders has often taken the form of consultations and focus groups

+

Industry Voices	Sector events are seen as a great opportunity to participate, learn and discover the needs of stakeholders within and beyond the sector

+

Digitalisation Focused Engagement	We have a digital platform and survey in place to build an understanding of data needs

Periodic Update	Review of the landscape – understanding the change in stakeholder types and/or needs

A strategy refresh allows us to formally document the change in our stakeholders' landscape, review digital persona definitions and update the user stories.

Roadmap & Action Plan	Roadmap illustrates the investment made by Cadent to deliver the value to stakeholders

Our digitalisation roadmap defines digital investment themes and our Digitalisation Action Plan explains progress of delivery of the milestones and features.

User Stories	Development of a user story for each digital persona ensures that a value proposition is clearly articulated

The purpose of the user story is to articulate how our product or service provides value to the stakeholders.

Stakeholder Engagement Methodology

Our engagement methodology has been designed to best reflect a variety of Cadent stakeholders

Cadent Engagement	Our continuous engagement with our stakeholders has often taken the form of consultations and focus groups	We utilise a variety of channels and methods, from direct engagements in the form of consultations and cross sector focus groups (Engagement documents) to indirect gathering of feedback and needs through conversations and interviews with Cadent relationship owners. Findings from Cadent's stakeholder engagement is additionally assured by our Customer Challenge Group. Our proposed 2026-2031 business plan has been shaped based on the needs from our stakeholders.
Industry Voices	Sector events are seen as a great opportunity to participate, learn and discover the needs of stakeholders within and beyond the sector	Through participation in sector events, forums and projects we have the opportunity to collaborate in the fields of: • hydrogen and decarbonisation (Hydrogen Projects - Cadent Gas Ltd), • innovative ways of serving our stakeholders (Innovation - Cadent Gas Ltd) and • making positive differences to the lives of our customers (Responsibility - Cadent Gas Ltd). These first-hand experiences allow our subject-matter-experts to describe and articulate stakeholders' evolving data and digital needs.
Digitalisation Focused Engagement	We have a digital platform and survey in place to build an understanding of data needs	We have asked stakeholders about their needs for Cadent Data Assets. Three groups of stakeholders replied: • 53% of responses we have received from our supply chain/delivery partners; • 37% responses from technology consulting organisations; and • 10% from Energy Industry and other Utilities. The vast majority of our stakeholders are interested in Cadent asset data (assets location, material, operation and health) and gas demand (historical and forecast) especially for considerations of energy transition. This has been supported with evidence from the interest in our data through the Open Data Portal. We continue to welcome any data requests and feedback through our Open Data Portal website: https://cadentgas.opendatasoft.com/pages/feedback-and-engagement/

Digitalisation Focused Engagement

Recognising the growing need for visibility and accessibility of our Data Products

In 2024 we responded to 41 data sharing requests (until October 2024) from our stakeholders. Since the start of RIIO-2 in 2021 we have responded to 107 direct data sharing requests, observing a growing demand for energy data from Cadent.

Requests for our data come from different stakeholders, including Government Authorities and Policy Makers, Supply chain and wider Energy Industry or Other Utilities.

We have, to date, supported to date 23 Local Governments in their efforts to develop Local Area Energy Plans (LEAP).

Figure 1 summarises the type of data requests and evidences the highest stakeholder interest is for gas network and gas demand information.

Data Assets Type	Number of requests	Percentage of requests in comparison to overall number*
Gas Asset location data and their main characteristics	89	83%
Gas Demand data	30	28%
Network Operations data	14	12%
Non-Cadent Owned data	2	2%

Figure 1: Data Sharing requests by Data Asset type

*Some of the Data Sharing requests consisted of multiple Data Assets

Gas Data & Digitalisation Collaboration Group

We chair the Gas Data & Digitalisation Collaboration Group, which was formed by all Gas Distribution Networks and National Gas to collaborate in efforts to make gas data more accessible and interoperable for our Stakeholders, and collectively mature our approach and compliance with the Data Best Practice guidance. As part of this group, we started regular engagement with NESO in relation to the development of Data Sharing Infrastructure (DSI).

Throughout the RIIO-2 period we have been a member of the Energy Network Association's Data & Digitalisation Steering Group, working closely with other electricity and gas networks on the adoption of Data Best Practice principles with regular attendance from the UK Research and Innovation (UKRI), Ofgem and DESNZ.
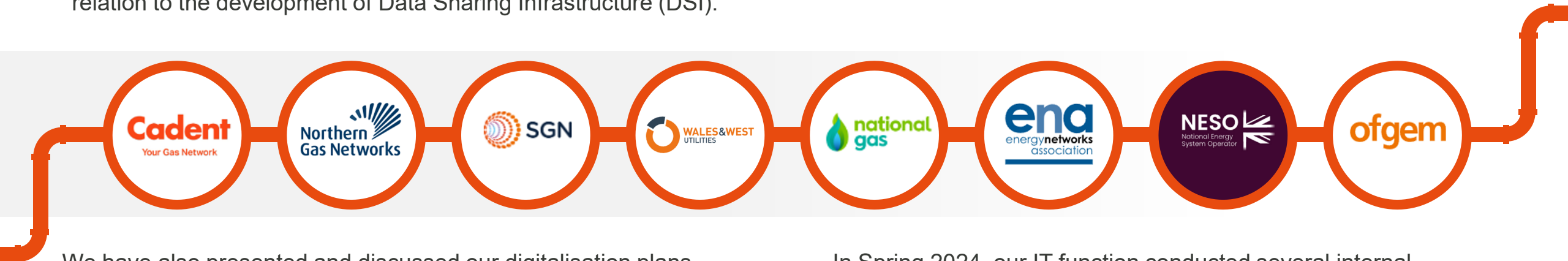
We have also presented and discussed our digitalisation plans with our CCG, ensuring that the outcomes and ambitions are proportionate and tailored to the digital needs of our colleagues, customers and communities.

In Spring 2024, our IT function conducted several internal workshops to develop the foundations for the IT and Digitalisation Investments presented in our 2026-2031 business plan. The data needs of our internal staff have been used to shape digital persona profiles for our colleagues and placed next to data needs of our communities and customers.

Industry Voices

Our staff regularly participate in sector events, forums and cross sector projects in areas of future energy, decarbonisation, innovation and safeguarding.

Our staff share their insights and priorities from stakeholders they interact with. These first-hand experiences allow our subject- matter-experts to describe and articulate needs of their stakeholders and translate them into our user stories, ensuring that our digital personas evolve with growing data needs from the industry.

Stakeholder Survey

In 2023, we issued a digital survey to 442 organisations and partners to ask about experiences and needs for our data, and built a Top 5 most requested Data Asset types to form our priorities for the Open Data Portal investment for the last 2 years of the RIIO-2 period.

We continue to be open for requests and feedback from our stakeholders through the Open Data feedback mechanism available on our dedicated Open Data Portal.

https://cadentgas.opendatasoft.com/pages/feedback-and-engagement/

Data Assets Type	Percentage of responses indicating interest in Data Asset Type*	Data Asset available on Cadent Open Data Portal in October 2024
Gas Assets location main characteristics	95%	Y
Cadent Network Boundaries	89%	Y
Operational Data	58%	N
Asset Health Data	53%	N
Gas Demand Data	53%	Y

Figure 2: Demand for Cadent Data Assets from Stakeholder Survey

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Digitalisation Strategy December 2024

Anticipated Changes to Stakeholder Engagement Methodology in RIIO-3

One of the main current investments in the digitalisation space is the development and launch of our Open Data Portal to allow stakeholders to self-serve Cadent Data Assets.

This digital service will provide us with new valuable insights into stakeholder needs for our Data Assets.

