SSEN Digital Strategy

December 2019

Scottish & Southern
Electricity Networks

Foreword
Shaping our digital future

Shaping the electricity distribution network of the future is an exciting prospect and a strong digital backbone will be required to fully deliver on this potential.

As an industry we need to continually upgrade our digital capability, whether in further automation of our network assets, development of platforms or in the way we serve our customers. Digitalisation means being smarter on how we access, use and analyse data and align our organisation for a digital world.

Earlier this year we welcomed the publication of the Energy Data Task Force report. Its recommendations and views on the value of digitalisation and potential of Open Data have been embedded in our strategy.

SSEN has strong foundations in digital. We lead the industry on the digital service we provide to our 3.8m customers and have made significant steps to drive network innovation through the use of digital solutions. It is also helping us create better value through efficiency and improving levels of transparency.

I am delighted to share our latest Digital Strategy that includes our vision of a digitally enabled future and describes the role we expect to play as our industry evolves to best serve our customers and wider energy consumers.

In my mind, it's imperative that our customers, colleagues, and stakeholders better understand the value of digital to them and their communities. As a business, meaningful stakeholder engagement is critical and we are working to ensure we travel this journey together in an inclusive manner.

As we work towards the submission of our RIIO-ED2 business plan in 2021, I have every confidence that, with your feedback, this strategy will help us meet our future digital ambitions and deliver real benefits in the current price control. I welcome your views.

Andrew Roper
Distribution System Operations Director,
SSEN Distribution

Executive summary

Our Digital Vision

Our digital vision is to be a progressive network owner, using digital to enhance social and economic value, deliver a leading experience for our customers and to enable the energy system to support net zero carbon emissions.
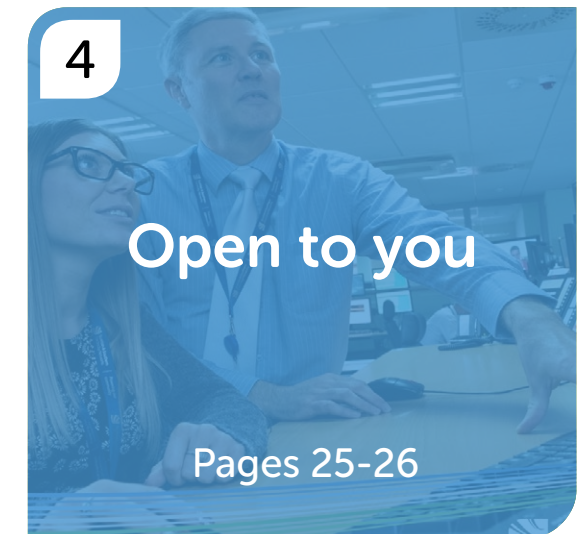
In this strategy we set out our positions across four areas.

Firstly, we explore what digital excellence and best practice looks like and set out our vision on the **future energy ecosystem**, where digital will be the thread connecting all network users.

Secondly, we share our view on the future needs of our customers. Then describe how digital and data can **deliver value** to our customers, partners and the energy system. We then describe the role digital will play in making our business more efficient and reliable.

The third part of our strategy describes our digital foundations so far and our **continued intent to develop digital capabilities** to realise our vision.

Finally, and most importantly, we are looking for **your input and views**. We think this strategy provides a blueprint of where we and the industry need to get to, but it is only a step and we need your feedback to further shape and improve it.

1 SSEN in the Digital World

Pages 4-10

2 The value of Digital to our Customers, Partners & the Energy System

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3 Our Digital Journey

Pages 19-24

4 Open to you

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Note: For the purposes of this document, the terms digital and digitalisation are interchangeable for ease of reading. Definitions are provided in the Glossary.

1. SSEN in the Digital World

SSEN Today

Through our two licenced electricity distribution network areas, Scottish Hydro Electric Power Distribution and Southern Electric Power Distribution, we operate and invest in an essential part of the UK's electricity system, delivering power to over 3.8m homes and businesses.

- Our **core purpose** is to deliver electricity that **powers communities in a safe and reliable way**. This is achieved through responsible stewardship of our networks, helping to keep the lights on and invest efficiently in new and existing network infrastructure for the benefit of our customers.

- Our **vision** is to **play a leading role in enabling the transition to a low carbon world that delivers for all customers**. Our foundation as a progressive, innovative and customer-focused organisation will help us be at the forefront of this transition, helping to support delivery of the UK's net zero emission targets.

SHEPD

780,000 customers' homes and businesses served

50,000 km of overhead lines and underground/subsea cables

SEPD

**3,100,000 customers'** homes and businesses served

78,000 km of overhead lines and underground cables

Delivering for customers and communities

At SSEN, we play an active and positive role in the communities in which we serve and seek to provide a service to our customers that recognises their changing needs and preferences.

- Recognition by the UK Customer Satisfaction Index business benchmarking survey as the leading energy networks organisation for customer service in 2018/19.

- Providing a leading social media and online customer service offering, providing contact through our website, Facebook, Whatsapp, Twitter, and the PowerTrack app.

