SSEN DIGITAL ACTION PLAN

RIIO-ED2 UPDATE | DECEMBER 2021

Scottish & Southern Electricity Networks

Foreword

As we continue to deliver our digital strategy we are building our capability to deliver new products and services that are tailored to the needs of our customers and stakeholders.

Whilst much of our investment and action is below the surface in organising our business, readying our data, and establishing digital platforms, it is all necessary to enable us to meet your needs in an efficient way and to a standard you expect.

As well as building our core capability we have engaged our customers, industry peers, policy makers and digital experts in order to better understand our customer and stakeholder needs, the products and services that serve those needs, and the digital capabilities we need to utilise, within or outside of our business, to deliver whole system efficiency and value.

We also recognise that we need to lead and have a positive impact on society. On the highest priority challenges such as net zero emissions and supporting vulnerable customers, we are helping stakeholders understand the opportunity of working with us, using our data, and becoming part of our network. Combined, this shapes our action plans and priorities which ensures we invest in areas that deliver benefits to stakeholders and broader society.

In December 2020, we published our first Digital Action Plan which outlines the activity we are undertaking to achieve our Digital Strategy and Vision. Our Action Plan is our commitment to you, your service catalogue describing the digital products provided by SSEN and wider industry. It describes the future products and services we want to develop, based on our understanding of what is most valuable to our customers, stakeholders and communities.

Our plan is shaped by your feedback and continued engagement, and developed in collaboration with partners from across our ecosystem.

Our Digital Action Plan is a 'living document' that will be updated every six months to show progress and changes against planned actions. It will continually evolve, open to being shaped by your needs and growing clarity on how our industry will operate in the RIIO-ED2 price control period (2023-2038).

This June 2021 report is the first update of our plan since initial publication in December 2020. We have developed our Digital Strategy and Action Plan (DSAP) using Ofgem's DSAP guidance and in line with our own set of Principles and we look forward to continuing this journey with you.

SSENs Digital Strategy and Action Plan Principles will inform our decision making as we realise our digital strategy

1. **Driven by need** – what is needed by our customers, stakeholders and to deliver broader policy goals and ambitions for the UK

2. **Prioritised by value** – we will invest where there is a clear case to do so, and ensure we deliver in a cost efficient way

3. **Tailored to our stakeholders** – our services will be specific to those that will use them most.

4. **Committed to enabling an affordable transition to net zero** – we must ensure we continue to progress the collective journey to net zero, digitalisation is a key enabler

Andrew Roper

Distribution System Operations Director,

SSEN Distribution

Our Digital Strategy

We aspire to be at the forefront of the future energy system. To do so, digital will continue to play an important role in realising our aspiration. We are several years into our digital journey and are now seeing the benefits of our strategic investments in digital capabilities.

Our Digital vision	To be a progressive network owner that uses digital to: i. Enhance social and economic value; ii. Provide a leading experience across all our customer types; iii. Enable the energy system to reach net zero carbon emissions; and iv. Drive internal efficiencies, reducing cost to serve

Our intent is to develop our business across four areas;

Continue to build the digital foundations	■ Continue to build the critical capabilities to not just meet but exceed our obligations as a leading network operator. This is the right thing to do for our customers, and the communities we serve and the energy system. ■ This will strengthen our current network and Distribution System Operations, delighting our customers, employees and leading the UK's transition to a low carbon world.
Building an Open Data future in the wider ecosystem	■ We will intimately understand the current and evolving needs of our various customer types by building customer centric propositions. ■ In parallel, we will champion the value of Open Data in building customer centric propositions. This includes defining and iterating data standards in collaboration with other DNOs, ESO and TOs. ■ To help progress the Open Data agenda we will pilot the secure sharing of data with trusted partners to test and learn.
Enabling the future whole energy system and competition	■ Enable a competitive marketplace underpinned by Open Data. This provides a platform for trusted partners to provide new services for our consumers and build innovative business models. ■ We will focus on ensuring our customers understand the value of these new services such as vehicle-to-grid and have access to them.

Customer and Ecosystem
- ■ Customer experiences that are relevant, simple, effortless and personal
- ■ Partnerships across the ecosystem to source capabilities and innovative ideas

Platforms
- ■ Platform capabilities to optimise investment decisions.
- ■ Platforms based on Open Data across the energy system and wider with appropriate governance and standardisation.

Insights and Automation
- ■ Automation of key end-to-end processes.
- ■ Data-driven decision making that uses AI.
- ■ Strong cyber security and data privacy standards.
- ■ Data exchange and value focused services for our strategic partners.

Organisational Alignment
- ■ Empowered and agile multi-functional teams.
- ■ Digital and data skills and capabilities
- ■ Customer facing teams organised around a clear customer need / purpose.

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Our Digital Action Plan

Open to you

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Our Digital Action Plan brings to life a key aspect of our Digital Strategy, summarising the products and services within our 'Customer and Ecosystem' strategic commitments

We believe that compelling customer experiences should be anchored in a deep understanding of both the current and future needs of our 3.8m customers as well our other consumers and stakeholders. As we identify and address needs in the near term we must always be working towards the long term goal of net zero carbon emissions in partnership with our wider ecosystem, helping to realise broader societal benefit through our investments.

To evolve our Digital Strategy and Action Plan, we have engaged a wide range of customers, stakeholders and experts, and developed draft personas to capture their needs, priorities and expectations from digitalisation.

Our Digital Strategy and the propositions it includes guide us in the development and delivery of the products and services outlined in this Action Plan. It also provides a guide towards those products that may be needed in future. For all products and services, we evaluate who will benefit, when they will be available and how we will measure success.

We also provide an overview of the significant work underway internally to develop our digital and data capabilities, laying the foundations that will deliver on our RIIO-ED2 commitments and broader role in realising net zero emissions.

Recognising that digital transformation is a journey of evolving knowledge, innovation and collaboration, we will update our Digital Action Plan every six months to report progress against goals, adding new products and services as informed by stakeholder engagement. In our December 2020 publication, we stated our intention to iteratively improve our Action Plan through review and feedback, and in the June update we have improved hyperlinks within the document for easier navigation. We continue to work on our aspiration to create an interactive and dynamic action plan online, enhancing user experience and making it easier for customers and stakeholders to explore and provide feedback on our products and services.