Since the launch of the portal in early October 2024, we have already recorded initial self-service activities on the portal:

Number of downloaded Data Assets from Cadent Open Data Portal	Number of downloads	Percentage of downloads in comparison to overall number
Gas Asset location data and their main characteristics	32	65%
Gas Demand data	1	2%
Network Operations data	16	33%

Figure 3: Number of downloads from Open Data Portal by type

This service will continue to give us insights on the behaviour and trends of our Data Users:

- Statistics of stakeholder visits and types of organisations they represent

- Data Assets that are browsed and downloaded

Our Open Data Portal has the functionality to communicate with users, and we will be exploring this feature in the last year of the RIIO-2 period, potentially replacing the current communication method.

We also plan to explore the concept of supporting future releases of significant Data Assets on the Open Portal with online briefings or targeted announcements.

We anticipate that the Open Data Portal will significantly enhance our stakeholder engagement experience in direct digital engagement.

We are committed to sustain the three-dimensional stakeholder engagement methodology, as we believe it provides a comprehensive understanding of stakeholder needs; addressing both direct and indirect forms of engagement that is well suited for our diverse stakeholder community.

Delivering for our Customers

Applying digital design thinking to systemise the needs of our Customers

We are delivering gas to 11+ million homes and businesses across our North West, West Midlands, Eastern and North London networks. We recognise the diversity of our customers and have developed four distinct digital persona profiles to systemise the needs expressed by our customers.

Individual and Business Customers

"I want a safe, reliable and affordable service"

Priorities

- Affordable, transparent and fair bills
- A reliable and resilient energy supply
- Visibility of any planned work in my area, disruption to services and a quick response to fixing the issue
- Support customers in greater need with particular care during disruptions

Customers in Vulnerable Situations

"I want a reliable energy source, feel safe and independent in my home"

Priorities

- Dedicated support throughout any outage to ensure my needs are met
- Clear communication in a format tailored for me and quick responses to my questions and needs
- A reliable and resilient energy source
- Affordable and fair bills, in a format tailored to my needs

Low Carbon Connecting Parties

"I want to be able to quickly and easily connect low carbon technologies at the lowest cost"

Priorities

- Low cost, rapid and simple connections processes consistent across all Gas Distribution Networks
- Visibility of Cadent's network capacity and network planning so I can understand where best to connect
- Collaborate on innovation projects and the journey to net zero

Industrial Customers

"I need to make the right investments for the future of the business"

Priorities

- Collaborate in defining the future energy supply and decarbonisation plans
- Visibility of Cadent`s network planning and its readiness to supply low carbon energy
- Continue to have a secure and reliable energy supply at a fair price

Cadent Gas Ltd 2024

Cadent

Digitalisation Strategy December 2024

Individual and Business Customers

"I want a safe, reliable and affordable service"

Today, we provide a safe and reliable gas network to 11+ million homes and businesses. We have three main points of contact with our customers;- if they report a smell of gas, when they need to be connected to or disconnected from our network, or when our street works may impact them.

The primary need of our customers is a safe, reliable and affordable service. Recent changes in energy prices brought serious financial challenges to some of our customers, therefore fair and transparent bills are seen as the top priority.

Our customers also want to use their preferred method of contact when engaging with us, and transparent processes and information about any disruptions in their areas. 45% of our customers searched online for help; journeys starting online set an expectation of a continuation through their channel of choice. With the growing interest and care about our environment, our customers want to understand how we can help them to decarbonise and access low carbon energy.

Enable channels suitable to my needs

Choice in contact method and easy access to Cadent services

- Automated self-service channel
- Ability to find help and support via online channel
- Quickly answered calls via our contact centre
- Consistent and accurate information in an understandable format

Identification and personalisation

Personalised interactions:

- Relevant communication about interruptions or other forms of disruption
- Regular updates when things change and proactive offers of solution to inconvenience caused
- Visibility of gas assets around customer's location

Convenient process

Tailored services:

- Visibility of planned work or disruption in customer's area
- Quick response to fixing issues
- Tools and resources to self-serve over specialist visits where possible
- Convenient online process to problem resolution

Green Energy

- A reliable energy supply with no disruption
- Affordable and transparent bills
- Help in understanding customer's role and choices in decarbonisation
- Easily accessible and transparent information on energy transition and the role of gas in the future

Customers in Vulnerable Situations

"I want a reliable energy source, feel safe and independent in my home"

We know our customers' needs are varied; and some households need extra help to maintain a safe and warm home. This can be due to financial, social, health or environmental factors and our obligation is to identify additional services to support our customers who need them.

Today we provide an accessible and personalised service to customers in Vulnerable Situations.
Over 7 million homes in Britain are registered on the gas suppliers' Priority Service Registers (https://cadentgas.com/help-advice/supporting-our-customers/priority-services-register).
We constantly strive to understand the range of circumstances that can lead to permanent or temporary vulnerability and how we can best support customers and colleagues in providing the best possible experience whilst interacting with us.

Enable channels suitable to my needs

- Offering traditional and digital channels of communication
- Choice of channel for proactive engagement based on my needs
- Choice of channel for notification about planned work and disruption
- Easy and transparent information about planned interruptions in gas supply

Reliable and affordable service

- Affordable and transparent bills
- Transparent and easy ways to join the Priority Service Register and associated support schemes and advice
- Proactive support during outages
- Awareness regarding special services and how to access them

Tailored Support

- Dedicated support throughout any outage to ensure specific needs are met
- Identification to quickly deliver personalised and tailored products and services
- Evolve the support schemes to all who need support
- To include proactive support for new connections

Low Carbon Connecting Parties

"I want to be able to quickly and easily connect low carbon technologies at the lowest cost"

As renewable energy becomes more important in the efforts to preserve our planet and its ecosystem, there are constant innovations in the world of science and the development of new energy sources.

We are involved in several hydrogen projects in partnership with the energy sector and lead in the areas of hydrogen blending and industrial and transport decarbonisation. The HyNet North West Hydrogen Pipeline project gives the opportunity for development of the first 100% hydrogen pipeline (https://hynet.co.uk/). The Hydrogen Valley project is a demonstration of how the current network can be repurposed and connect hydrogen producers and industrial off-takes across the Hydrogen Valley project region (https://www.hydrogenvalley.co.uk/).

Our gas network is already connected to 45 different biomethane production sites and provide heat for more than a quarter of a million homes. We are looking to significantly grow the number of connections over the next few years (https://cadentgas.com/future-of-gas/biomethane).

Tailored Support

Simple and efficient connections process:

- Offering customers both digital and non-digital processes for the end-to-end connections journey
- Support through the connections process to provide connection options and solutions

Reliable and affordable service

An open environment, collaborating to deliver net zero:

- Collaboration and open environment to help support both short and longer-term investment decision making
- Collaboration with wider industry stakeholders to deliver innovative solutions for net zero

Convenient process

Simple and efficient process:

- Offering efficient tools to understand entry connection conditions, capacity constraints and cost estimates
- Consistency of the requirements and process across other distribution networks

Information Sharing

Access to relevant network information:

- Relevant assets data and estimate of infrastructure upgrade
- Sharing scenario options for projects and collaborations
- Feasibility studies and safety cases documents

Industrial Customers

"I need to make the right investments for the future of my business"

Our industrial customers are interested in understanding decarbonisation pathways for the regions in which they operate, the impact of energy transition on their businesses and the economic impact of the energy transition.

Industrial customers are interested in renewable energy options, plans for industrial decarbonisations and how they can contribute to the discussions on the transition to net zero in Britain. There are long term economic impacts and investment choices that our industrial customers want to understand and influence. The considerations about future solutions that will keep the industrial clusters connected to the reliable energy sources, impact of the conversion on the stability of their businesses and deployment options are key areas of interest.

At the same time, visibility of low carbon solutions available today and security of gas supply for daily operations continue to be the main priorities for our customers.