- The creation of a Resilient Communities Fund, which has delivered over £2.4 million in grants to local not-for-profit community projects since 2015.

Key facts

- **Over 727,000** households are registered for free extra help via our Priority Services Register

- **15,000** PowerTrack app downloads

- **34m** reach across social media

- **1.2m** engagements with customers through digital channels

- **94%** - Our online customer satisfaction score

A leading role in a leading group

SSEN is part of SSE, a UK-listed company that operates across the energy sector and its activities and investments contribute around £9bn to the UK economy every year. We are Fair Tax Mark and Living Wage accredited, showing our commitment to pay the right level of tax at the right time and to ensure fair pay through our supply chain.

SSE has set out four Sustainable Goals to achieve by 2030, of which SSEN will play a significant part in delivering.
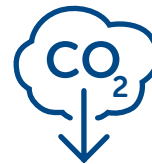
Cut our carbon intensity by 50%
Reduce carbon intensity of electricity generated by 50% by 2030, compared to 2018 levels, to around 150gCO$_2$/KWH

Help accomodate 10m electric vehicles
Build electricity network flexibility and infrastructure that helps accomodate 10 million electric vehicles in GB by 2030.

Treble renewable energy output
Develop and build by 2030 more renewable energy to contribute renewable output of 30TWh a year

Champion Fair Tax and a real wage
Be the leading ompany in the UK and Ireland championing Fair Tax and a real Living Wage

Our role in a smart, flexible, energy system

If the UK is to deliver its net zero emissions targets, the energy industry needs to embrace fundamental change in order to decarbonise transport and heat at an unprecedented rate. For this transition to be successful it requires:

- More holistic, **strategic planning** across electricity, gas, heat and transport sectors as part of a wider ecosystem;

- Greater **utilisation of flexible energy resources**, across electricity, heat and transport;

- A clear **understanding of the value flexible resources can provide** at any one time; and

- Greater **real time co-ordination** in energy system operation to ensure that flexible resources can be 'optimised' across the whole system.

Distribution networks are at the heart of this change. By transitioning to **Distribution System Operators** (DSOs) they will facilitate the rapid connection of new technologies such as electric vehicles, heat pumps, storage, and small scale renewable generation and while ensuring that there is access to the network to provide wider system services.

Delivering DSO

In our DSO progress update, published in November this year, we introduced the three building blocks that are at the heart of SSEN plans for our transition from DNO to DSO. They build on our established principles set out in 2017.

The building blocks include ensuring we retain the current high level of network reliability at lowest cost, minimising any increases to customer bills, protecting fuel poor customers and providing opportunities for all customers to reduce their bills through providing system services.

We are actively building towards this future energy system, acting as a leading voice working in collaboration with our stakeholders, peers and innovators through the Open Networks project and our own Project LEO (Local Energy Oxfordshire).

Maintaining a safe, reliable and secure grid

Enabling the equitable low-carbon transition

Identifying cost effective solutions for energy customers

Digitalisation and Data will be a key catalyst

The move to a flexible, decentralised system represents a fundamental shift for network operators and one that would not be possible without increasing digitalisation of systems and processes, underpinned by rich, local and accessible data.

- Open Data can be a catalyst to the change, empowering customers and service providers and enabling economic decision making across the energy ecosystem.

- Digitalisation is crucial to providing data in the right channels and format to empower this ecosystem, foster new partnerships and collaborations required to deliver system wide change.

- We see a future where system planning, customer choice and, most critically, system reliability are improved by open access to the data that exists across transmission, distribution and the system operator. Over time we see this data set being further enriched with infrastructure planning data and input from other utilities.

- Early to realise the value of insight from our data, we continue to mature an in-house analytics capability. We are using this to drive our work in realising flexibility markets across Oxford through our LEO and Transition projects.

The Digital World

Outside of the energy sector the world is being transformed by heightening customer expectations, innovative digital technologies and new business models.

In understanding the digital world, we use Baringa's leading 'Twelve Shifts of Digital' framework. This brings together industry best practices across four areas.

To better meet the evolving needs of customers and strengthen our core networks business, we have built our digital strategy considering twelve fundamental shifts in the digital era.

These shifts span our entire operating model because, at SSEN, we believe the influence of digital extends far beyond technology enabled change.

A Business Model & Ecosystem

Today, organisations are using digital to fundamentally disrupt traditional business models. They are reaching a new set of customers and better serving their existing consumer base. This helps digital organisations to play a bigger role in the value chain and supports new entrants to bring further innovation and strengthen competition.

B Customer Experience

Today, customers expect the same experience as when using Netflix; extreme convenience, immediacy, simplicity and hyper-personalisation.

For customers who are less digitally engaged, they still expect high quality and personalised experiences delivered through traditional channels.

C Platforms & Data

Today, organisations seek to differentiate through their platforms and data.

Data driven organisations utilise data to collaborate with trusted partners securely, extract insight through analytics, machine learning and artificial intelligence and automate processes to improve customer experience.

D Organisational Alignment

Today, organisations are adapting their leadership behaviours, culture and decision making to improve speed to market.