1 Our actions are shaped by our customers and stakeholders

- Our 3.8m customers
- Customers in Vulnerable Situations
- DER owners and Aggregators
- Partners and Peers
- Planning Partners and Policy Makers

2 Based on their needs we have defined a set of propositions

- Immediate and real-time outcomes
- Ability to engage through a preferred channel
- Tailored services for those in vulnerable situations
- Clear demonstration where customers can support in managing our network
- Tailored insight as part of new flexibility propositions
- Information that builds confidence in flexibility markets
- Contextual data that is easily discoverable
- Self-serve platforms sharing network growth and capacity information
- Joint platforms for co-creating and maintaining investment plans across energy vectors on a regional basis
- Value adding intelligence from sophisticated data tools
- Collaboration with communities and support organisations

3 And are delivering a set of products and services

- Developing the Flexr service to share Distributed Energy Resource asset information
- Improved ICP and 3rd party access to network records and asset information
- Enhancing our SSEN website and range of digital channels
- Updating Power Track to show EV charging points during a power cut
- Enhancing our Power Track app to support customers during outages

4 All aligned to our RIIO-ED2 Strategic priorities

- A trusted and valued service to customers and communities
- A safe and resilient network for our customers and communities
- A smart, flexible and sustainable energy system (Net

Our journey to create customer insight and design new digital propositions

We will validate and mature our personas through further customer research and data, and use this as an input to a customer-centric design approach.
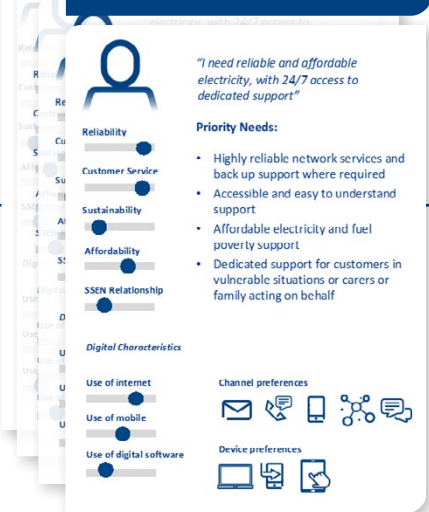
Our work so far

Using the data and research from our Stakeholder Engagement and touchpoints we have with our customers every day, we have created a rich set of insights on each of our segments.

We are now building out a set of personas across these segments that capture our customers' and stakeholders' digital needs.

We have developed the foundations to continually evolve these personas and use them in the design and delivery of targeted products and services.

Our ambition in the next 18 months and beyond

We understand that although we have a draft provision of personas in place, we need to develop our maturity further in truly understanding the needs, expectations and behaviours of our customers and stakeholders.

As part of an SSEN wide programme to develop our understanding of our customer base, and transform the customer journeys' of the future, we have partnered with ExperienceLab, a Customer Experience Consultancy to develop a wide set of deep-insight personas across our entire business. We've made good strides in this project, having been able to successful map the experience and personas for our Connections business.

By November 2021, we'll have fully mapped our customer base to our new set of personas, and aligned this within our Digital Strategy to ensure we're building digital propositions based on the evolving needs of our customers.

We are developing a customer-led service-design capability to embed customer insights into everyproposition, product and service that we provide to external customers, and stakeholders and our internal colleagues.

Consensus-based Personas	Data driven Personas	In-depth reusable Persona framework	Embedded Persona framework
Q4 2020	**Q4 2021**	**Q4 2023**	**Q4 2025**
Shared in our 2020 Digital Strategy	To inform our RIIO-ED2 Plan, priority business areas and Digital Strategy Action Plan Update	Supporting a wide range of business activities including our Digital Action Plan	An essential tool as we realise the intent described in our Digital Strategy

Our ambition in the next 18 months and beyond

We recognise that both the digital landscape around us, and the needs of our customers and stakeholders, are changing at rapid speed, and it's important we keep up with the evolving world around us.

To ensure our services our fit for now, and the future, we've embarked on a business wide exploration of customer journey mapping, focused on developing the journeys of the future for our customers. Using rich and deep customer insight, supported by customer experience principles, both in and out of industry best practice and enhanced stakeholder engagement, we've started to build blueprint designs for what these journeys may look like.

It is through these optimal journey designs that we will build on our digital experience roadmap, with a core principle being that future digital propositions are delivering value and benefits with customer requirements at the heart.
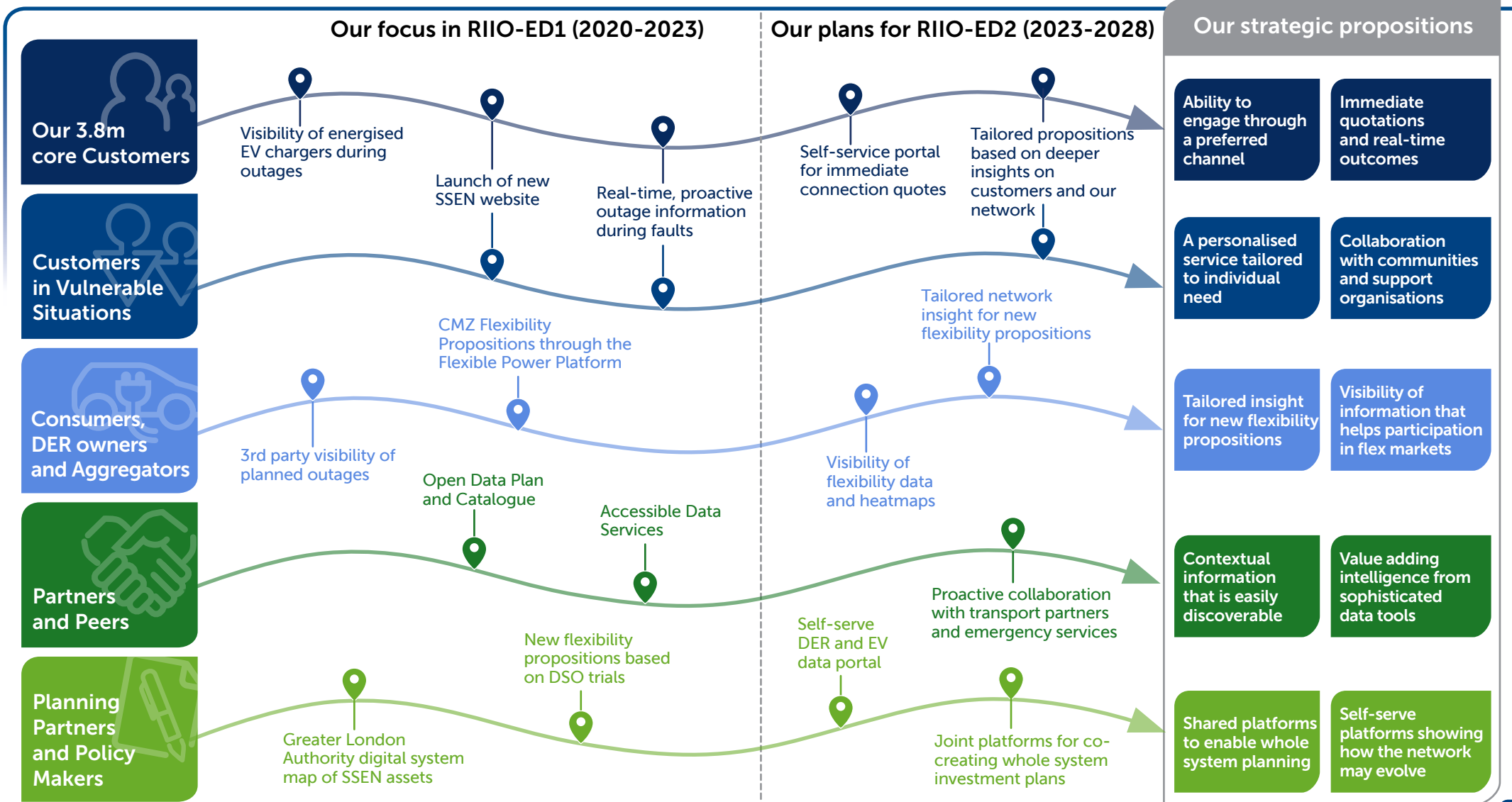
Our Digital Action Plan

Highlights from our digital roadmap

Combined, our Digital Strategy and RIIO-ED2 Business Plans provide the vision and strategic intent that helps us shape our Digital Roadmap. Our Digital Action Plan of new and updated products and services is informed by our longer term roadmap of digital investments that combine to deliver our strategy.