Collaborative environment

Access to relevant network information:

- Sharing information on network performance, capacity and other relevant insights to support business decision making
- Collaboration with other utilities and local government in the development of future plans affecting businesses

Tailored Support

Easy access to Cadent:

- Personalised channels for support
- Self-service support options
- Digital channels and automated processes

Convenient process

Simple and efficient processes:

- Automated processes for repetitive activities
- Simple and efficient processes for standardised services
- Dedicated support for more complex enquiries

Green Energy

Support development of future strategy:

- Understand the options and paths for receiving green energy and reduction of carbon footprint
- Support in understanding the impact of energy transition on businesses

Delivering for our Communities

Applying digital design thinking to systemise the needs of our communities

We collaborate very closely with our stakeholders to fulfil our regulatory commitments and licence obligations and aim to be a force for good in society, making a real, sustainable difference to the communities we serve.
We recognise our distinct duties and obligations towards our communities and our role in developing future energy system for all.

Safeguarding Organisations

"I want to support and protect communities"

Priorities
- Affordable bills and support for communities
- Collaboration with the energy sector to provide continuous and reliable energy to customers especially those in fuel poverty
- Collaboration with the energy sector to support inclusivity

Government Authorities and Policy Makers

"I need to ensure that the wider community's interests are met"

Priorities
- Collaboration and visibility of Cadent`s commitments, progress and journey to deliver net zero
- Visibility of network plans, new connections and disruption to service
- Accurate and interoperable data that allow us to understand the energy system at a national level

Supply Chain

"I want real time information and collaboration to deliver a better outcome"

Priorities
- Provide open and reliable communication channels to share updates and changes
- Visibility of planned work and requirements for emergencies to deliver a safe and reliable network

Energy Industry and Other Utilities

"I want to shape the future of the energy system"

Priorities
- Access to relevant gas network data through open data
- Collaborate to define the needs to enable net zero targets
- Visibility of planned work that will affect communities and put pressure on other energy networks

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Safeguarding Organisations

"I want to support and protect communities"

We strive to be a force for good within the communities we serve, helping customers and stakeholders to benefit from easier warmth, fairer opportunities and a greener society.

We are actively engaged in supporting charities and safeguarding partners, striving to help households improve their financial wellbeing and become more efficient through advice, support and practical measures (https://cadentgas.com/cadent-foundation).
We bring industry participants together and contribute into governance groups in relation to customer safeguarding; being the voice of our community at the National Mental Capacity Forum Leadership Group.
We recognise that organisations supporting our customers often look for strategic, programme and specific project partnerships with us.

Tailored Support

Personalised and tailored products and services that:

- Are supportive of the vulnerable and communities' specific needs
- Offer opportunities to co-create education material, training and communication
- Support joint community engagement

Collaborative environment

A collaborative environment to:

- Develop new services to communities
- Increase accessibility to services
- Promote equity within the energy sector

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Government Authorities and Policy Makers

"I need to ensure that the wider community's interests are met"

The Government is responsible for setting policy for energy sectors, Local and Regional Authorities develop Local Area Energy Plans (LAEP). Regional Energy Strategic Planners (RESP) and the Authority (Ofgem) protect consumers by ensuring they are treated fairly and benefit from a cleaner and greener environment.
We recognise these parties as stakeholders with specific requirements and needs that we are obligated to satisfy.

We work with government authorities on local, regional and national level in efforts to decarbonise the energy system. The Department for Energy Security and net zero Digitalisation Strategy, and the subsequent response to the energy taskforce report on delivering a digitalised energy system, sets out the expected efforts the energy sector should undertake in accelerating net zero through digitalisation.

We are an active voice in shaping the hydrogen role in Britain's future energy system and support local authorities in shaping their decarbonisation plans.

Information Sharing

Access to relevant network information:
- Performance against our business plan commitments.
- Impact of major disruptions on consumers
- To understand future energy transition scenarios

Collaborative environment

An open environment:
- To discuss the required changes within the industry to accelerate net zero efforts
- Innovative on solutions that bring efficiencies to the sector
- Support for LAEP and RESP

Whole System approach

Evidences and inputs on:
- Options and scenarios for long term network planning

Green Energy

Ensuring security of energy supply by minimising digital and physical threats:
- Ensure sector and system resilience and stability

Cadent

Supply Chain

"I want real time information and collaboration to deliver a better outcome"

Cadent consists of four distribution networks, covers a significant geographical area and relies on a wide supply chain for both goods and services. The companies we work with help us create a sustainable and reliable supply chain and we recognise their needs as part of our community.

Our supply chain is an essential component in the energy ecosystem, so we will continue to leverage and collaborate with each other to innovate across the end-to-end value chain of the energy sector.

Through data sharing and innovation, we co-create new products and services that benefit our customers.
Our collaboration brings tangible efficiencies; decreases operational costs and reduces the impact of delivering our essential work for our customers.

Enable channels suitable to my needs	*Information Sharing*	*Live updates*	*Collaborative environment*
Tailored communication channels: • Open and reliable communication channels to share updates and changes	Access to relevant network information: • To enable optimised planning of work execution • Understand changes in the network	Live updates and information: • Access to real time planning updates to enable end to end visibility of the service to provide to customers real-time information	• An environment and tools that enable innovation through joint working

Energy Industry and Other Utilities

"I want to shape the future of the energy system"

The future of the energy sector is influenced and delivered through ongoing collaboration across a broad community of stakeholders. Our partners in the energy sector and other utilities want to work together to address the main challenges of the industry and optimise the ways we work for the benefit of our consumers.

We work in collaboration with peers in the energy sector (Distribution and Transmission Network Operators) and beyond (e.g. water, infrastructure and transportation industries) to explore paths of energy transition and the delivery of net zero ambition.
We continue to collaborate in shaping delivery plans and engage on their execution to deliver better customer outcomes, drive innovation and develop and share best practice between each other.
Our partners within and beyond the energy sector expect us to work in an open and transparent way, co-create new ways of working through joint programmes and industry debate, and invest in sharing our data and insight to unlock customer value.

Whole System approach

A whole systems approach to:

- Understand the resilience of energy system and reduce disruption and cost
- Effective planning of investments to provide the best value to the consumers

Information Sharing

Access to relevant network information:

- Sharing of network information both in real-time, to understand disruptions, and future looking decarbonisation plans
- Data which is interoperable between energy networks
- Data shared through common channels

Collaborative environment

An open environment:

- To support both short- and longer-term investment decision-making to deliver innovative solutions and pathways for net zero
- To exchange ideas and look for synergies between investments

Tailored Support

Access to:

- Relevant network and asset information to boost effectiveness of their services
- Best practice and adopted methodologies to collaborate on common standards across industry
- Learnings and discoveries from chosen projects to capitalise on our experiences

Delivering for our Colleagues

Our Engineering colleagues ensure our network operates in safe and secure manner

Engineering staff are at the heart of our gas network operation. They control and manage the pressure system within our network to ensure we are meeting gas demand in a safe and secure manner. They are responsible for oversight and safety of any intervention being performed at any of our gas sites or to gas assets, through development of engineering polices, standards and processes that meet expectations of Health and Safety Executive.

Energy Control Centre Specialist

"I need to understand the performance of our network at any time to ensure we operate in a safe and secure manner."

Priorities

- Visibility of the network performance in real-time and any unplanned interruptions
- Accurately predict future demand of gas and forecasting models

Engineering Team Specialist

"I want to effectively maintain and manage the integrity of our network assets"

Priorities

- Comfortable access to engineering documentation, plans and data
- Ability to predict and simulate events on our network

Energy Operations Specialist

"I want to perform required activities on our network assets in the shortest time possible"

Priorities

- Explore use of analytics to identify preventative maintenance opportunities
- New tools and processes to reduce intervention time on site

Energy Control Centre Specialist

"I need to understand the performance of our network at any time to ensure we operate in a safe and secure manner."

Energy Control Centre Specialists monitor high pressure gas network performance.They respond to alerts, coordinating with Energy Operations field teams to ensure the continuous safe and reliable supply of gas to customers.

Energy Control Centre (ECC) team monitor our gas network in real-time to ensure that we are meeting the gas demand from our customers. It is also their responsibility to anticipate future gas demand to ensure resilience of our gas network.

