NGN Digitalisation Action Plan

Dec 2024

Welcome to our Digitalisation Action Plan

This is the December 2024 edition of our Action Plan…

The consistent theme that has run through our Digitalisation Strategy is Integrated Information Management, a philosophy centred on data, designed to maximise the value, governance and control of our data assets through a simplified enterprise architecture that balances people, process and technology.

As we look forward to exciting times in our next RIIO period (2026-31), the foundations that we have built: implementing S/4HANA; mastering our data in a single, consistent schema; building our own mobile applications for work management and field data capture; and embedding an in-house digital capability, means that we are uniquely placed to deliver new digital products and services throughout the remainder of RIIO-GD2 and beyond.

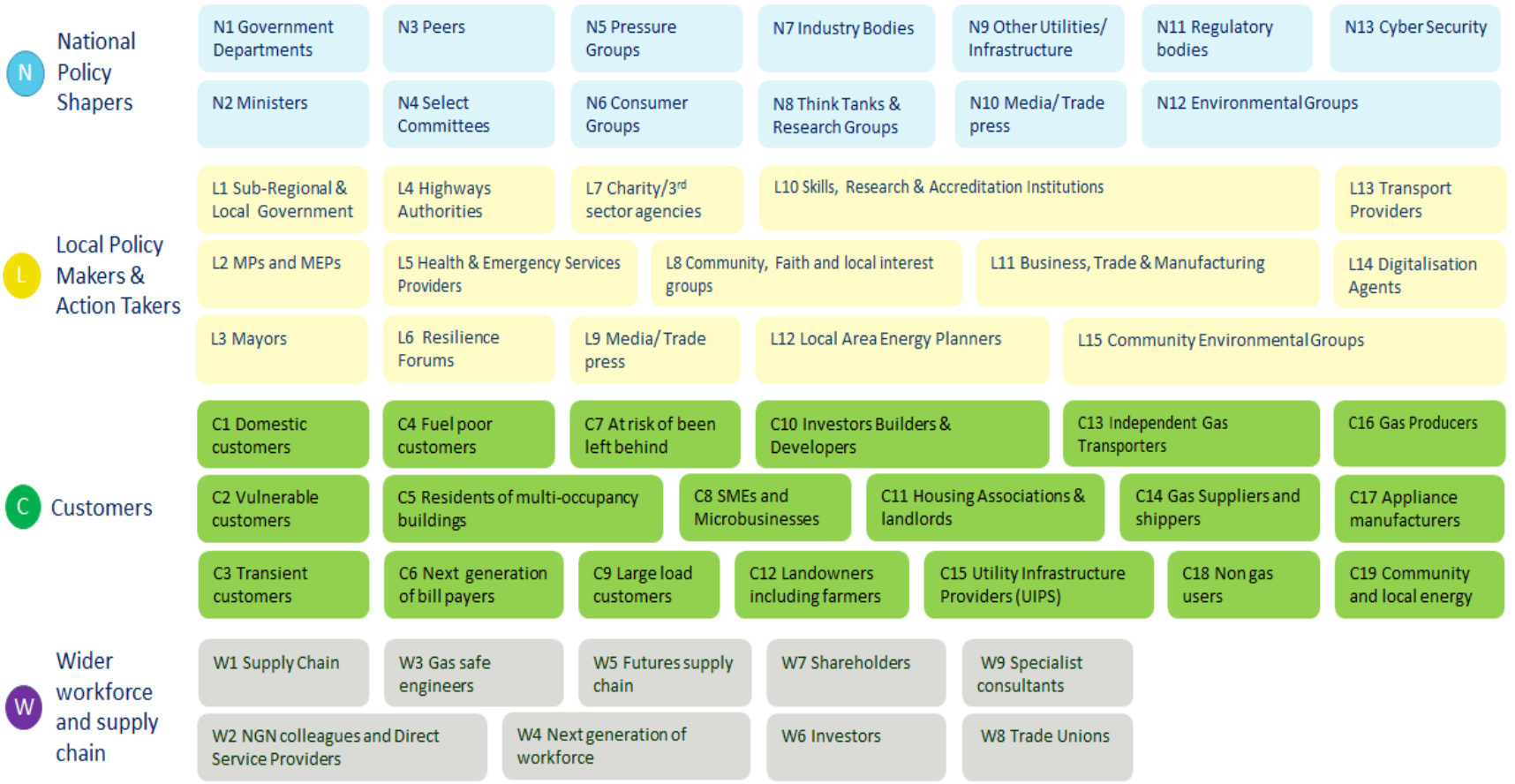
In this Digitalisation Action Plan, we will demonstrate our ability to deliver digital projects at scale that strengthen our compliance with Data Best Practice, enhance the experience of data users, and provide real value to end consumers and stakeholders.