Instead of following traditional requirements gathering, they embrace "test and learn" and succeed through experimentation and continuous improvement in smaller, multi-functional teams.

❶ Business Model
Traditional *to* new digital business models

❷ Ecosystem
Isolated offerings *to* partnerships, alliances & ecosystems

❸ Customer
Experience as industry specific *to* experience as industry agnostic

❹ Proposition
Commoditised products *to* intelligent services

❺ Channel
Digitised and transactional *to* digital & human

❻ Architecture
Monolithic & point-to-point *to* API-based and cloud enabled

❼ Insight
Reactive analytics *to* predictive insight and intelligent automation

❽ Route-to-live
Manual route-to-live *to* continuous integration and deployment

❾ Organisation
Large, siloed departments *to* small, multidisciplinary teams

❿ Talent
Project managers & business analysts *to* engineers & product owners

⓫ Culture
Governance with perceived certainty *to* servant leadership with digital mindsets

⓬ Method
Working Groups & documentation *to* testing & learning

We are looking externally to help inspire and shape our Digital Strategy

The leading companies in the digital era are adapting their business end-to-end; from changing their business model to everyday ways of working. We want to adopt best practice from digital leaders as this helps to unlock a range of new opportunities for our customers and communities.

SSEN has already applied learning from leaders in digital and customer experience

Learning from
amazon

We actively champion the power of brilliant UX design and digital inclusion. We have the highest rank for website accessibility across DNOs[1] and are evolving it to make it even more customer focused.

Learning from
NETFLIX

We firmly believe in acting quickly on customer feedback and utilising their insights to continuously refine our operations. We are establishing external customer focus groups who will provide direct customer feedback to improve our outage and general enquiries experience.

Learning from
conEdison

We understand the importance of actively engaging and listening to current and potential customers on social media platforms such as our Facebook Community Groups. This steers our continuous improvement and our future business planning.

[1]Source: Sitemorse Website Index

A Business Model & Ecosystem

Rolls Royce shifted from selling engines to charging for outcomes ('power by the hour'). The customer buys the power the engine delivers and Rolls Royce provides all of the support (including maintenance) to ensure that the aero engines can continue to deliver power.

For SSEN this could mean, we move to an outcome based model in helping Distributed Energy Resource (DER) owners and aggregators develop investment cases over network planning horizons. As we get better at sharing data, we could help Local Authorities define their energy pathway and infrastructure needs.

B Customer Experience

Metro Bank is rapidly growing a network of banking "stores" with leading customer experience, underpinned by digital tools. They offer an app that leverages AI to help customers better manage their money by analysing their spending habits in real time. Customers can replace cards in 3 minutes and open an account in 15 minutes.

For SSEN this could mean, that during power cuts and interruptions we provide an experience similar to online food delivery. Our customers could get real-time, specific fault information and real-time updates on time to restore faults and the likelihood that the power will be cut-off in their area again.

C Platforms & Data

From **Amazon's** most well-known online shopping platform to the evolution of Amazon Web Service (AWS) and extension into more niche platforms (e.g. Amazon Connect, Amazon for Business), the underlying principle has remained the same. That is, all their platforms must be open source and loosely coupled so data is re-useable and searchable without dependency on any one team.

For SSEN this could mean, we openly share our data with authenticated partners and innovators that enables them to explore, learn from our data and provide our customers with more innovative services. This would help inform their offerings back into the market and help SSEN identify and deliver efficiencies.

D Organisational Alignment

ING was early in recognising that customer needs are being shaped by digital leaders in other industries and moved to becoming more agile. It has benefited from a quicker time to market, stronger employee experience and higher efficiency. Key to this was commercial and IT staff being co-located and working in multi-functional teams. Leaders were at the forefront of this change by visibly role modelling a customer first and agile culture.

For SSEN this could mean, we structure teams to include more cross-functional, multi-skilled talent in areas such as Connections. In doing this, we help embed and drive knowledge transfer across the organisation, increase our agility to respond to customers and support succession planning and workforce renewal.

The UK Banking industry offers a useful parallel to the journey we are on

The UK banking industry has introduced 'Open Banking' in response to regulatory changes and customer demand. Industry and customer account data has become more open, increasing competition, innovation and creating greater value for customers. We have focused on the best aspects from the UK Open Banking experience to help inspire our digital strategy.