The team triages any alarms flagged by our main network control system to understand if intervention is required and assign work to be completed by Energy Operations team to maintain reliable operation of our network.

Live updates

To perform in my role, I need:
- Live updates from alarms and sensors
- Visibility of the network performance in real-time and any unplanned interruptions
- Streamlined processes to assign work to field teams

Information Sharing

In my role I need access to:
- Data about construction and condition of our gas assets
- Information about planned works
- The location of field teams and status of faults resolution

Whole System approach

To increase network resilience, I want:
- Access to weather and environmental information to understand the impact of climate on the resilience of the network
- The ability to detect abnormal behaviour of any asset in our network

Collaborative environment

I need to work with others to:
- Accurately predict future demand of gas and forecasting models
- Ensure integrity of data between control system, planning assumptions and work execution
- Have visibility and understanding of lower pressure network behaviour and constraints

Engineering Team Specialist

"I want to effectively maintain and manage the integrity of our network assets"

The Engineering team is responsible for the engineering framework of policy, procedures, and competence and compliance to manage the integrity and functionality of our network assets. They provide technical expertise and assistance to ensure functional safety of our network by appropriate management, design, installation and operation of the network assets that reduce the risk of a major incident.

The Engineering team is our technical authority for all components of the engineering framework applicable to the high-pressure network and local distribution network, standards and engineering discipline throughout the electrical, instrumentation, telecoms, gas quality assets lifecycle and standards for emergency response and safe control of operations.
This includes both current transportation of natural gas and emerging hydrogen transportation requirements.
The team provides subject matter expertise and second tier technical support to other teams in our organisation and undertakes key interactions with the Health and Safety Executive (HSE) to demonstrate compliance with regulations.

Information Sharing

To perform in my role, I need:
- Access to engineering documentation (e.g. site drawings, diagrams) and existing technical and maintenance asset plans and data
- Access to historical and new sensor, environmental and fault data
- Access to process documents and engineering specifications

Tailored tools

To ensure safety of our network assets, I need to:
- Diagnose and model the cause of the asset failure supported by diagnostic data
- Analyse asset performance
- Detect anomalies in network asset behaviour and calibrate the assets

Convenient process

To manage our compliance with regulations, I need:
- A robust and accessible document management system that links to engineering documentation, maintenance processes and handover plans

Whole System approach

To support our investment strategies, I need:
- The ability to predict and simulate events on our network to ensure competency within the organisation to react to rare events and support development of proactive maintenance plans
- To research new equipment and technology to effectively manage obsolesce in our network

Energy Operations Specialist

"I want to perform required activities on our network assets in the shortest time possible"

The Energy Operations teams develop plans and perform routine maintenance activities. They react to alarms and resolve issues on our network to maintain the operation of our network.

The team is responsible for managing the network asset health through development, with collaboration with stakeholders, regular maintenance plans.

This includes sourcing network assets parts and spares, asset renewals and decommissioning activities.

The objective of the team is to minimise the downtime of our network; therefore, Energy Operation Specialists are looking for opportunities to reduce reactive work and maximise the time focused on improving the network performance with proactive maintenance plans.

Information Sharing

To perform my role, I need to:
- Access gas asset construction, performance and diagnostic data to execute the maintenance activities
- Understand the construction, layout and design of our gas sites to ensure fast and right-first-time resolution to any issues

Tailored tools

To reduce the downtime of our network I want:
- The ability to predict the failure of our assets before they occur to minimise the network down time and develop proactive maintenance plans
- Seamless self-service access to engineering schemes and data to perform my tasks quickly

Convenient process

To optimise my performance, I want to:
- Have visibility of equipment stock levels and easy access to photos and videos of the sites to minimise the time spent on site
- Understand the leakage across the network areas to optimise the site visits

Live updates

To support development of proactive maintenance regime, I want to:
- Explore use of analytics to identify preventative maintenance opportunities
- Remotely access the sites to resolve issues to reduce time on site
- Have visibility of real-time controls performance

Delivering for our Colleagues

Enabling data driven insights and decision-making

We have a number of colleagues who shape our investment proposals and plans, analyse our networks' resilience and evaluate plans to fulfil the commitments and obligations we have to our customers and communities. We recognise their expertise and contribution towards shaping the future of the energy system and optimising the way our organisation work and operates.

Future Energy Specialist

" I want to explore future energy pathways and understand what it means to our investments and our customers"

Priorities
- Provide data, insights and subject matter expertise to our communities to support their net zero plans
- Easily compare different energy scenarios and quantify potential implications for our organisation and our customers

Climate Resilience Specialist

"I need to understand the physical impact of climate disruptions to enable the safe and reliable operation of our network"

Priorities
I want to understand:
- levels of climate risk across our network in the short and long term
- dependencies we have with other systems which may also be impacted by climate change

Asset Investment Specialist

"I need to understand the appropriate balance of investment in our network in the short and long term to maintain a safe and reliable gas network"

Priorities
- Ability to develop robust investment plans flexing assumptions and potential changes in gas-supply demand
- Unify the tools and approach for investment planning at different planning horizons

Future Energy Specialist

"I want to explore future energy pathways and understand what it means to our investments and our customers"

Future Energy Specialists work with our communities (e.g. NESO, DESNZ and Local Authorities) to shape proposed future energy pathways and support development of localised net zero plans.
Their role is to provide critical information and expertise regarding information about our gas network, quantify what the introduction of additional low carbon gases might mean to our customers and understand the role for our gas distribution network in the future energy system.

Our specialists understand the potential and implications of new sources of energy such as hydrogen and biomethane to the energy mix and how these can change gas networks over time.

They provide expertise and guidance on considerations for long term asset investments and actively collaborate with NESO and Regional Energy Strategic Planners (RESP), providing data and expertise to refine the Future Energy Scenarios (FES) and ensure these realistically reflect the complexities of the energy transition at a regional basis.

Collaborative environment

To perform my role, I need:

- To have appropriate tools to educate, explain and evaluate local and regional planning scenarios
- To provide data and insights to support accurate projections of Future Energy Scenarios
- Convenient solutions to share data and plans with Local Authorities to support their LAEP and RESP

Information Sharing

I need to have access to solutions that allow me to:

- Enable effective collaboration with my stakeholders
- Leverage high quality Data Assets describing our network operations and network assets
- Access third party data and securely use them to support scenario modelling and analysis

Tailored tools

Accessible platforms that allow me to:

- Scale and evolve scenario modelling parameters
- Introduce new global and local assumptions
- Recalculate the scenarios quickly and consistently
- Share chosen outputs from the modelling with others

Cadent

Climate Resilience Specialist

"I need to understand the physical impact of climate disruptions to enable the safe and reliable operation of our network"

There is a need to understand and quantify climate risk exposure to ensure our asset health plans and interventions appropriately mitigate our risk, and our continuity plans, environmental frameworks and reporting are in place so we can provide transparency and visibility of the impact of climate change on the resilience of the operation of our network.

Uncertain and changing climate events bring the risk of more disruption and damage to our assets than our historically stable climate. Subsequently, continuing to meet our legal obligations requires us to adapt to climate change. We want to develop a systematic response and clear strategy that allows us to identify, quantify and mitigate these new risks to ensure safe and resilient operation and investment in our network.

Further longer-term granularity of the effects of the changing climate will help us to improve accuracy of our forecasts to better understand how our network is likely to change in the future.