How we are Engaging with Stakeholders

Stakeholders are the driving force behind our Digitalisation work…

We believe that digitalisation will improve not only the service that we provide to our stakeholders, but also our relationship with them, the way that we interact, the way that we share data and information, the way that we work together to achieve common goals.

We'll continue to work closely with Stakeholders – Internal and External – to ensure that our digitalisation transformation delivers for everyone.



How we decide on a delivery option

We've built an in-house capability that gives us options for delivery…

In our Digitalisation Strategy we talk through how our stakeholders direct what we do, and how our vision directs what technology we use. But how we deliver on these directions is also important, and due to our strategy of growing skills within our own team, we have options to ensure the best approach is used.

The table opposite shows the different options that are considered for each piece of work that we undertake.

Each option is assessed against four criteria: Resource Capacity (Workload); Resource Capability (Skills); Cost/Value to Customers; and Time to Deliver. This assessment provides a recommendation.

Option	Summary	Advantages	Disadvantages
1: Do Nothing	No action planned	No immediate financial outlay. No changes to current systems or processes. Avoids potential risks associated with new technology implementation.	Missed opportunities for improvement of Data Best Practice compliance, network resilience, efficiency and performance.
2: Business Only	NGN's Internal team will complete and deliver the work required	Low costs, team members understand internal processes at NGN and appreciate the business context in more detail. Full control over the design and implementation process.	There may be difficulty finding the staff to undertake this work alongside their current project commitments.
3: Hybrid Approach	A mixture of internal and external resources will be utilised	Combines independence and specialist skills with deep business understanding. Potential for reduced timelines.	Coordination and clear understanding of processes need to be established to ensure alignment and relevance is maintained throughout. Potential for increased costs. Sustainable knowledge transfer.
4: Outsourced Only	External third parties coordinate, manage and deliver all aspects	Access to dedicated resources with specialist skills and industry experience. Can add value and provide insights into what others are doing. The speed of delivery is sometimes better. It frees up internal teams to complete other work	Cost can be significant and there is less control during implementation. Less chance of sustainable knowledge transfer

Process Optimisation Programme

Optimising our processes through automation

Stakeholders

- NGN Colleagues
- Local Authorities

Tags

- Efficiency
- Data Quality

What is it?

Building on the solid digital foundations we have put in place with S/4HANA and other complementary technologies, we are optimising solutions across all of our back-office processes, whilst also introducing innovative, bot-based solutions to solve problems around quality assurance, material logistics, data sharing, and updating records. So that we don't have to use point solutions that increase complexity and cost, and staying true to our design principles, we'll use the RPA solutions approved by our two main software providers, SAP and Microsoft.

RPA forms only a part of our process optimisation approach, so that we can broaden the scope of our activities to include automated reporting and workflow, improved user interface, targeted training and application development

"Giving our colleagues the time and space to do amazing things…"

Why are we doing it?

Optimising processes frees up time, allowing our colleagues to concentrate on value-adding activities. It also mitigates the risk of human error as our data is processed, increasing data quality and enhancing the value of our data.

"Working to ensure our data is right first time, every time…"

Project Milestones

Phase One: Requirements gathering and introducing programme governance & controls. (Nov '23 – Jun '24)

To Start | In Progress | **Complete**

Phase Two: Delivery of solutions. (Feb '24 – Dec '24)

To Start | In Progress | **Complete**

Phase Three: Embed as a 'Business As Usual' capability. (Dec '24 - Jan '25)

To Start | **In Progress** | Complete

What's happening in the next 6 months

Now that we have proved that we can introduce automation at scale, we will be winding down POP as automation becomes a Digitalisation As Usual activity.

Built Over Mains Analysis Tool

Making informed decisions based on data analytics

Stakeholders

- Network Companies
- Customers
- NGN Colleagues
- HSE

Tags

- Efficiency
- Reliability
- Data Quality
- Safety

What is it?

We are partnering with Ordnance Survey to unlock the power of our geospatial asset data and have been working on an analytical model to visualise where on our network there could be gas main pipes that have had buildings or other structures constructed over them. The model has been refined to ensure that we can identify false positives like bus-stops etc, giving us the ability to properly assess where a site visit may be required.