We will iteratively develop a set of products and services that help deliver our strategic propositions for customers and stakeholders

Our focus in RIIO-ED1 (2020-2023)

Our plans for RIIO-ED2 (2023-2028)

Our strategic propositions

Our 3.8m core Customers

Visibility of energised EV chargers during outages

Launch of new SSEN website

Real-time, proactive outage information during faults

Self-service portal for immediate connection quotes

Tailored propositions based on deeper insights on customers and our network

Customers in Vulnerable Situations

CMZ Flexibility Propositions through the Flexible Power Platform

Tailored network insight for new flexibility propositions

Consumers, DER owners and Aggregators

3rd party visibility of planned outages

Open Data Plan and Catalogue

Accessible Data Services

Visibility of flexibility data and heatmaps

Partners and Peers

Proactive collaboration with transport partners and emergency services

Self-serve DER and EV data portal

Planning Partners and Policy Makers

Greater London Authority digital system map of SSEN assets

New flexibility propositions based on DSO trials

Joint platforms for co-creating whole system investment plans

Our strategic propositions

Ability to engage through a preferred channel

Immediate quotations and real-time outcomes

A personalised service tailored to individual need

Collaboration with communities and support organisations

Tailored insight for new flexibility propositions

Visibility of information that helps participation in flex markets

Contextual information that is easily discoverable

Value adding intelligence from sophisticated data tools

Shared platforms to enable whole system planning

Self-serve platforms showing how the network may evolve

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Our existing digital services

SSEN provides a range of digital products and services that serve the needs of our customers and stakeholders.

	Its purpose	Where you can find it	How we measure success	Our 3.8m customers	Customers in Vulnerable Situations	DER owners and Aggregators	Partners and Peers	Planning Partners and Policy Makers
Facebook, Twitter and WhatsApp contact channels	To provide customers with their preferred digital channel	SSEN Social Media	Social media remains our 2nd most used channel with a Customer Satisfaction score of 9.1. We are also 1st placed DNO for Online Services under industry wide Broad Measures	✓	✓	✓		
Who is my supplier? service	Customers can find their electricity supplier contact details via our website	Who is my supplier?	38,407 interactions from 1st Jan - 31st May 2021	✓	✓			
JustEat self service vouchers	Providing JustEat food vouchers to customers during outages	More info here	Customer feedback and uptake	✓	✓			
Power Track app	Mobile and web app providing real-time outage information by location	PowerTrack	Use to date is over 1 million interactions on Power Track	✓	✓	✓		
Street Manager APIs	Providing Department for Transport (DfT) API based access to SSEN streetworks data	DfT Login – *requires Gov. UK sign-in*	Between Dec '20 and May '21, we sent 30,500 and received 12,500 transactions using this service				✓	✓
Line Search Before You Dig	Asset location information for 3rd parties via a user friendly platform	LSBUD	250,000 requests for records and 4333 new users in the last 6 months with an average 2 minute response time			✓	✓	✓
ICP GIS Platform	Dedicated website providing access for Independent Connection Providers to SSEN's GIS Electric Office system	Link – ICP *access only* Register	14% increase in new users in the last 6 months and a total of 1925 users				✓	
Flexibility Propositions	SSEN provide a variety of propositions for Distributed Energy Resource (DER) providers	Flexibility Services calls (ssen.co.uk)	To date we have secured 474.08MWs of Controlled Managed Zone flexible services, with 221MW contracted in the last 6 months.			✓		
Generation Availability Heat Map	Interactive maps detailing current network generation capacity shared on our website	Generation Availability (ssen.co.uk)	Customer feedback and usage with over 24,000 interactions to date			✓	✓	✓
ANM status	Live update of our Orkney and Isle of Wight ANM systems	ANM (ssen.co.uk)	Ongoing updates to the system to reflect new DERs as they join the ANM system			✓		

Our current products and services...   *...provided for the following customers and stakeholders*

The products and services we will deliver in Financial Year 2021/22

In December 2020, we outlined our action plan for financial year 2021/22 based on our latest view of priorities shaped by your feedback. Over the next two pages, we share our December plan and a June 2021 progress update against each action. Click here for more information on our Delivery Approach or to Get in Touch.

Our planned products and services

...provided for the following customers and stakeholders

	Its purpose	Target Delivery Date (December '20)	How we will measure its success	Our 3.8m customers	Customers in Vulnerable Situations	Consumers, DER owners and Aggregators	Partners and Peers	Planning Partners and Policy Makers
London Underground Asset Register (LUAR)	Provide Greater London Authority with a digital system map of our assets to enable better coordination between utilities	Q1 2021	Third party feedback and use of the service			✔	✔	✔
Optimised Power Track App	Improved web version of Power Track to optimise for use on mobile devices and enhance customer experience	Q1 2021	Customer feedback and usage	✔	✔	✔		
WhatsApp Messenger Chat Service	Enhance this existing channel preference for our customers including use of chat bots to enable faster response to queries	Q2 2021	Customer feedback and usage	✔	✔	✔		
Postcode update service	Provide free, subscription based, real-time network updates based on your postcode	Q2 2021	Customer feedback and usage	✔	✔	✔		
Improved EV and Heat Pump connection applications	A simplified process for customers making online EV and Heat Pump connection applications	Q2 2021	Customer feedback and usage	✔	✔	✔	✔	
EV charging availability during outages	Update Power Track app to show the nearest available EV charger during a power cut	Q2 2021	Customer feedback and usage	✔	✔	✔	✔	✔
Planned outage scheduling portal	Provide 3rd parties with visibility of planned outages via a digital platform and enable scheduling adjustments	Q2 2021	Third party feedback and use of the service			✔	✔	
Improved document collaboration tool	Enhanced system to collaborate on Engineering Design Manual documents with third parties	Q2 2021	Third party feedback and use of the service				✔	
Flexible Power	Providing a common platform for DER and load customers to offer flexibility services to DNOs	Q2 2021	We have set targets for the MWh secured each year			✔		✔
Smart metering data enhancement	Improve data sharing with Independent Connection Providers (ICPs) to support Competition in Connections	Q4 2021	ICP feedback and discoveries through analytics	✔	✔	✔		✔
New SSEN website	Enhanced customer experience optimised for use on all devices	Q4 2021	Customer feedback and usage	✔	✔	✔	✔	✔
Business guide to preparing for a power cut *NEW	Ensuring business and SME (small to medium enterprise) customers connected to our network are provided with guidance on our website to prepare for and manage power cuts, planned and unplanned	Q3 2021	Third party feedback and use of the web pages	✔		✔		
Enhancing Planned Power Cut information on Power Track *NEW	Increasing visibility of planned works on our Power Track App and including details of welfare availability on the day	Q4 2022	Third Party feedback and use of app	✔	✔	✔		

The products and services developed in collaboration with others

Digitalisation of our business, its services and the wider energy ecosystem is not achieved without partnership and collaboration. Our action plan below describes the areas where we are working with others to develop shared products and services.