1 Key drivers of Open Banking

Change in Regulation

Competition and Markets Authority Order: Access to bank service and account data to compare providers

Payment Services Directive 2 (PSD2): Being able to initiate payments through a third party
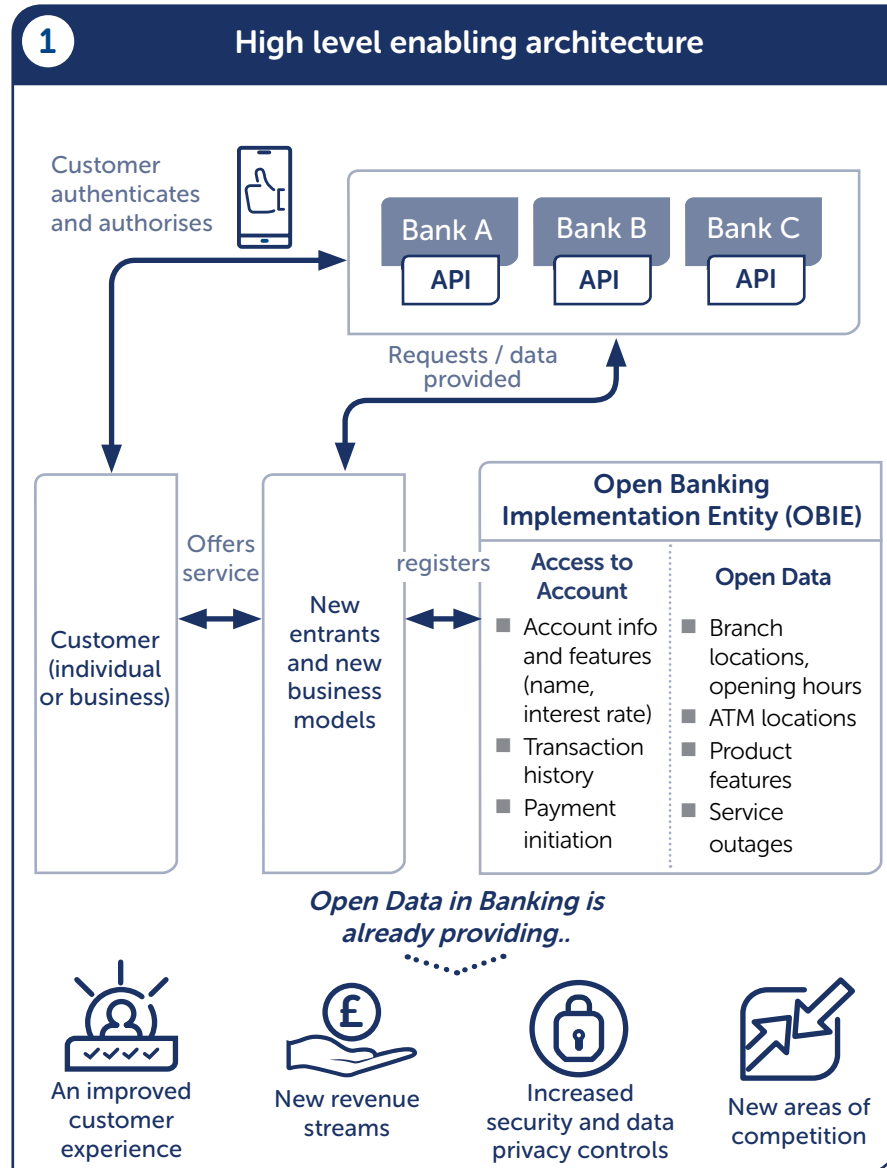
- ✓ Customers owning their data
- ✓ Driving competition & innovation

Evolving Customer Expectations

- Customers increasingly expect intelligent, contextual services and not commoditised products
- Why shouldn't your Banking experience feel the same as ordering an Uber, booking an AirBnB or trawling through Netflix?

Advancements in Technology

- Open APIs allow organisations to quickly design, test and launch new propositions services by leveraging both internal and third party APIs

1 High level enabling architecture

Customer authenticates and authorises

Bank A — API
Bank B — API
Bank C — API

Requests / data provided

Customer (individual or business)

Offers service

New entrants and new business models

registers

Open Banking Implementation Entity (OBIE)

Access to Account
- Account info and features (name, interest rate)
- Transaction history
- Payment initiation

Open Data
- Branch locations, opening hours
- ATM locations
- Product features
- Service outages

Open Data in Banking is already providing..

- An improved customer experience
- New revenue streams
- Increased security and data privacy controls
- New areas of competition

3 What has this meant for UK Banking?

Customers

Pre Open Data
Banks can transform their part of the customer journey, but not much further

Under Open Data
The entire journey can be transformed – especially the parts banks don't currently control

Ecosystem

Banks have a clear role in their ecosystem – their customer banks with them

A broader ecosystem brings innovative services to customers

Data

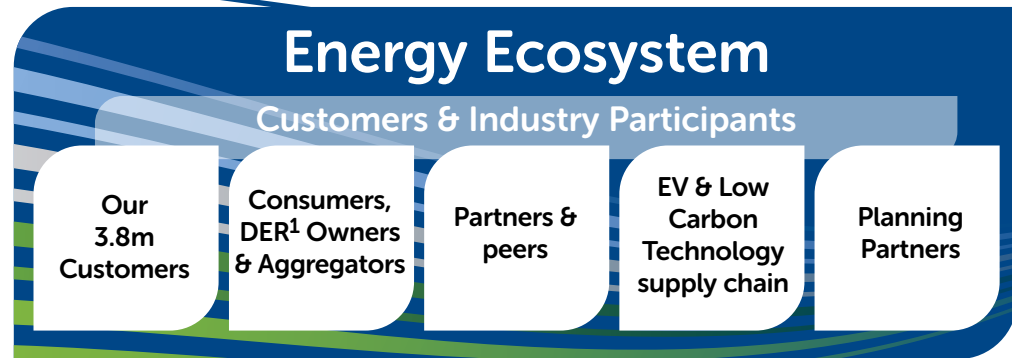Available data is limited to the power of a bank's enterprise systems

The power lies in the data that resides in systems across banks

Our Vision of the Future Energy Ecosystem

The future role of an energy network will be characterised by being much closer to consumers and other network users. Through our role as a leading Network Operator we will continue to create value for consumers and society, encouraging competition and innovation and enabling the energy transition. We will interact more closely with the Electricity System Operator, Local Authorities, Electricity Transmission Owners, Flexibility Providers and Market Platforms.