The modelling utilises our asset data and building data, characteristics and status from Ordnance Survey, producing a powerful, accurate and up-to date analytical tool to help us maintain the integrity of our network and the safety of our colleagues and customers.

"Introducing an innovative approach…"

"Maintaining a secure and resilient supply by ensuring the integrity of our network …"

Why are we doing it?

We want to use data to make better decisions, accurate modelling can reduce the number of site visits we make, reducing both our carbon footprint and the cost to survey. It will allow us to target areas of focus, and as it is constantly updated with new OS data on new builds and changing statuses, it will remain accurate and relevant.

Project Milestones

Phase One: Proof of Concept developed in a defined geographic area. (Aug '23 – Dec '23)

To Start | In Progress | **Complete**

Phase Two: Rollout production model to cover whole network (Dec '24 – Mar '25)

To Start | **In Progress** | Complete

What's happening in the next 6 months

We will scale up to cover the whole network, whilst continuing to refine and train the model to further improve accuracy.

Open Data Interoperability

Building the foundations of Open Energy Data

Stakeholders

- Network Companies
- Customers
- NGN Colleagues
- Data Users
- NESO

Tags

- Open Data
- Data Quality
- Data Best Practice
- Net Zero
- Efficiency
- Reliability

What is it?

We're collaborating with the other Gas Distribution Networks to build consistent formatting and taxonomy into the data that we share with others.

We are taking an iterative approach to introduce benefits as soon as possible. As a group we will initially review the geospatial pipe data that we publish, agreeing a minimum set of requirements around format, content and naming conventions, that will ensure that a data user will be able to combine the datasets from different GDNs with little or no transformation required. Once this has been agreed, we will move on to the next dataset, building a data standards library that can be utilised by all networks to Ensure consistency and interoperability in gas network data.

"Working together to improve open data…"

"Sharing best practice…"

Why are we doing it?

Data Interoperability is vital to the success of Open Energy, without it data sharing will be inefficient and ineffective, and a whole systems energy system will be impossible. The work on Open Data Interoperability is just the start of a long process, but it is an important step towards a net zero energy future.

Project Milestones

Phase One: Scoping, resource management and initial geospatial review. (Nov '23 – Dec '23)

To Start | In Progress | **Complete**

Phase Two: NUAR data review and recommendations report. (Jun '24 – Jun '25)

To Start | **In Progress** | Complete

Phase Three: Capacity/demand management data review and recommendations report (Apr '26 – Mar '27)

To Start | In Progress | Complete

What's happening in the next 6 months

We will continue to collaborate with the other Gas Distribution Networks and National Gas to progress this extremely important work.

Building Data User Personas

Ensuring Information Liberation for all

Stakeholders

- Network Companies
- Customers
- NGN Colleagues
- Data Users
- NESO

Tags

- Open Data
- Data Quality
- Data Best Practice
- Net Zero
- Efficiency
- Reliability

What is it?

Working with one of our specialist Engagement & Insight Partners, we will develop a range of stakeholder personas to better understand the diverse data and information needs of key stakeholder groups. We will then use insights gained to set out a roadmap for embedding personas such that they inform strategic decision-making around both data and digitalisation. We will consider the full range of data and digitalisation needs, not only for the present but also for the future. Therefore, in developing the personas, we will account for the full range of current digital services that provide data and information, and those likely to evolve in the future. It is vital that our Digitalisation Strategy, and the personas that support its development and delivery, incorporate new technologies, methodologies, and innovations.

"Ensuring inclusivity and accessibility…"

"Helping us do the right thing for all our stakeholders…"

Why are we doing it?

We want to provide the best service to all our customers, and this is equally true for those customers who want to use our data, be they colleagues, stakeholders, government agencies or industry experts. Data Best Practice is not just an obligation for us, it is without question the right thing to do, and the development of Data User Personas will allow us to make sure that our data products and services are the best they could possibly be for those who need them.

Project Milestones

Phase One: Desktop literature review of best practices for developing and 'bringing to life' stakeholder personas. (Jun '24 – Sep '24)

To Start | In Progress | **Complete**

Phase Two: Whole Systems Thinking and Expert Interviews. (Oct '24 – Nov '24)

To Start | In Progress | **Complete**

Phase Three: Persona Design and Embedding . (Dec '24 – Feb '25)

To Start | **In Progress** | Complete

What's happening in the next 6 months

This will be a relatively short piece of work, and we are planning to have the personas complete, embedded and published by the next Action Plan.