Collaboration Areas	Our activity	Progress Update	Upcoming milestone	Who we are working with
ENA Digital Network Map sub-working group	The National Energy Systems Map (NESM) sub-group within the Energy Networks Association (ENA) focussed on developing digital network maps.	An development alpha of the map has been produced including SSEN data	Legal and security issues are outstanding ahead of a developed beta in Q4 2021	ENA All network licensees
ENA Coordination sub-working group	Coordination sub-group identifies activities across the networks that would benefit from collaboration. We are identifying initiatives that networks should be developing together to help drive interoperability.	Six key priorities were identified from survey and ongoing review of published material to produce summaries	Identification of specific coordination activities ongoing through to Q4 2021	ENA All network licensees
MEDA - Icebreaker One project	Contributing to the MEDA 'Ice Breaker One' project that will develop an open standard for data sharing in the energy sector	We have signed up to be beta testers of their Open Data platform	Ongoing development and testing of the beta platform into Q4 2021	Ice Breaker One MEDA
MEDA — YODA project	Providing consultation input to the project that looks to provide a central energy data catalogue, maps of generation and demand, and asset registers for a range of DER assets	Siemens did not secure final tranche of funding. Collaboration completed.	N/A - project closed	Siemens MEDA
DSAP Consultation	Summarising our views and those of customers and stakeholders in response to the upcoming consultation on the role and approach to future DSAP publications	DSAP consultation response prepared which was submitted ahead of the 24th June deadline	Will await Ofgem's determination	Ofgem ENA
National Digital Twin	Exploring how to adopt the Centre for Digital Built Britain (CDDB) digital twin toolkit to enable alignment with the National digital twin.	Development of a digital twin on hold with focus on the RIIO-ED2 submission	Agree forward plan and joint approach by Q2 2022	Centre for Digital Built Britain
ENA DWG Data Triage	Triage sub-group of the Data Working Group (DWG), to create an industry wide triage process for data requests.	Beta system is live and receiving requests.	Ongoing development and refinement through to Q4 2021	ENA All network licensees
EV Infrastructure Investment App	MEDApps funding looking at open data applications. Exploring an app to enable Electric Vehicle investment in Scotland working with Scottish Government	Funding awarded and platform development ongoing	Funding approval for second tranche of funding to be confirmed in Q4 2021	Scottish Government MEDApps
Digital wayleaves processes	Developing solutions to simplify wayleaves management and processing of agreements.	Full project not viable, BAU process improvements in flight	N/A – project closed	Wayleaves owners Point 4 geo
Near Real-time Data Access (NeRDA) — Flexr Pathfinder	Developing a data sharing platform optimised for near real time data	Development has been taken forward independently but will be disseminating learning for this work	Outputs due Q2 2022	All SSEN stakeholders
Local Authority Energy Plan services	Exploring the propositions and data exchanges that can support the development of whole system Local Energy Area Plans and to inform our energy scenario modelling	Engagement and development on Plans incorporated into our annual process	Stakeholder engagement with Local Authorities for DFES update Q2 2022	Local Authorities
Open Data Plan	Developing our forward plan to provide access to our data sets and the priority data sets, structures and access methods.	Our Open Data Plan was incorporated into our Draft RIIO-ED2 Business Plan	Further focus and development on short term implementation due by Q4 2021	All SSEN stakeholders

Measuring the success of our Digital Strategy and Action Plan

Our Digital Strategy outlines success measures that have been evaluated by our stakeholders. Here we provide a progress update against each of those measures as of June 2021.

★★★★ Complete   ★★★☆ Ahead of Target   ★★☆☆ On Target   ★☆☆☆ Below Target

	Success Measure	Target Outcome	Progress Update June 2021	DSAP location	Overall Status Against Plan
1.	**Demonstrate a genuine understanding** of our customers and stakeholders needs	Develop and validate customer and stakeholders needs through engagement and feedback	As part of RIIO-ED2: 2 dedicated digital events, a further 5 with specific Digitalisation questions and an additional 39 events referenced for our digital investment plan. Positive progress in development of customer journey maps and personas to gain deeper understanding of customer and stakeholder needs.	Digital Strategy, pages 7-8	★★★
2.	**Existing products and services are valued** by those that use them	Success measures and feedback demonstrate value and customer satisfaction	Measures demonstrate positive usage and uptake of products and services	Digital Action Plan, page 10	★★
3.	**Deliver our action plan** of products and services for our customers and stakeholders	Deliver planned products and services in Financial Year (FY) 2021/22	1 action complete 6 actions on target 4 actions delayed, but on track for delivery in FY21/22 2 new actions added from Continuous Improvement	Digital Action Plan, pages 11 - 12	★★
4.	**Demonstrate a bold, and leading ambition** within our strategy and for our products and services	Benchmarking and customer and stakeholder feedback confirms our ambition as "bold and leading"	Feedback from our Digital Strategy workshops indicate we are on the right track and identified areas for further improvement	Digital Strategy page 28	★★
5.	**Realise the longer term value of digitalisation** for us and wider ecosystem	Share analysis of benefits through delivering our Digital Strategy Action Plan and our RIIO-ED2 Business Plan	Benefits of products and services for each customer segment are described within our Digital Strategy and Action Plan. Our RIIO-ED2 business plan is still in development and will detail quantification of expected benefits when complete.	Digital Strategy pages 21 – 26, and 28 Action Plan: page 9 – 11	★★
6.	**Collaborate within and outside of the energy sector** to realise efficiencies, foster innovation and accelerate delivery of our digital strategy, sector and national ambitions for digitalisation and net zero.	Work with others to deliver shared products and services, ensuring interoperability where applicable and benefit to the wider ecosystem.	10 collaboration projects continuing in FY21/22 2 projects closed	Digital Action Plan, page 12	★★

Under the bonnet - We are already well progressed in developing our digital capabilities

To provide products and services to our customers and stakeholders we need a range of digital capabilities. These investments provide our business with the digital platforms, insight and automation and organisational ways of working needed to ensure we can deliver our commitments and digital vision.

What have we done so far

Platforms

IT and Operational Technology (OT) is an enabler for data to be extracted, analysed and made 'Open' whilst also ensuring resilience, reliability and security of our network as usage evolves.

We have completed delivery of centralised ANM architecture running state-of-the art virtual server platforms to significantly expand the number of operational ANM schemes available, enhancing management of network constraints and enabling more flexible connections.

We continue to deliver a number of cyber security enhancements in line with the NIS Directive.

We have successfully enhanced our Condition Based Relationship Management (CBRM) system with Asset Investment Management functionality, being the first Distribution Network Operator to adopt this change.

| Asset Lifecycle Mgmt | Geospatial Asset platform |
| Mobile Work platform | Customer Relationship Management Tool | Cyber Security |

Insight and Automation

We are building the core data and integration infrastructure in preparation for sharing data and extracting new value through analytics. We are committed to process automation and improvement.