1 Expanding Energy Ecosystem

- The future energy system will become increasingly open and distributed – enabling innovation and competition.
- As the energy transition progresses the industry will serve a greater variety of customers in new and different ways, and connect new sources of production and innovative storage solutions.
- Innovative third parties will enter the industry enabled by Open Data, forming new relationships and creating new sources of value for consumers and for society.
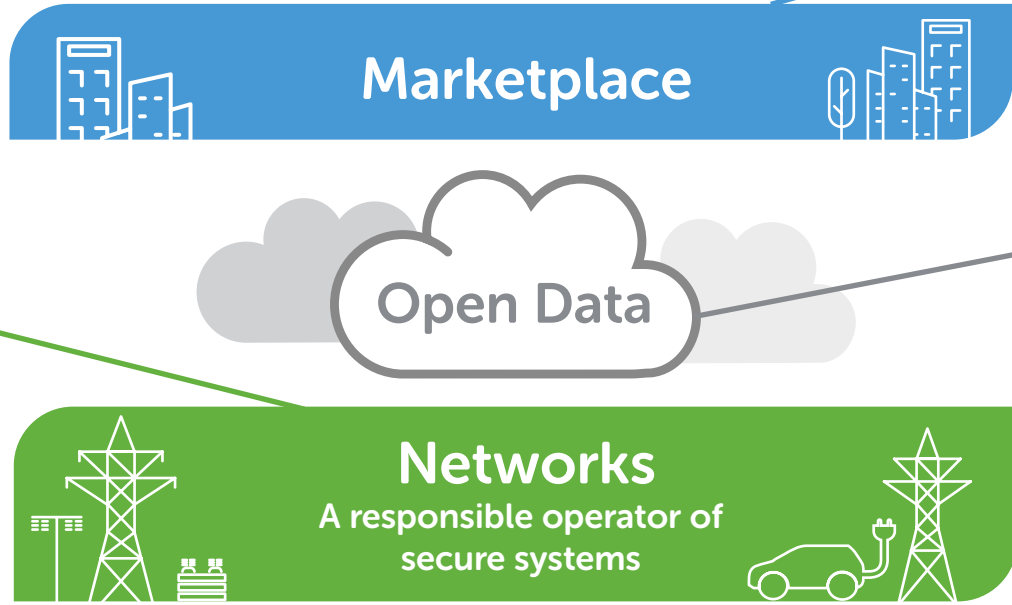
2 Future Networks

- Energy networks in the future will be more resilient and more flexible. Richer, real-time data will allow assets to be better utilised and managed.
- New sources of production and consumption will be planned, connected and managed more intelligently and with far greater levels of automation.
- The outcome for customers will be greater security of supply, easier and faster access to the network for electric vhicles and other low carbon technologies (LCT).

Energy Ecosystem
Customers & Industry Participants

| Our 3.8m Customers | Consumers, DER[1] Owners & Aggregators | Partners & peers | EV & Low Carbon Technology supply chain | Planning Partners |

Marketplace

Open Data

Networks
A responsible operator of secure systems

3 Marketplace

- With richer sources of data available, new entrants will join the energy system, creating a marketplace for innovative new energy and non-energy services.
- This will encourage competition, innovation, improve efficiency and better inform investments. New services will be tailored for customers and businesses across the system, helping to accelerate the energy transition.
- DSOs will support this marketplace by providing essential information about their networks and operations, with trusted partners able to enrich and utilise this information to benefit consumers.

4 Open Data

- Building on the work of the Energy Data Taskforce, and learning lessons from Open Banking, essential data will be available in a discoverable and useable way, whilst adhering to data privacy best practice.
- Data that combines information about assets with the flow of energy through the future system will be openly available to accredited partners.
- Regulatory changes, and engagement across industry participants will encourage competition and innovation across the energy system.

1. **Distributed Energy Resources (DER)** - Any resource on the distribution system that produces or stores electricity or reduces consumption.

2. The value of Digital to our Customers, Partners and the Energy System

As the Industry evolves, we will serve a broader set of needs and customer types

Through the energy transition, who we see as our customers will continue to evolve.
These are some of the customer types that we will serve in the smart, flexible, energy system.

Our 3.8m core Customers

"I want reliable access to electricity to keep my home running and easy access to information"

Priorities:
- A high quality and reliable service.
- Convenience and ease of access.
- A service that is affordable.
- Meeting each individual's needs, particularly for vulnerable customers.