Collaborative environment

To perform in my role, I need:

- Introduce a common language and framework to describe climate change risks and potential implications (e.g. in asset investment, supply chain and on customers)
- Develop climate resilience reporting standards make our information accessible

Tailored tools

To achieve my obligations, I require:

- Tools which allow us to model the risk by individual networks and local geographic areas
- Platforms to store and organise climate related data to be used for modelling
- Local environment data easily interoperable with our network and asset data

Whole System approach

A collaborative environment to:

- Ensure that climate scenarios are easily integrated with asset management plans
- That other Data Users potentially impacted by climate change can access and use the model outputs

Convenient process

An efficient process to :

- Provide modelling outputs to support the environmental framework
- Systemise reporting against climate risk and impact on our environmental plan

Asset Investment Specialist

"I need to understand the appropriate balance of investment in our network in the short and long terms to maintain a safe and reliable gas network"

Our Asset Investment team is responsible for identifying and planning the execution of investments we make in our network assets to efficiently deliver a safe, secure and resilient distribution network now and in the future.

Our Asset Management community's ambition is to create and maintain a 10-year rolling investment plan and have flexibility to adjust the plan to account for changing stakeholders' needs and possible scenarios, as we shape the UK future energy sector and identify new opportunities to address network resilience risks while ensuring investments at optimal cost.

We want to utilise more of our existing data and new information to easily refresh and expand our models to help us shape a proactive operating model in our organisation focusing on operational excellence and balanced investments cost.

Information Sharing

To perform in my role, I need:
- Interoperable Data Assets that describe our network, its health and condition by geographic regions and by gas asset types.
- Detailed history of failures, risk profiles and interventions made to our gas assets
- Robust financial data that allow to forecast the cost of future investments

Tailored tools

To achieve my obligations, I require:
- Tools that can accommodate our network models, financial assumptions and quantify the risk factors to be considered in our investment plans
- Visibility of the entire gas asset portfolio, investment forecasts and data that explains how we perform against the plans in regular intervals to allow us to change elements of our plans if required

Collaborative environment

A collaborative environment to:
- Share our plans with the wider Asset Management community in our organisation and our partners to drive change in ways of working in our organisation
- Incorporate new data to continuously evolve and adapt our investment strategies and decisions

Whole System approach

To accelerate our efforts towards net zero, I need to:
- Have visibility of, and easy access to, future energy scenarios and climate risk scenarios for stress-testing our investment plans

Delivering for our Colleagues

Our colleagues interact directly with our Customers to keep them safe and well informed.

We execute our commitments and obligations by attending our assets when interventions are required, keeping our customers informed, supported and safe and regularly report on our performance and update our Stakeholders on how we are meeting our commitments and obligations.
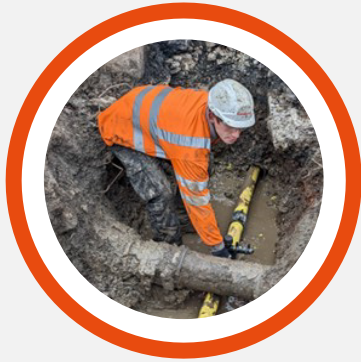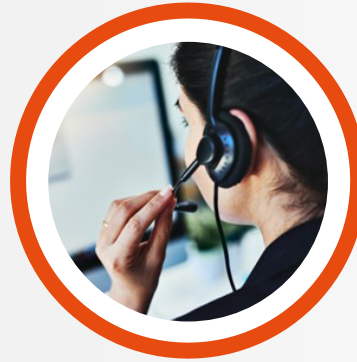
Field Engineer

"I want to have the right tools and support to deliver first-time-right resolution"

Priorities
- Accurate information to execute jobs efficiently
- Right tools to easily capture required details about the work status

Customer Experience Specialist

"I want to quickly and easily provide assistance to Customers and ensure they are safe"

Priorities
- Information about customer contact history and status to ensure I can provide relevant updates
- Visibility of any current interventions and interruptions' status in the local area that might be affecting customer

Reporting Specialist

"I need the right data and tools that allow me to describe how we are meeting our obligations and commitments"

Priorities
- High quality Data Products describing organisational and regulatory Key Performance Indicators
- Training and skills to feel confident in business intelligence and self-serve analytics

Field Engineer

"I want to have the right tools and support to deliver a first-time-right resolution"

Our Field Engineers attend emergency response situations and conduct repairs on our gas networks. We complete the work for large scale Mains Replacement programmes (Repex) through our Local Delivery Partners network.
The Field Engineers spend most of their time performing work directly on our gas assets, working in, sometimes, challenging on-site conditions.

Our Field Force community is required to perform their work in line with safety, regulatory and legal obligations.
They need to easily access information that help them execute their work in compliance with gas engineering practices.
Field Engineers are also responsible for providing information and details about the work execution, gas asset status and condition details, safety checks and test performed, and people and properties affected by any interruption of gas supply.
Their first-time-right resolution of interventions heavily rely on accurate information to be on hand.

Tailored tools

To perform in my role, I need to:
- Understand which gas assets are at any given location, how they are constructed and what work is required to be completed
- Have access to historical maintenance and service records
- Easy way to correctly record details of the work performed

Information Sharing

To achieve my responsibilities, I require:
- The right information about affected properties and customers
- The ability to visualise the gas network elements and procedure details if I require additional information
- Convenient way of sharing details of my work status with others

Live updates

To ensure first-time resolution, I need:
- To be in contact with my colleagues and supervisors
- Solutions that allow me to reduce my manual data inputs and convenient ways of capturing work details that can reduce time spent at a given location.

Convenient process

I need convenient processes to:
- Ensure I travel to a designated location well prepared
- have the right equipment, tools and parts available to execute my work

Customer Experience Specialist

"I want to quickly and easily provide assistance to customers and ensure they are safe"

Our Customer Experience Centre focuses on providing a quality experience to all our customers.
Our Customer Centre is responsible for operating the National Gas Emergency line 24 hours a day, 365 days a year.
The Dispatch team is responsible for allocation of our Field Engineers as soon as possible to make our customers safe.
The Connection team ensures that gas services are delivered to customers and the Customer Insight team is handling customer enquiries and complaints.

Our colleagues in the Customer Experience Centre are often the first point of contact for our customers. They strive to keep customers safe and well informed.
Their success is dependent on the availability of communication platforms and systems that provide visibility of the work near the customer's location.

Live updates

To perform in my role, I need:

- Access to real time information about our network operations in the customer's local area and timely updates to keep customers well informed
- Information about customer contact history and status to ensure I can provide relevant updates

Information Sharing

To provide excellent service, I need to:

- Have consistent information regardless of customer's choice of communication channel
- Have easy access to materials that can guide me through more complex customer's interactions

Tailored tools

- Understand customer's preferred contact channels and be able to respond and deliver the required support through the chosen channel
- Resilient communication platforms and telephony service, so I am always available
- Ability to deliver the same quality experience across digital and in personal communication channels

Reporting Specialist

"I need the right data and tools to allow me to understand our current performance and how we are meeting our obligations and commitments"

As a regulated organisation we have a Licence which specifies how we need to evidence that we meet our obligations and fulfil commitments we make to our stakeholders. Every year we share our cost and volume submission with our regulator to explain how we are performing on our obligations. We also make other statistics and Key Performance Indicators (KPI) available to our stakeholders to evidence our safety, environmental and resilience commitments.

A significant number of our colleagues have responsibilities to prepare relevant operational and regulatory reports to provide transparency of Cadent's performance.

Reporting is an area that can be significantly automated and digitalised to decrease the effort involved in the preparation and curation of data required to feature in our regular reporting, enabling a shift in focus for our data experts to interpret the information presented to them and understand how to promote data-driven decision making in our organisation.

Collaborative environment

To deliver my commitments, I need:

- The right platforms to access data products with appropriate tools to allow me to interrogate the results, and perform additional analysis quickly and confidently
- To understand what data is available and accessible to me and request changes to be made in timely manner to data I need

Tailored tools

To perform my responsibilities well, I need:

- High quality data from our IT systems and from our partners, aggregated to the definition of prescribed KPIs
- Fully automated and auditable processes and workflows that generate the right information for me at the required frequency

Information Sharing

- I want the same data to be available in different tools I interact with
- I want to be assured that data I am responsible for is visible only to those who require access to this information
- I want to be able to reuse the same data multiple times for different purposes

4 | Our Digitalisation Roadmap

Cadent

Digitalisation at Cadent

Digitalisation in the Energy Sector

In 2022, the Energy Digitalisation Taskforce commissioned by the Government, Ofgem and Innovate UK published a report describing the necessity and recommendations to deeply digitalise the energy system. The recommendations set out in the report "Delivering a Digitalised Energy System*" has shaped Cadent's Digitalisation Framework, driving the approach to our Digitalisation Framework and definition of digitalisation investments at Cadent.