Established our data and analytics, data governance, data management and data stewardship capabilities whilst adopting IBM Data Model for Energy and Utilities (DMEU), Axon Data Governance Tool and Microsoft PowerBI solutions.

We have integrated and are utilising smart meter data to enhance our understanding of network connectivity and improve fault management, established data pipelines to enable data proof of concepts and commenced the automation of core processes, including KPI reporting, worked time recording and fatigue management.

| Smart Meter Data Insights | Reporting and Visualisation |
| Data Governance Tool | Utilities Data Mode | Common Information Model |

Organisational Alignment

We are making strategic investment in our organisation to evolve our ways of working to be more responsive to our customers and more agile in the way we work.

Expanded our Digital Transformation team, recruiting key expertise, apprentices and training in business change, process, lean six sigma, real time systems, data and analytics.

Strengthened our mature digital governance and delivery framework with increased business ownership and accountability (MD steering groups, Director level Sponsorship, Business Product Owners and Data Owners)

Enhanced employee use of technology and accelerated adoption of digital tools, supporting capability growth.

Revised our operating model, optimising with use of technology.

Established a workforce resilience working group and culture mapping to inform future transition plans.

Introduced Customer Impact Assessments throughout design and delivery stages of Digital projects to ensure customer needs kept at the forefront.

| | Digital Transformation Team | |
| Digital and Data Governance | Accelerated Digital Adoption | Revised Operating Model |

Under the bonnet - How we will continue to evolve our digital capabilities

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What will we do in the next 2 years

Platforms

An upgrade to our Distribution Management System to include Outage Management, and an upgrade to our Customer Platform to improve customer connections. We are continuing our programme of cyber security enhancements, extending use of our mobile field technology and increasing our use of Active Network Management, undertaking key improvements to our Operational Technology Network (OTN) to facilitate this.

Recognising it's importance to our **Green Recovery Programme**, we are accelerating our wide-scale roll-out of Low Voltage (LV) network monitoring in the RIIO-ED1 period and have a number of supplier test devices connected to our operational technology system, helping to inform procurement activity which is underway.

Distribution Management System	Outage Management System	Customer Connections platform	Active Network Management

Insight and Automation

Expand our data pipelines, growing our data lake and data model. Progress completion of our electrical asset connectivity model, providing the basis for our Digital Twin and system map.

Rollout and embed analytics solutions to deliver improved, automated processes and decision making.

Complete our Energy Data and Forecasting Analytics programme to support our DSO role.

Provide open data through our website and application programming interfaces (APIs).

Electrical Connectivity Model	Digital Twin	Automated Core Processes	Energy Analytics and Forecasting

Organisational Alignment

Continue to develop our workforce resilience strategy, operating model and culture change for RIIO-ED2.

Expand and embed data and digital skillsets across the organisation.

Develop a dedicated support hub on our employee app for Customer Service and Stakeholder Engagement

Continue to build our Customer Journey maps and evolve our internal and external Personas.

A specific emphasis will be placed on proactive services for Customers in Vulnerable Situations

Extend and enhance our use of Lean Six Sigma and Agile methodologies across the organisation.

Following a successful pilot, roll-out our 'Empowered to Care' training programme that once completed and if successful, will see SSEN become the first DNO to achieve the TrainingMark Accreditation for a Customer Service Training Programme.

Workforce Planning and Culture Change	Customer Journeys and Personas	Vulnerable Customer Services	Digital, Data and Change Skills

Our plans for RIIO-ED2 period (2023–2028)

Platforms

Two platforms to enable our DSO role: Whole System Co-Ordinator and Neutral Market Facilitator.

Extensive rollout of LV network monitoring and fully establishing our DSO and flexibility management platforms.

Provide an open data "shop-front" to make it easy for third parties to access our data and services.

Establish our developer portal enabled through adoption of a Service Oriented Architecture

Insight and Automation

Complete our customer connectivity model, building a full digital twin of our network in a Common Network Model.

Our master data and process management are delivered through our Axon toolset.

Achieve extended use of automation and a suite of integrated analytical models.

Organisational Alignment

Adopt and integrate use of emerging technology for operations and training.

Modernise our working arrangements and digital workplaces.

Achieve a customer-centric culture and organisation around customer journeys.

Optimise work planning and scheduling with digital solutions

For more information, please Get in touch ›

Ensuring we deliver for our customers and stakeholders

We are taking a range of steps to ensure we deliver our strategy and action plan to a high quality.
Here we outline our approach and the risks we are actively managing.

Our Delivery Approach

Our digital strategy outlines how we will use personas to surface insights and create deeper understanding of our customers' needs.

This insight will be used as we design our products and services.

We will also engage the consumers of our services in the design process and integrate their feedback to improve our products.

Our commitment to adopt a 'test and learn' approach supports our ambitions stated for organisational alignment in our digital strategy.

Where it makes sense we will pilot new services and product updates with small audiences and gather feedback.

We will use this to make improvements before releasing to a larger audience.

We will continue to evolve our agile capability to deliver iterative benefit to customers and stakeholders.

We will continue to use our External Customer Focus Groups to shape and inform our actions.

We are developing performance measures for our Digital Action Plan that add value over and above existing price control measures. We will develop these through consultation with customers and stakeholders.

The risks we are addressing

1. **SSEN's products and services are not aligned to or benefiting from similar work taking place elsewhere in industry or beyond. This risks introducing complexity and inconsistency to our customers and stakeholders, and increasing the incremental and long term cost to deliver our Digital Strategy and realise our own and the UK's strategic digitalisation ambitions.**

   ▪ We will align with industry through the ENA Data Working Group, our broader collaboration with other stakeholders, and by seeking feedback on areas we should collaborate on further.

   ▪ Publish an appendix listing the data standards, underlying technologies and processes to enable effective feedback to shape our forward plans and those of others.

2. **The incremental costs of providing and developing products and services proves to outweigh the benefits.**

   ▪ We are taking a holistic approach to determine the benefits of developing products and services, recognising there are direct benefits to the users but also broader societal benefits such as carbon reduction, enablement of new markets and supporting broader policy aims of digitalisation across the UK.

   ▪ As part of our future Digital Strategy and Action Plan updates we will provide a supporting benefits analysis for all future products and services.

3. **There is limited uptake of products and services despite them being clearly aligned to customers' needs**

   ▪ Whilst SSEN sees real value in delivering new products and services, we will ensure the perceived need and real opportunity for any product and service has been thoroughly tested and evidenced before committing resources to the development of any product or service.