Future Digital Experience:
- Convenience through choice of channels (e.g. home assistants, wearables) during an outage and the option to self-serve.
- Immediate and real-time outcomes (e.g. faster EV connection quotations).
- Affordability through personalised propositions and service for vulnerable customers. or other segments.

Consumers, DER Owners & Aggregators

"We need to invest in the right technologies to ensure we are relevant to our customers in the future"

Priorities:
- Conveniently understand the potential and location of flexibility opportunities.
- Easy onboarding and optimisation of assets.
- Continued support from a DSO and dedicated channels.

Future Digital Experience:
- Provides tailored network insights.
- Enables and builds confidence in flexibility markets.
- Provide insight to continuously improve propositions.

Partners & Peers

"We need to easily and securely exchange data to get innovative services to market quicker"

Priorities:
- Easy to establish and manage supplier-buyer relationships.
- Availability of data that is understandable and searchable.
- Minimal low value hand-offs but also expert support.

Future Digital Experience:
- Gives context to data and is easily discoverable.
- Provides greater intelligence from sophisticated Data tools.
- Automates core processes to lower cost and save customer time.

EV & Low Carbon Technology supply chain

"I need a simple way to exchange data for EV planning and more clarity on Network constraints and costs"

Priorities:
- Interoperability of hardware and standardisation of data to enable EV charging.
- Knowledge of current and future Network constraints and costs.
- Plan efficient investment to enable electrification of heat.

Future Digital Experience:
- Self-serve platforms that show EV sales, charging infrastructure and forward network growth.
- Rapidly informing optimal location of charging infrastructure and assessment of EV charging points

Planning Partners
(Other DSOs, ESOs, TOs, Local Authorities)

"I need effortless co-ordination across many parties and a single, data driven view of investment potential"

Priorities:
- Discoverable data and openness to data sharing on a regular basis.
- Unified and informed basis for investment planning.
- Co-ordination of strategic planning across Distribution and Transmission networks.

Future Digital Experience:
- Provides the platform and tools to jointly create an optimal investment plan across the energy system.
- Provides coordination of processes so it is easier for other utilities to more closely co-ordinate plans.

Scottish & Southern Electricity Networks

Serving the needs of our 3.8m customers

In a digitally enabled future our customers' needs will be anticipated, the services they receive will be affordable and of a high quality, and their experience with SSEN will be reliable, convenient, personalised and efficient.

Our 3.8m Customers

"I want reliable access to electricity to keep my home running and easy access to information"

- Today, we have over 727,000 households registered on our Priority Service Register – these include customers who have identified themselves as vulnerable. Whilst we serve many more as part of our consumers segment they all have the common denominator that they rely on us to transport energy to their homes that is affordable and reliable.
- Today energy networks have contact with our customers at two main points of need – when they need to be connected to the network and when a power cut happens. In the future, it is possible we will support them to ensure they can charge their Electric Vehicles and lower their energy bills through energy efficiency.

In a digitally enabled future energy system our customers will have….

Convenience and ease of access

Customers tell us they need clear communications, easy access to information and a high level of service

Offering consumers their channel of choice (digital and non-digital) for power cut notifications, interruptions and connections.

- A continuously evolving service that is informed by data analytics. This can support tailored communications that best suit our customers.

Affordable energy

Continued focus on providing an affordable and cost-effective service as we move towards net zero.

- Intelligent sensors on our LV network can inform home energy systems to automatically adjust consumption with intuitive, thoughtfully designed, personalised prompts to help each customer manage their energy needs to make services as affordable as ever.
- Advances in renewable technologies and energy marketplaces will make it easier for consumers to understand potential ways to earn money by providing flexibility services, and to make these changes affordably with the help of accredited service providers.

High quality and consistent service

Customers already expect there to be a high level of measurement, prediction and automation on our network.

- Sharing high quality internal data on service outages and planned maintenance to trusted partners that helps coordinate real-time responses with other stakeholders such as charities and community groups.
- Predictive analytics enables pro-active notification to individuals and groups of customers for potential supply or service issues and helps SSEN make decisions about how best to plan interruptions to minimise impacts based on the types of customers who would be impacted.

Facilitate new markets for customers, DER owners and aggregators

A digitally enabled future supports the move towards decentralised and decarbonised energy. This uptake of Low Carbon Technologies will support customers, benefit from new markets and play an active role in moving towards net zero carbon emissions.

Consumers, DER Owners & Aggregators

"We need to invest in the right technologies to ensure we are relevant to our customers in the future"

- The use of DER to support flexibility markets and provide services into the energy system gives revenue opportunities to customers and supports new business models, competition and innovation that contributes to a more democratised energy system. This creates a more democratised energy system that delivers better and more efficient outcomes for customers.

In a digitally enabled future energy system our customers, DER (Distributed Energy Resources) owners and aggregators will...

Inform tailored Network insights

To enable provision of relevant information to our consumers, we will have a full, real-time view of our own network and connected market.