Adopt digital security measures

Recognise data based, virtual solutions

Development and deployment of Digital Spine solution
(Data Sharing Infrastructure)

Digital culture embedded throughout the sector

*https://es.catapult.org.uk/report/delivering-a-digitalised-energy-system/
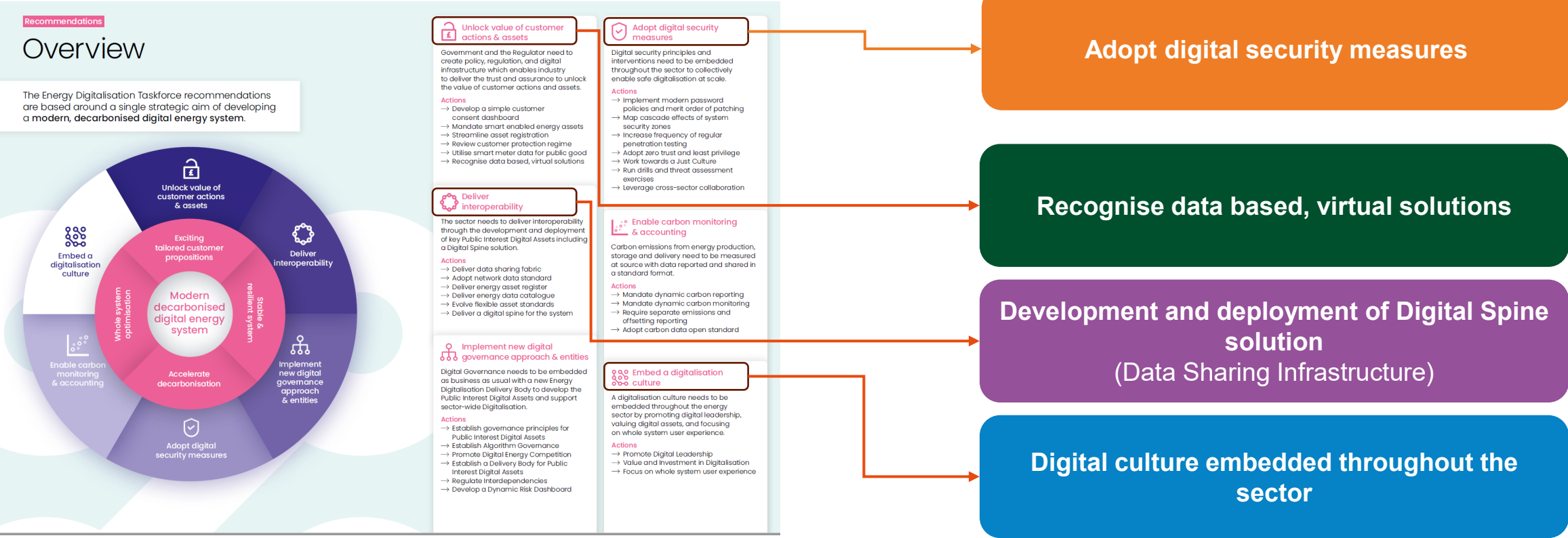
Our Digitalisation Framework

Our Digitalisation Framework defines three main investment themes underpinned by cyber security principles

Interoperability

Breaking down the silos

Interoperability is key to increase safety, security, resilience and efficiency of the energy system. There is value in breaking down the existing siloes within and between organisations and harnessing the emerging interactions of different digital assets.

Suitable digital standards, tools and platforms are required to realise the vision of an efficient distributed energy system.

Data & Digital Literacy

Setting up our people for success

Delivery of a digital energy system requires digitalisation culture to be embedded within organisations.

Data and Digital competencies, predominantly required within Information Technology and Data functions, need to grow in all areas of the organisation to enable effective management of a digital system.

Open Data

Enabling data driven decision making

Access to good quality data is a fundamental requirement of digital innovation, both internally within the organisation and across the sector.

The energy data needs to be available through appropriate solutions and services tailored to different needs of energy Data Users.

Cyber Security Principles

Defence in Depth — *Secure by Design* — *Zero Trust Architecture* — *Governance* — *Collaboration* — *User Awareness*

Role of Security Strategy in our approach to digitalisation

Key Security principles at Cadent

The core of our Cyber Security Strategy is to adopt a threat-based approach to risk to inform our approach to resilience across our assets and processes and in support of the development of digital Products and Services.

Defence in Depth	Secure by Design	Zero Trust Architecture	Governance	Collaboration	User Awareness
Defensive measures are layered throughout our systems and networks to increase redundancy and minimise the impact of a single point of failure.	Security is built into the design of new systems from the outset rather than as part of a review and transition to operations. A secure architecture is an essential requirement and security testing is conducted throughout development lifecycles.	The principle of zero trust architecture will be a 'North Star' for the management of all identities including Data Users, services and devices. Inherent trust in the network is removed so each identity request should be assumed hostile and verified based on policy.	Governance controls are effective in directing our approach to cyber security with clear responsibilities, goals and risk appetite. Published frameworks are used to continually improve our security management system such as NIST and ISO27001.	We take a collaborative approach to cyber security to strengthen all our defences. Strong relationships are built with government, industry peers, regulatory bodies, key suppliers and academia.	People should be considered the strongest link in security. A well informed and vigilant workforce will provide a strong first line defence against threats, improve cyber risk management and overall organisational resilience.

Interoperability Theme – Investments

Interoperability investments focus on data platforms and tools that allow our colleagues to organise and store different types of energy data and integration efforts to ensure that our energy data is made available to a range of our stakeholders for use through digital Products and Services.

Interoperability

Breaking down the silos

Interoperability is key to increasing safety, security, resilience and efficiency of the energy system. There is value in breaking down the existing siloes within and between organisations and harnessing the emerging interactions of different digital assets.

Suitable digital standards, tools and platforms are required to realise the vision of an efficient distributed energy system.

Categories of investments within the interoperability workstream:

- Gas network data standards
- Energy Data Catalogue
- Digital spine for the system
- Internal data architecture & integration

We have invested so far in:

- Foundational data platforms that allow us to build reusable enterprise data models – in line with decomposable target data architecture that we have adopted in our organisation - to ensure that each of our Data Assets have clear definition and supporting information for Data Users. We will continue developing our Data Assets in core platforms to enrich the set of our Data Assets while ensuring that accompanying standards and definitions are appropriately governed within our organisation

- We are collaborating with other Gas Distribution Networks, through the Gas Data & Digitalisation Collaboration Group, to compare the definitions of Data Assets in our organisations to understand opportunities for simplification and standardisation of definitions and construction of our Data Assets and identify where additional standards are required

We are planning to invest in:

- Expanding data platforms to enable us to prepare new types of Data Assets by introducing capabilities to manage Building Information Model data, analyse the information from Operational Technology (OT) devices and understanding the impact of different scenarios and events on our network

- A common standard shared between Gas Distribution Networks for a Gas Data Information Model to provide to our Stakeholders within and beyond our sector, providing one definition for gas data to simplify and reduce efforts related to modelling gas energy information in other digital solutions

- Connecting to developing Data Sharing Infrastructure in preparation for new data sharing mechanism within energy sector

Interoperability Investment Roadmap

RIIO-3 Start

	FY 25/26	FY 26/27	FY 27/28	FY 28/29	RIIO-3 Yr 4+
Standards for Gas Data	Underground Asset Data Structures comparison between GDNs	Gas Assets + Demand and Supply CIM			
Digital Spine Of Energy System	Development of the DSI gas data related use-cases	Data Preparation Node in Data Sharing Infrastructure (DSI) →			
Energy Data Catalogue	Data Cataloguing Approach and Standard	Evolution of Data Asset Catalogue →			
Delivering Target Data Architecture	Third Party Data Ingestion Standard; Re-usable API library MVP	Expansion of re-usable API library; Mesh Architecture Integration →	Scenario modelling internal capability; OT Analytic Platform	Building Information Model	Asset Risk & Hazard Library

Data & Digital Literacy Theme – Investments

We continue to grow our digitalisation culture by involving our staff at all stages of our investments: from design, through development and ongoing maintenance of Data and Digitalisation (D&D) Products and Services, to building a strong Data User community that maximises the value from digital investment by embedding digital ways of working and exploring Machine Learning (ML) and Artificial Intelligence (AI) capabilities in our core processes and within the wider energy sector.