   ▪ We will do this through a mixture of stakeholder engagement, but also market sizing to determine the product of the number of potential uses, the instances where a product may be used and the frequency of use.
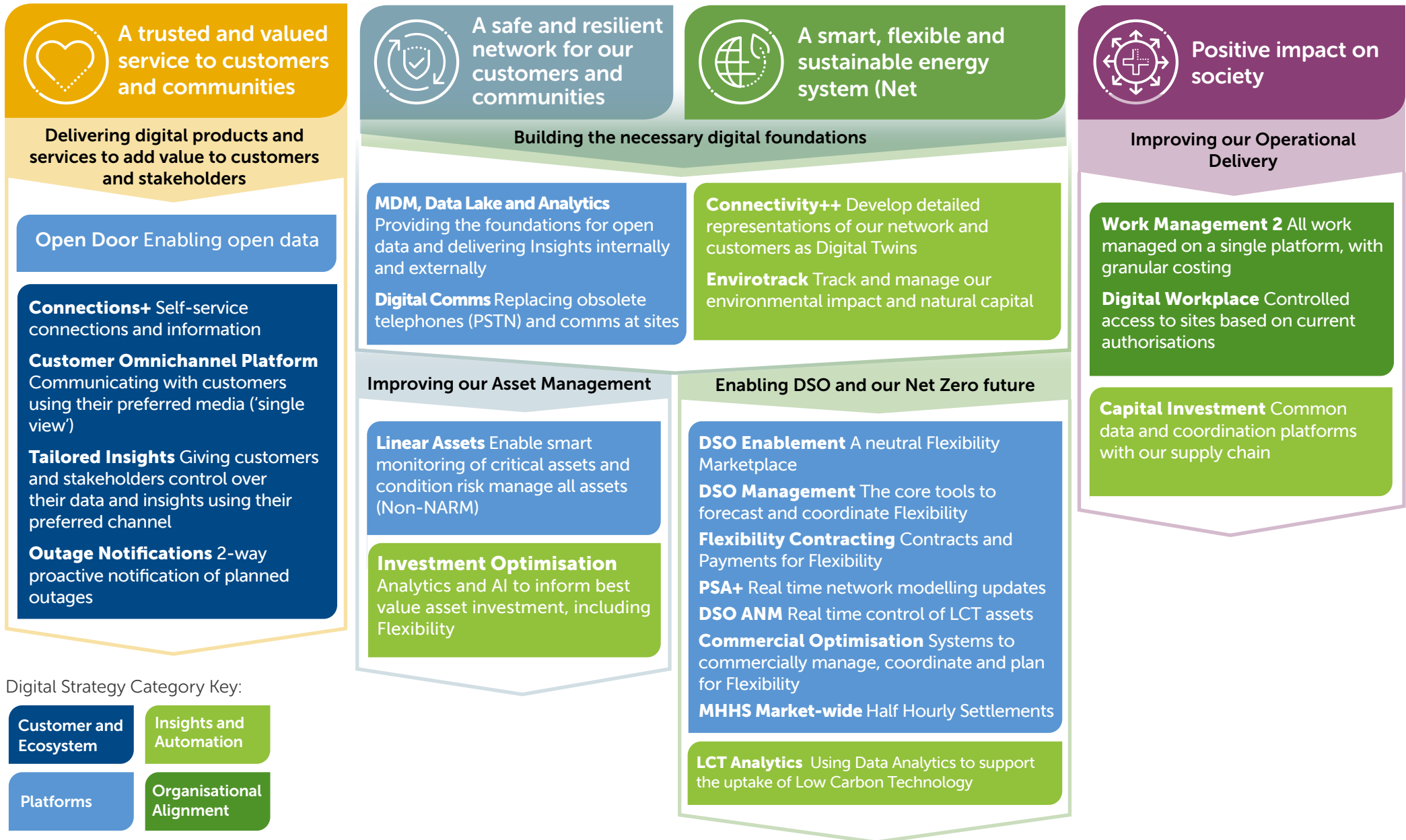
RIIO-ED2 Update

Development of RIIO-ED2 Digital Investments

Through identification of our key digital capabilities and extensive stakeholder engagement we are proposing the following areas of investment for RIIO-ED2

A trusted and valued service to customers and communities

Delivering digital products and services to add value to customers and stakeholders

Open Door Enabling open data

Connections+ Self-service connections and information

Customer Omnichannel Platform Communicating with customers using their preferred media ('single view')

Tailored Insights Giving customers and stakeholders control over their data and insights using their preferred channel

Outage Notifications 2-way proactive notification of planned outages

A safe and resilient network for our customers and communities

A smart, flexible and sustainable energy system (Net

Building the necessary digital foundations

MDM, Data Lake and Analytics Providing the foundations for open data and delivering Insights internally and externally

Digital Comms Replacing obsolete telephones (PSTN) and comms at sites

Connectivity++ Develop detailed representations of our network and customers as Digital Twins

Envirotrack Track and manage our environmental impact and natural capital

Improving our Asset Management

Linear Assets Enable smart monitoring of critical assets and condition risk manage all assets (Non-NARM)

Investment Optimisation Analytics and AI to inform best value asset investment, including Flexibility

Enabling DSO and our Net Zero future

DSO Enablement A neutral Flexibility Marketplace

DSO Management The core tools to forecast and coordinate Flexibility

Flexibility Contracting Contracts and Payments for Flexibility

PSA+ Real time network modelling updates

DSO ANM Real time control of LCT assets

Commercial Optimisation Systems to commercially manage, coordinate and plan for Flexibility

MHHS Market-wide Half Hourly Settlements

LCT Analytics Using Data Analytics to support the uptake of Low Carbon Technology

Positive impact on society

Improving our Operational Delivery

Work Management 2 All work managed on a single platform, with granular costing

Digital Workplace Controlled access to sites based on current authorisations

Capital Investment Common data and coordination platforms with our supply chain

Digital Strategy Category Key:

Customer and Ecosystem

Insights and Automation

Platforms

Organisational Alignment

RIIO-ED2 Digital Investment and who they impact

Our proposed investment for RIIO-ED (2023 – 2028) and who will benefit

1 Primary Stakeholders that drive the initial objectives of the investment

2 Secondary Stakeholders who also benefit from the investment

Investment	Digital Strategy Category	Strategic Alignment	Description	Supports Stakeholders from:				
				Our 3.8m customers	Energy Users, DER Owners and Aggregators	Partners and Peers	EV and Low Carbon Technology supply chain	Partners and Policy Makers
ADMS+	Platform	Progress to Net Zero	The largest predicted growth of LCTs in RIIO-ED2 is on the LV network, without having the capability of managing these resources significant LV network upgrades will need to be undertaken	2	1	2	2	2
Capital Investment	Insights and Automation	Positive Impact on Society	Tools to enhance collaboration across our supply chain and all procured services, including design and construction, with portfolio, programme and project management, and a common data environment.			1		
Connections+	Customers and Ecosystem	Trusted and Valued Service	An automated solution to enable the scale of connections required to facilitate net zero. A non-automated solution would require a substantial increase in personnel		1	2	2	2
Connectivity++	Insights and Automation	Progress to Net Zero	Creating a foundational connectivity model that links customers to all levels of our network is the only way to make more informed and proactive decisions about the distribution system.	2	1	2	2	2
Commercial Optimisation	Platform	Progress to Net Zero	To ensure that the appropriate costs and value of our network solutions are effectively considered, we need to use the appropriate financial modelling to optimise our costs profiles			1		
Customer Omni-channel System	Customers and Ecosystem	Trusted and Valued Service	When customers want to interact with us it is important that we make it as easy as possible, using a digital omnichannel gives greatest flexibility and scalability. The project will replace the PSTN telephony at our call centres, adding enhanced omnichannel facilities, including automation.	1			2	
Digital Comms	Platform	Safe, Resilient and Responsive Network	National communications networks are changing and are outside of our control, proactively addressing these issues enables better value solutions to be established		2		1	
Digital Workplace	Platform	Positive Impact on Society	Better facilitation of on-site works using digital technology to ensure effective and timely coordination and optimum service to customers and stakeholders	1				
DSO ANM	Organisational Alignment	Progress to Net Zero	Active Network Management (ANM) is a fundamental tool which enables flexible connections and provides the network with the ability to manage constraints through either flexible connections or contracted Flexible Services.	2	1	2	2	2
DSO Enablement (Orchestrator)	Platform	Progress to Net Zero	An effective market place is the absolutely necessary to enable a liquid market for flexibility		1	2		
DSO Management (Optimiser)	Platform	Progress to Net Zero	Being able to coordinate and use flexibility in the most effective way will bring the most benefits from flexibility and keep flexibility contract costs to a minimum		1	2		
EnviroTrack	Platform	Progress to Net Zero	Without understanding our progress against our sustainability goals, we will not be able to demonstrate are a leading organisation to meeting net zero		2			1
Flexibility Contracting	Platform	Progress to Net Zero	Effective contact management and payment is a core part of any market, without an effective solution the market will not run smoothly and will not scale up to meet needs			2	2	2