- Combine our understanding of our network, existing third party connected assets and the broader flexibility market to present tailored information that provides a near and long term business case to a flexibility provider.
- Through digital channels, consumers can access the underlying network information in real-time for their own use and interact with SSEN to quickly resolve questions. This means we may need to provide network capacity requirements, product structures, network forecasts and price expectations through a digital platform.

Enable and build confidence in our flexibility markets

Provide the long term need and the real-time value of flexibility markets in a standardised and discoverable way.

- Using market platforms we can provide essential pricing and asset usage data plus specific digital services. This will help enable markets creating benefits for customers and competition between accredited third parties such as aggregators.
- Digitalisation of the decision making of network investment combined with a digital platform providing information on auctions and dispatch activity enables transparency and confidence in flexibility markets. A digitalised end-to-end process enables sharing of information in a digestible way for the benefit of our customers and the regulator.

Analytics to continuously improve propositions

Through digitalisation, we can understand the full end-to-end journey with a high degree of confidence to improve the customer experience.

- Digitalisation of the end-to-end journey allows SSEN to demonstrate security of commercially sensitive information and confidence in payment alongside a high quality customer experience. We can then use analytics to improve and create new propositions and supplementary services that help support a greater uptake of DER.
- We can then make use of a standard asset registration process, coordinated across all networks and that uses our digital platform to integrate into a digital system map.

Drive greater collaboration across industry partners and peers to enable competition

The rate of change in technology provides an exciting opportunity to improve the service we provide our customers and optimise our long term investments in the energy system. Planning the best use of new technologies and the customer propositions they enable will need to be a collaborative process.

Partners & Peers

"We need to easily and securely exchange data to get innovative services to market more quickly"

Photo by Jeff Denlea from Pexels

- As the energy market becomes more open and as new business models emerge, there will be increased choice for customers in key areas such as connections, flexibility products and EV charging services. It is essential that we enable competition and enable transparent activities and decision making. We will share our data so that trusted partners can provide services to us and our customers.
- Building strong relationships with peers and service partners ensures we can learn the lessons from similar companies, other sectors, and experts in areas such as AI and analytics and apply these for the benefit of our customers.

In a digitally enabled future energy system our partners and peers will have...

Discoverable & searchable data

Accessible and standardised data with a consistent experience across the industry that is easily searchable by other parties will help inform decisions to benefit our customers

- SSEN can use analytical tools to provide the most requested asset and network data in a structured and discoverable way underpinned by responsible data practices to ensure ethical use (i.e. going beyond legislation and doing the right thing by customers) and that cybersecurity and privacy standards are met.
- SSEN will look to continually develop the scope of data we provide access to and use our expertise of the network to provide additional services that are valued by third parties.

Greater intelligence from sophisticated data tools

Tools and platforms to enable parties to find information on customer connectivity, regional and whole network load forecasts

- Our Digital System Map is bringing together network data in the Common Information Model (CIM) standard to enable better exchange of information across our system and with external parties.
- We can use analytics and AI to address the gaps and quality issues in our data. This can be delivered in a value focused way by ensuring we understand the needs of those that request this information. We can also work with those accessing our data to understand issues and potentially solve them collaboratively.

Automation to improve time & quality of data exchange
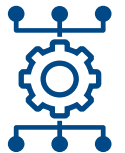
'Reduced hand offs' between parties through automating the exchange of data to speed up the development of innovative ideas

- Automate core processes within SSEN and enabling cross party process automation to provide faster responses to common customer requests such as applications under Competition in Connections.
- We can provide data exchanges in real-time and delivered to agreed standards. This can help reduce the time it takes to connect customers when they choose Independent Connection Providers (ICP), plan their transition to an EV fleet or coordinate energy system investment across different parties.

Supporting growth across the EV and Low Carbon Technology supply chain

Uptake of EVs, heat pumps and LCTs is accelerating globally. In a digitally enabled future, we will need to consider the type and scale of these technologies, timing of investments and the business models that enable them, to plan our network investment and best serve customers.

EV & The Low Carbon Technology (LCT) Supply Chain

"We need to invest in the right technologies to ensure we are relevant to our customers in the future"

- There is increasing evidence that deployment of rapid or ultra-fast charging infrastructure is an important element in enabling EV uptake and reducing the concern of drivers around their ability to travel for longer journeys.
- In order to clearly plan the type and scale of charging infrastructure to support the uptake of EVs and how potential drivers will use the infrastructure, it is important to share capacity and load growth data across our network with the wider EV supply chain.

In a digitally enabled future energy system the EV and Low Carbon Technology supply chain will have...

Self-serve platforms that offer a seamless experience

Collaborate with EV stakeholders to create a platform to exchange data to inform customers of useful information relevant to their EV needs.

- Through a platform to share our network capacity data SSEN can provide a service that informs a customer's ability to charge at home and provide Vehicle-to-Grid (V2G) services without network upgrades and automate the registration process of their charging infrastructure.
- By expanding our relationships to include EV sales show rooms, DVLA, Local Authorities and charge point operators and understanding the outcomes and data required by each party, we can tailor our platforms and data and offer specific propositions that help increase the number of EVs on the roads.