Data & Digital Literacy

Setting up our people for success

Delivery of a digital energy system requires a digitalisation culture to be embedded within organisations.

Data and Digital competencies, predominantly required within information technology and data functions, need to grow in all areas of the organisation to enable effective management of a digital system.

Categories of investments within data and digital literacy workstream:

- Digital Governance and Risk management models
- Data and Digital Literacy
- Change management and agile mindset
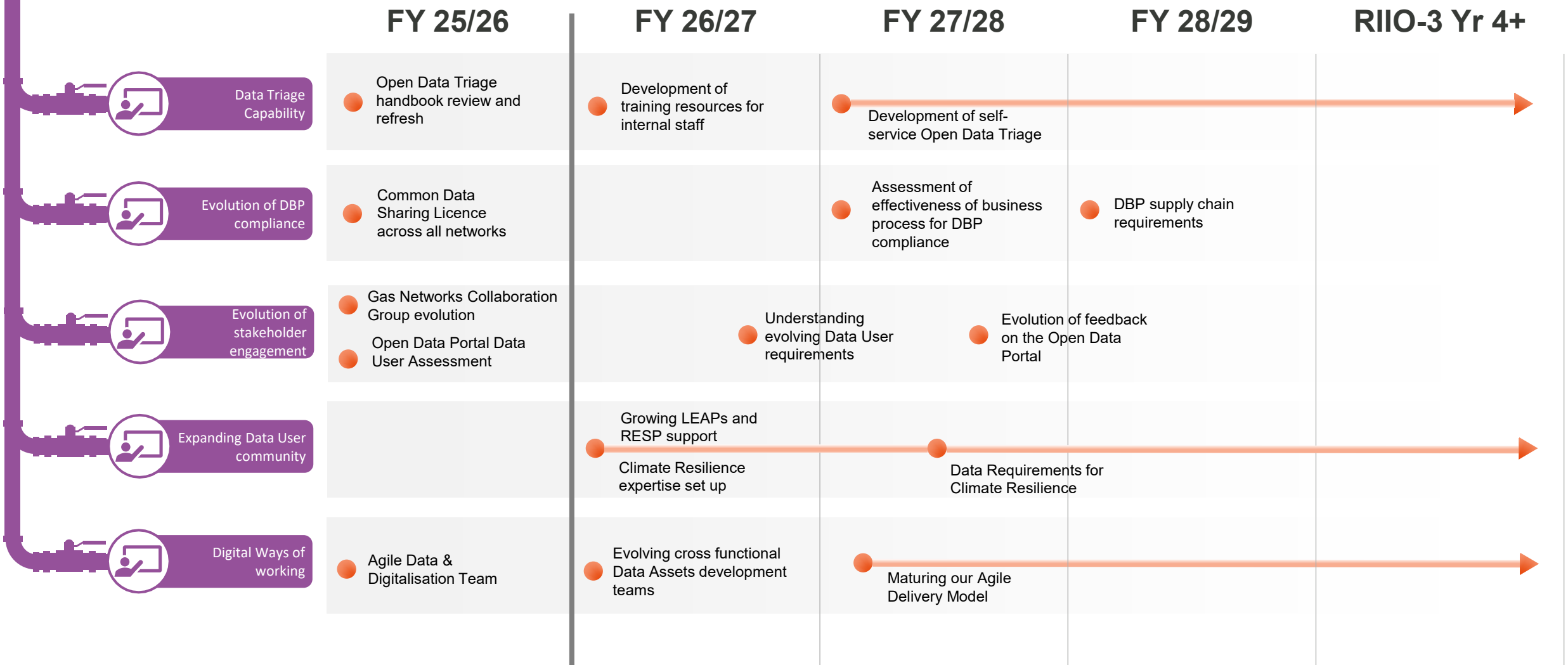
We have invested so far in:

- A dedicated Data and Digitalisation team that develops and maintain our existing data platforms, develops and matures associated reusable enterprise data models definitions and integration
- Agile approach to Product and Services development
- We have grown internal skills to address the need to evolve our compliance with Data Best Practice (DBP) and expanded our Data Governance team to align our internal data management goals and targets with digitalisation requirements
- We have adopted Data Best Practice standards and introduced in the organisation Open Data Triage process, Data Catalogue requirements and Metadata standards

We are planning to invest in:

- Strengthening and expanding our Data Users community to maximise adoption of our digital investments across the organisation and sharing insights with the wider energy sector
- Mature our compliance with Data Best Practice guidance and further educate our internal staff on principles and activities required for effective management of our Data Assets
- Explore how and where ML & AI can help us drive operational efficiency
- We will expand our engagement with external stakeholders: focus on growing the relationships with local authorities to support development of their Local Area Energy Plans (LAEP), development of Regional Energy Strategic Plans (RESP) and whole system planning

Data & Digital Literacy Investment Roadmap

RIIO-3 Start

	FY 25/26	FY 26/27	FY 27/28	FY 28/29	RIIO-3 Yr 4+
Data Triage Capability	Open Data Triage handbook review and refresh	Development of training resources for internal staff	Development of self-service Open Data Triage		
Evolution of DBP compliance	Common Data Sharing Licence across all networks		Assessment of effectiveness of business process for DBP compliance	DBP supply chain requirements	
Evolution of stakeholder engagement	Gas Networks Collaboration Group evolution / Open Data Portal Data User Assessment	Understanding evolving Data User requirements	Evolution of feedback on the Open Data Portal		
Expanding Data User community		Growing LEAPs and RESP support / Climate Resilience expertise set up	Data Requirements for Climate Resilience		
Digital Ways of working	Agile Data & Digitalisation Team	Evolving cross functional Data Assets development teams	Maturing our Agile Delivery Model		

Open Data Theme – Investments

We will invest in development of modern interactive digital interfaces for scenario modelling and geospatial visualisation to enable our staff to shape business strategies based on data driven insight.

Open Data

Enabling data driven decision making

Access to good quality data is a fundamental requirement of digital innovation, both internally within the organisation and across the sector.

The energy data needs to be available through appropriate solutions and services tailored to different needs of energy Data Users.