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RIIO-ED2 Digital Investment and who they impact

Our proposed investment for RIIO-ED (2023 – 2028) and who will benefit

1 Primary — Stakeholders that drive the initial objectives of the investment

2 Secondary — Stakeholders who also benefit from the investment

Investment	Digital Strategy Category	Strategic Alignment	Description	Supports Stakeholders from:				
				Our 3.8m customers	Energy Users, DER Owners and Aggregators	Partners and Peers	EV and Low Carbon Technology supply chain	Partners and Policy Makers
Investment Optimisation	Insights and Automation	Safe, Resilient and Responsive Network	Using advanced modelling and AI to choose the most appropriate investment solutions, to both enable flexibility (an Ofgem obligation) and point to the most cost-effective solutions		1	2	2	2
LCT Analytics	Insights and Automation	Progress to Net Zero	Understanding the growth and locality uptake of Low Carbon Technologies (LCTs), along with understanding emerging behaviours for effective planning and operational decision making	2	2	2	1	2
Linear Assets	Platform	Safe, Resilient and Responsive Network	By getting a detailed and insightful view of our most expensive and complex assets we can proactively mitigate issues and save significant costs	2	1		2	2
MDM, Data Lake & Analytics'	Platform	Safe, Resilient and Responsive Network	A master data management system and data lake, managing data as a prime asset, based on international best practice, to support digital and IT capability and the wider business. Using analytical insight, including AI, to provide accurate information and improve decision making.		2	2	2	1
Market Half-Hourly Settlement (MHHS)	Platform	Progress to Net Zero	Updates and replacements of all systems that manage or process industry dataflows, to meet our obligations for Market-wide Half Hourly Settlements.	1				2
Open Door	Platform	Trusted and Valued Service	Open data is mandated by Ofgem and an ambition of SSEN to share our network data with our industry partners and beyond, achieving an effective Open Data operating model that drives value within and beyond our business.	1	2	2	2	
OTN Roll Out	Platform	Safe, Resilient and Responsive Network	Core communications backbone for our Primary and Grid Substations to enable resilient, high speed and high-capacity data backhaul and control.					
Outage Notifications	Customers and Ecosystem	Trusted and Valued Service	A system to ensure that customers are automatically informed of any planned or unplanned outage, and to allow LCT providers to inform us of any outages, planned or unplanned, on their equipment.	2	1	2		
Personnel Voice Communications	Platform	Safe, Resilient and Responsive Network	Replacement of substation voice communication equipment capable of supporting our needs in a black start scenario. Replacement of services presently provided by Public Switched Telephony Network.	2	1	2		
PSA+	Platform	Progress to Net Zero	Improving our networks system model to inform decisions and ensure up to date information, without which the accuracy and value of our decisions will be compromised introducing risk to the system					1
Smart Meters+	Platform	Progress to Net Zero	Replacement of legacy software and hardware to ensure we continue to securely interface with the national smart metering systems (DCC) and maximize the benefits.			1		
Substation SCADA	Platform	Safe, Resilient and Responsive Network	An overhaul and extension of our SCADA systems with modern technology to enhance monitoring and support the more complex interactions expected in our journey to net zero.					
Tailored Insights	Customers and Ecosystem	Trusted and Valued Service	Personalised experience for customers through the use of analytics as tool for them directly but also for our internal staff interacting with stakeholders. This also helps to democratise data	2	2	2	2	1
Work Management 2	Organisational Alignment	Positive Impact on Society	All work, including maintenance, outages and connections, managed through a single platform, reducing waste and travel, and delivering granularity of costs for future planning.			2		

Open to you

Open to you

We use stakeholder feedback to improve our business and your views will make a real difference to our digital future, so please let us have your opinions.

Through our RIIO-ED2 stakeholder engagement, digitalisation is a core theme that cuts across all our activities and impacts the wide range of customer and consumer groups we highlighted in this document. Therefore, digitalisation will be a consideration in all of our RIIO-ED2 engagements. If you would like to know more and are not already registered as an SSEN stakeholder, please register here:

www.ssen.co.uk/ StakeholderEngagement/ HaveYourSay

We have a detailed technical questionnaire on how we are delivering digitalisation, please contribute here:

www.ssen.co.uk/dsap

We are also carrying out small groups of expert stakeholder engagement on the delivery of Digitalisation, if you are keen to feedback in one of these sessions please get in touch here:

futurenetworks@sse.com

1. To what extent do you agree with the content of our strategy and action plan? Please let us know where you think SSEN could improve.

2. To what extent has this document increased your understanding of the opportunities enabled by digital for SSEN? Please let us know where clarity can be improved.

3. To what extent has this document increased your understanding of the potential of Open Data to enhance value to the customers and the communities that SSEN serves?

4. How bold do you think SSEN's digital strategy is? Please let us know which areas of the strategy could be bolder.

5. Is our action plan sufficiently ambitious? Which areas require a stronger focus?

6. To what extent do you feel that SSEN is making progress in meeting the current and future needs of our customers in a digital world?

7. In the process of digitalising the business and opening up data securely, where should our priorities be focused? For example EV connections, whole system planning, customer supply interruptions.