Open Data Portal Optimisation

Building a full Open Energy Data experience

Stakeholders

- Network Companies
- Customers
- NGN Colleagues
- Data Users
- NESO

Tags

- Open Data
- Data Quality
- Data Best Practice
- Net Zero
- Efficiency
- Reliability

What is it?

We will work to iteratively improve the functionality of our portal, automating the update of key data assets and building a limited access 'Shared Data' area.

Using the learnings from our Data Personas review we will ramp up our Open Energy offerings, expanding our Open Data Portal, to include an API library and a smart visualisation interface (with geospatial visualisation functionality). As part of our commitment to making the best use of the most innovative technologies, we will explore a more automated Data request and triage process utilising conversational AI.

"Working hard to expand the Data Assets available to Users…"

"Committed to continual improvement in Open Energy Data…"

Why are we doing it?

Our Open Data Portal has been live for over a year, and continues to grow in popularity. We have learnt so much during that time and we want to use all that valuable experience to improve the portal, and to add new products and services that will enhance the functionality and boost the benefits of our data.

Project Milestones

Phase One: Improvements to the Portal. (May '24 – Mar '26)

To Start | **In Progress** | Complete

Phase Two: Expansion of the Portal. (Apr '26 – Mar '27)

To Start | In Progress | Complete

Phase Three: Automated data retrieval and publishing (Apr '27 – Mar '28)

To Start | In Progress | Complete

What's happening in the next 6 months

The iterative improvements to the portal continues as we finalise the future strategic architecture and secure the funding that we will need to move into phase 2

Data Sharing Preparation

Building the foundations of Energy Data Sharing

Stakeholders

- Network Companies
- Customers
- NGN Colleagues
- Data Users
- NESO

Tags

- Open Data
- Data Quality
- Data Best Practice
- Net Zero
- Efficiency
- Resilience

What is it?

We will carry out a programme of work to classify our data assets. As part of this work we will implement technology that will automate the Data Classification process and integrate with our ERP.

To be able to manage the flow of data in and out of our network as efficiently as possible, we will implement an Enterprise Data Services solution to act as a Data Broker, Quality Assurance and Exchange, and we will make sure that it is fully and securely integrated with our S/4HANA ERP & SCADA.

Building on this work, we will then be able to implement a Data Preparation Node in line with requirements of the Data Sharing Infrastructure, working with industry partners to ensure a consistent architecture that allows the free sharing of energy data.

"Digitising the flow of data…"

"Getting ready for a Data Sharing Infrastructure…"

Why are we doing it?

We have several important use-cases in mind for the DSI, specifically around the sharing of offtake metering data and other telemetry data with NESO, however we recognise that the DSI is a mechanism that will be used across the whole sector, and possibly beyond, it's vital that we don't restrict our thinking, and it is important to us that the preparatory work we do means we are ready, whatever the use case

Project Milestones

Phase One: Scoping and strategic planning. (Nov '24 – May '25)

To Start | **In Progress** | Complete

Phase Two: Automated Data Classification (Non-SAP). (Jun '25 – Nov '25)

To Start | In Progress | Complete

Phase Three: Data Classification (SAP); Enterprise Data Services & Data Preparation Node. (Apr '26 – Dec '28)

To Start | In Progress | Complete

What's happening in the next 6 months

We will carry out discovery work to finalise the classification requirements of our Non-SAP data, in preparation for the implementation of an automated solution.

Artificial Intelligence Review (AIR)

Introducing Artificial Intelligence into our ways of working

Stakeholders

- Network Companies
- Customers
- NGN Colleagues
- Data Users
- NESO

Tags

- Open Data
- Data Quality
- Data Best Practice
- Net Zero
- Efficiency
- Reliability

What is it?

We're exploring the use of Microsoft Co-Pilot as a tool to enhance back-office efficiency: through our Process Optimisation Programme we've established a small user group to gain valuable insight on how Co-Pilot can be used effectively, prior to a rollout at scale. We're also applying bespoke AI solutions for industry-specific issues - we're building a Conversational AI, using graph analytics, to assist our engineers to find the information they need from our library of industry standards and best-practice.