Categories of investments within open data workstream:

- Open Data Portal
- Digital services for our customers
- Digital partnerships with our community

We have invested so far in:

- Open Data Portal, a digital solution for our stakeholders to access and discover Cadent Data Assets, complemented by supporting information and available for use to Data Users in machine readable formats
- Dedicated sub-page on our website that presents our approach, standards and vision for digital Products and Services
- Field Service Management (FSM) digital solution dedicated to the field to capture data and submit it to our core ERP system

We are planning to invest in:

- Expanding our offering on the Open Data Portal to encompass Data Assets required by our supply chain and wider energy industry and other utilities
- Digital interface for visualisation and simulation of energy transition scenarios in support of development of local authorities, government and regulatory net zero plans and strategies
- Digital interface for assessing climate risk and impact of climate scenarios on our network to support development of resilience plans and strategies
- Digital solution for our Asset Investment team to mature data driven cost and impact analysis of investment options on our network and customers
- Collaborate with Ofgem to modernise and digitalise our Regulatory Reporting process
- Continue development of the digital platform for leakage analytics

Open Data Investment Roadmap

RIIO-3 Start

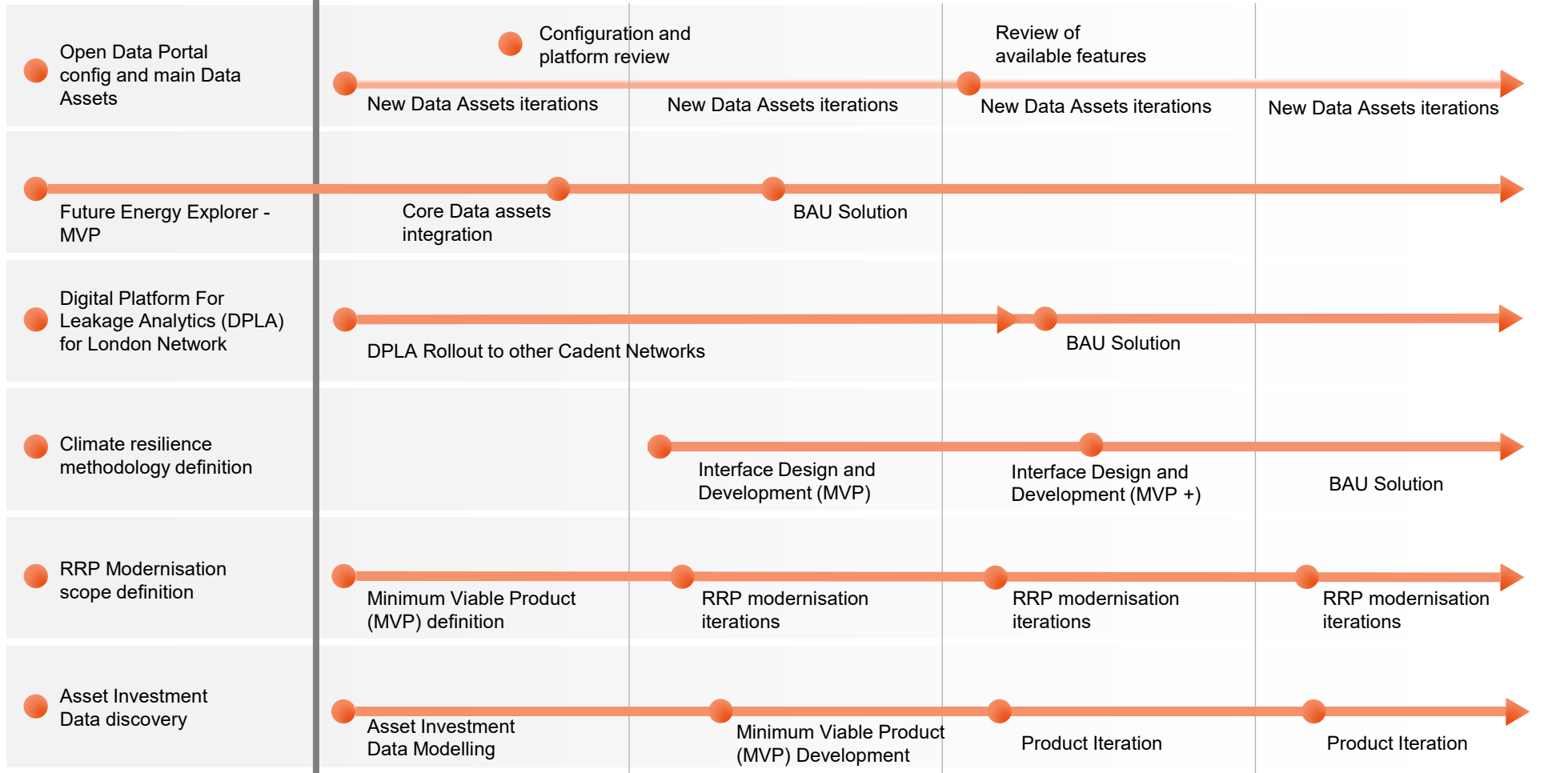|	FY 25/26	FY 26/27	FY 27/28	FY 28/29	RIIO-3 Yr 4+
Cadent Data Assets on Open Data Portal	Open Data Portal config and main Data Assets	Configuration and platform review		Review of available features	
		New Data Assets iterations	New Data Assets iterations	New Data Assets iterations	New Data Assets iterations
Whole system scenarios solution	Future Energy Explorer - MVP	Core Data assets integration	BAU Solution		
Leakage detection and management	Digital Platform For Leakage Analytics (DPLA) for London Network	DPLA Rollout to other Cadent Networks		BAU Solution	
Climate resilience digital interface	Climate resilience methodology definition		Interface Design and Development (MVP)	Interface Design and Development (MVP +)	BAU Solution
RRP Modernisation	RRP Modernisation scope definition	Minimum Viable Product (MVP) definition	RRP modernisation iterations	RRP modernisation iterations	RRP modernisation iterations
Asset Investment Portfolio Management	Asset Investment Data discovery	Asset Investment Data Modelling	Minimum Viable Product (MVP) Development	Product Iteration	Product Iteration

Managing Delivery of our Digitalisation Strategy

We have established governance, operating model and behaviours to deliver our Digitalisation Strategy

How we govern and develop our strategy:

Our Board are recognising the enabling role of digitalisation for our organisation and our Stakeholders. We are providing annual updates on our progress and outcomes included in our Digitalisation Strategy and Action Plan (DSAP).

Twice a year we provide an update to our Executive Team to ensure transparency and visibility of the delivery of our commitments and signposting any major changes in execution of our plans.

This broad senior level sponsorship is possible through aligning the digital enablers (formulated within our Digitalisation Strategy) directly to outcomes and commitments within our business plan.

We also understand the value of external benchmarks and opinions to challenge and build upon our Digitalisation Strategy. Alongside our work with Gartner and our strategic partners to provide benchmarking of our capability, we are welcoming input from Stakeholders and Customer Challenge Group to shape our Digitalisation Strategy.

How we ensure we deliver our digital investments:

In 2021 we established a quarterly Digitalisation Working Group that brings subject-matter experts from different functions in our organisation to share insights, review priorities and steer the scope of our investments to ensure that Data Users and stakeholders priorities are appropriately defined and reflected in our delivery plans.

This group is responsible for scope development of core investments in our Digitalisation Strategy and delivery of actions formulated in our Digitalisation Action Plan.

As we have increased our focus on digital investment, we have adopted an agile approach to development of digital capabilities through our Digital Delivery department within IT.

Our approach is based on the Scaled Agile Framework (SAFe) that promotes alignment, collaboration and iterative delivery of digital Products and Services across a number of agile teams.

This enables us to continuously evolve Digital Products and Services based on demand from our Users aligned to the ambition set out in Digitalisation Strategy.

Ensuring data supports our Digitalisation Strategy:

Our Data and Digitalisation Team places significant value in data governance. It aims to reduce data risk, embed the value of data within our culture and establish leading data management practice, including adoption of the Data Best Practice recommendations.

Our approach to data governance is described within our Information Management Framework, owned by Head of Data & Digitalisation.

This document and associated standards further embed the Presumed Open principle at Cadent and standardise the approach to Data Triage and data sharing, fully aligned with Digital Risk and Security principles.

We are committed to grow our data culture and recognise the need to embrace new behaviours and skills required to embrace digital thinking. We work with nominated Data Owners and Data Stewards across our organisation to evolve organisational maturity, measure our progress on annual basis and shape priorities.

5 | Open to You

Open to You

Keeping the conversation flowing

Being open and transparent is part of our culture, we would welcome hearing from our customers and communities to improve the value we deliver. Your comments and suggestions on our Digitalisation Strategy are valued.

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

Comment on Facebook

Comment on X

Comment on LinkedIn

Comment on Instagram

Comment on TikTok

Email us your feedback

Send us your Feedback by post

Call us on 0800 389 8000