Digital feedback survey

If you would like to give general feedback or fill out our questionnaire, please go to:

www.ssen.co.uk/DigitalFeedback/

Glossary

Term	Definition
Aggregators	A new type of energy service provider which can increase or moderate the electricity consumption of a group of consumers according to total electricity demand on the grid.
Agile	Methodology and way of working based on iterative development, where requirements and solutions evolve through collaboration between self-organising cross-functional teams.
API	Application programming interface: a computing interface that defines code and interactions between different software platforms.
Artificial Intelligence (AI)	Development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision making and translation between languages.
CEG	Customer Engagement Group
Channel	A digital medium (website, mobile, Chatbot) by which to consume content, engage with a brand and / or complete a transaction.
CMZ	Constraint Managed Zones . These zones make use of technologies providing flexibility to alleviate network constraints, deploying them as an alternative to traditional network reinforcement in the management of peak demand.
Consumer	Energy consumers, meaning wider users of network services including business and domestic customers that pay for their network use through energy bills.
Customer	An individual, business, generator or flexibility service provider that is connected to, or seeks to connect to SSEN's electricity distribution network.
Decarbonisation	Reducing the carbon intensity in terms of emissions per unit of electricity generated.
Data triage	Systematically find issues which should inhibit open data, identify the 'least impact' mitigation technique(s) and make the process transparent
Digital	Describes the dominant use of the latest digital technologies to improve organisational processes, improve interactions between people, organisations and things, or make new business models possible.
Digitalisation	The use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business.
Digital System Map/ Digital Twin	A digital representation of a real world entity or system.
Distributed Energy Resources (DER)	Any resource on the distribution system that produces or stores electricity. This can include distributed generation, storage, heat pumps and electric vehicles as well as other technologies.

Term	Definition
Distribution Network Operator (DNO)	The distribution system is a network of wires, transporting electricity from the transmission system or distribution connected generation to domestic, commercial and industrial electricity consumers.
Distribution System Operator (DSO)	Securely operates and develops an active distribution system comprising networks, demand, generation and other flexible distributed energy resources (DER).
DSAP	Digital Strategy and Action Plan
Ecosystem	Connection of people, processes, companies, data and things that share the use of digital platforms. Participants in an ecosystem interact with each other to create and exchange sustainable value.
RIIO-ED1 and RIIO-ED2	Refers to Ofgem's RIIO-ED1 and RIIO-ED2, which is Ofgem's electricity distribution price control model for network regulation (Revenue = Incentives + Innovation + Outputs)
Electricity System Operator (ESO)	Supply and demand are balanced second by second and in the longer term and that power flows across the network safely and reliably.
ENA DWG	Energy Networks Association Data Working Group
EV	Electric Vehicles
Flexr	Flexr is a DNO data provision and standardisation service from ElectraLink that will connect to the data held by all six DNOs and their DER customers.
Fuel Poor	A fuel poor household is defined as one that needs to spend 10% or more of their household income on all fuel use in order to maintain a satisfactory heating regime.
GIS	Geographic Information System: computer based visualisation of spatial and geographic data.
Independent Connection Providers (ICPs)	An independent connections provider not affiliated to a distribution network operator.
Independent Distribution Network Operators (IDNO)	Independent Distribution Network Operators (IDNOs) develop, operate and maintain local electricity distribution networks.
Internet of Things (IoT)	IoT refers to a vast network of devices connected to the Internet with the promise to enhance real-time customer experience and unlock new value from data.
Lean Six Sigma	Continuous improvement methodology and tools for business problem solving and process improvement.

Glossary

Term	Definition
Long Term Development Statement	A document that sets out the use and likely development of the distribution network and the distribution network operator's plans for modifying the distribution system.
Low Carbon Technologies (LCT)	Processes or technologies that produce power with substantially lower amounts of carbon dioxide emissions than is emitted from conventional fossil fuel power generation.
Low Voltage (LV)	This refers to voltages up to, but not including, 1kV.
Machine Learning	Machine learning is an area of artificial intelligence concerned with developing techniques that allow machines to learn.
MEDA	Modernising Energy Data Access: UK Government competition to enable energy data to be open-sourced for the benefit of society.
Metadata	Data that describes other data. It helps to organise, find and understand data.
Net zero emissions	Any emissions would be balanced by schemes to offset an equivalent amount of greenhouse gases from the atmosphere, such as planting trees or using technology like carbon capture and storage.
Neutral Market Facilitator (NMF)	The Neutral Market Facilitator (NMF) will provide a market for trading the use of Distributed Energy Resources (DERs)
Open Data	Data in a machine readable format that can be freely used, shared and built on by anyone, anywhere, for any purpose.
Platform	Series of cloud based technologies that offer pre configured solutions to common business processes together with a flexible way to extend and build new processes to support your own requirements.
Priority Services Register (PSR)	A register of all customers in an electricity distribution area that are of pensionable age, have a disability, are chronically sick, require special communication needs, depend on electricity for medical reasons, have children under five in the household or require certain information and advice about supply interruptions.
Service Oriented Architecture (SOA)	Service-Oriented Architecture (SOA) is a style of software design where services are provided to the other components by application components, through a communication protocol over a network.
SSEN	Scottish and Southern Electricity Networks
Transmission Owner (TO)	Companies which hold transmission owner licenses.
Vulnerable Consumer	Significantly less able than a typical consumer to protect or represent their own interests; and/or significantly more likely to experience detriment, or for that detriment to be more substantial.

Engage with us

For any queries or to request further information, please contact us on:

- stakeholder.engagement@sse.com
- www.ssen.co.uk
- twitter.com/ssencommunity
- facebook.com/ssencommunity
- instagram.com/ssencommunity
- linkedin.com/company/ssencommunity
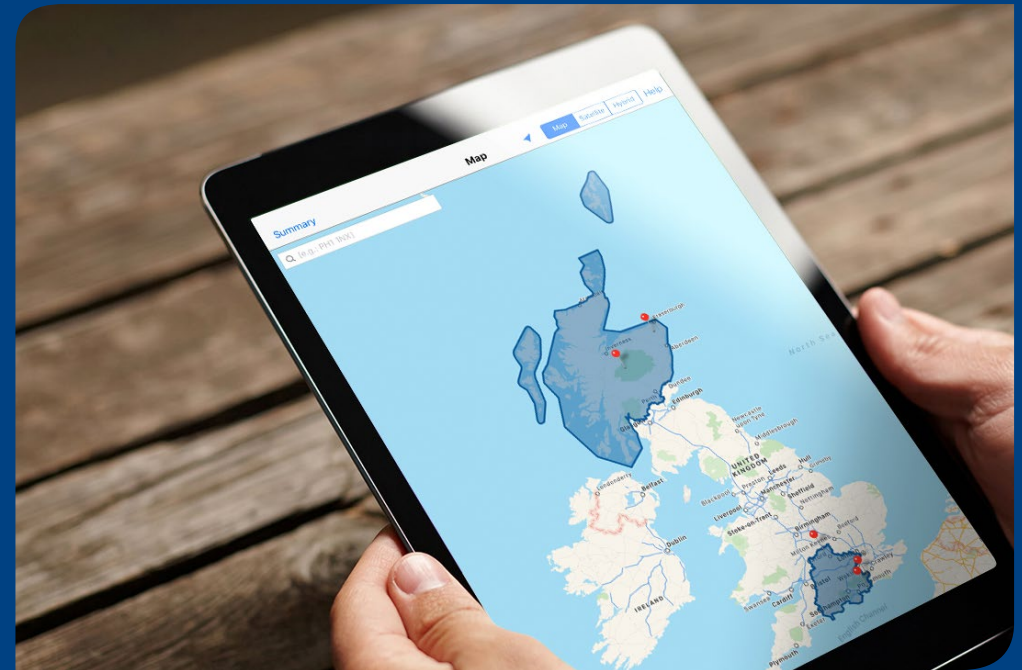
Scottish & Southern Electricity Networks | Powering our community