Based on what we learn from this initial work, we will develop an Artificial Intelligence Strategy, and start to scale up the safe and responsible use of Artificial Intelligence in RIIO-GD3

"Using AI safely and responsibly…"

"Making the most of this exciting and disruptive technology…"

Why are we doing it?

We know that Artificial Intelligence will play an important role in the energy sector of the future and we're keen to explore how we can make the best use of it. We are starting out small, making sure that we fully understand the benefits and risks of using AI so that we can provide the best products and services to our customers and colleagues

Project Milestones

Phase One: Co-Pilot Trial and Standards Searchbot. (May '24 – Dec '24)

To Start | In Progress | **Complete**

Phase Two: Findings review, AI Strategy development & next steps. (Dec '24 – May '25)

To Start | **In Progress** | Complete

Phase Three: Introduction of Gen-AI solutions. (Apr '26 – Mar '31)

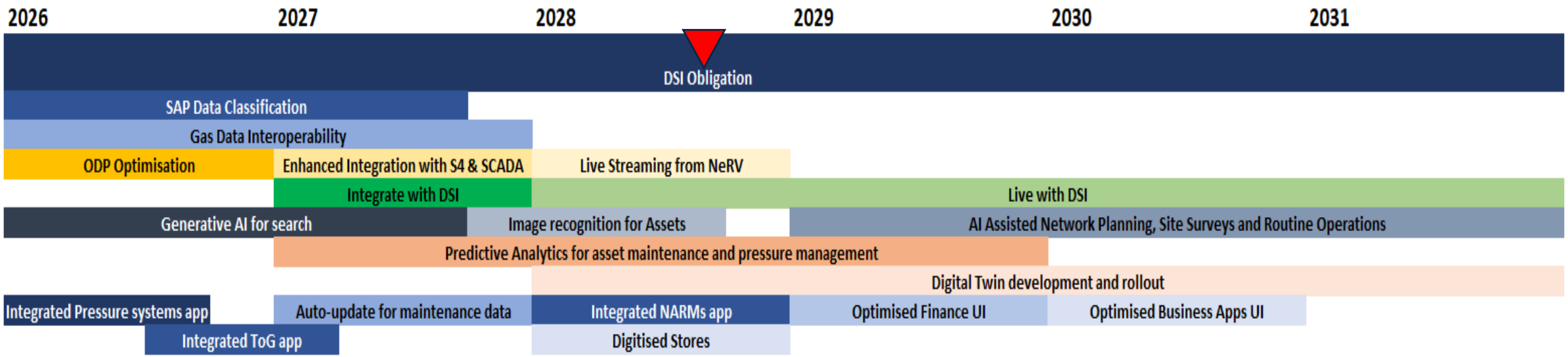
To Start | In Progress | Complete

What's happening in the next 6 months

We'll use everything we've learnt to develop an Artificial Intelligence Strategy to ensure we're getting the best out of AI.

Timeline for RIIO-GD3…

An indicative view of our current plans for RIIO-GD3



We're submitting our Business Plan for RIIO-GD3 (2026 – 2031) to Ofgem in December 2024, and this Plan includes a proposed programme for Digitalisation that has five main objectives: -

- To be ready for the DSI – both in terms of infrastructure and data management
- To expand our Open Data Portal and the benefits of Data Best Practice
- To make the best use of our data for analytics and modelling
- To introduce Artificial Intelligence and improved User Interfaces to help our colleagues and customers
- To be in the best possible position to help us and our peers to face the challenges of GD4

Changes from our last Action Plan…

An update on initiatives featured in our previous Action Plan

Initiative	What's happened…	Status
Information Lifecyle Management (ILM)	Data in our S/4HANA system is now automatically archived based on programmed retention rules.	Complete
Escape Forecasting Tool	A predictive modelling tool now provides a ten-day forecast of expected gas emergencies, accurate to c.94%	Complete
NeRV sensor monitoring (internal)	Data collected from the 5,000 sensors in our Futures Close row of test houses now streams live to a dashboard.	Complete

You can find copies of previous Digitalisation Action Plans on our Open Data Portal…

Enter Here

…or paste the following into your browser if you prefer - https://northerngasopendataportal.co.uk/

Contact us…

We would really appreciate your feedback on our Digitalisation Action Plan

This Action Plan should inform and bring value to you. If there is any clarification, question or comment regarding this plan, we would love to hear from you. Please get in touch with us via one of the communication channels listed below.

Tom at tpollock@northerngas.co.uk

@NGNgas

northerngasnetworks