Efficiently invest to support EV uptake

Combine IoT technologies with our network data to drive AI solutions that offer options of how we can meet EV and heat demand on our network.

- Through lower cost IoT solutions we are increasing the level of monitoring of our Low Voltage network.
- Using this real-time data we can offer EV specific flexibility products that provide value to customers and avoid expensive reinforcement in our LV network.
- Working with Local Authorities, the Electricity System Operator (ESO) and Charge Point Operators we can tailor our future investment plan to deliver the network capacity at the right time, and maximise the benefits to consumers through solutions such as V2G and Heat Pumps.

Optimal location of charging infrastructure

Digitising the end-to-end process can bring together real-time awareness of demand and capacity set against our Digital System Map. AI can advise optimal locations of charging opportunities for customers and where future infrastructure should be delivered

- By sharing SSEN's network information, the Digital System Map can provide analysis and recommendations on the optimal location of charging infrastructure to lower network upgrade costs. This can be used by hardware providers to plan their investment strategy.
- We can provide EV owning consumers or charge point providers with real-time network hot and cold Spots (real-time constraints tailored to EV owners) so that charging can be better planned for and appropriately priced.

Enhancing whole system and local planning across a community of partners

The decarbonisation of transport, heat and the targets of net zero carbon emissions cannot be achieved by any individual player in the energy system. We will use our role as a leading network operator to enable collaboration across a community of partners to benefit our customers and society more broadly.

Planning Partners

"I need effortless co-ordination across many parties and a single, data driven view of investment potential"

■ Greater collaboration across whole system and local planning partners will ensure that investments can be better co-ordinated at an improved cost. This will help flexibility markets become sustainable and provide the best outcomes for customers.

### In a digitally enabled future energy system planning partners will have…

Open Data enabled planning partnerships

Actively sharing data to drive collaboration across the utilities ecosystem and effectively support future planning activities.

■ Fostering an ecosystem across utilities to provide a basis for planning partnerships for electricity, gas, water, heat, telecommunications and transport. This can be underpinned through the use of platforms and an agreed catalogue of data that serves the needs of each party. We are already doing this by working with the Greater London Authority on the London Plan.

■ This enables utilities to co-ordinate around local authority/ local government decarbonisation strategies to develop a joined up plan that will reduce the time taken to complete large scale multi-utility developments.

Optimal investment plans across the energy system
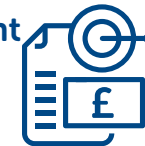
A single digital platform to share and align assumptions, plans and desired outcomes to drive consistent planning decisions across the energy system and create Local Development Plans.

■ Co-creation of a wider range of innovative investment solutions across the energy system, to reduce costs for customers. For example, where the gas network has capacity to take hydrogen injection, created using local electricity generation, which would otherwise have been constrained.

■ Using AI to identify which solutions are most effective in specific planning scenarios leads to greater efficiency for consumers. Sharing this data with external service providers enables greater competition and innovation across the whole sector.

Closer co-ordination in operations across Utilities
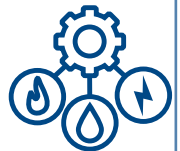
A single register of all flexible energy assets will help identify opportunities for more co-ordinated operations across utilities.

■ Bringing forward planned asset replacement because a water company will be digging up the road and exposing the asset. This supports a cost-effective approach to asset management while minimising disruption to the public.

■ Co-ordinating across utilities to ensure that the total energy delivery capacity in an area is optimal.

■ Greater understanding across utilities of the programme of streetworks (e.g. digging up the road) and identifying opportunities to co-ordinate works.

Digital can drive greater value for SSEN as a leading network operator

We can use digital to improve the efficiency of our day-to-day operations and our long term investments. We also recognise the power of digital to enhance our employee experience and enable ever safer ways of working. This supports the delivery of a cost-effective and resilient electricity network.

SSEN:
As a leading
Network Operator

"Our priorities are decarbonising the network to deliver Net Zero whilst enabling competition and innovation to help increase efficiency. In all our activities we focus on protecting, and delivering value to our consumers, especially the vulnerable"

- Network operators are already delivering aspects of their DSO role. As this maturity continues and the demand placed on the network by DER becomes more complex there will be greater need to optimise the services that flexibility customers provide.

- To do this requires a step change in the use of analytics to produce accurate forecasts of scenarios that then inform investment planning and real-time decisions on how to optimise the network. The insights generated will be assessed on its impact to service levels and the value to the end consumer, new decision making tools will be able to co-ordinate the outputs across other partners including the ESO and other utilities.

In a digitally enabled future energy system, a leading network operator will have:

Data-driven decision making

Operational and investment decisions are informed by analytics from a single source of truth. Customer impacts, asset condition and network usage data can be utilised to develop investment scenarios, and optimise the deployment of our field teams and their decisions in the field.

- Fault prediction models used to create inspection and maintenance schedules to mitigate failure risk.
- Use of AI to support decision making for asset investment and inform fix versus replace decisions whilst field workers are on site.
- Using our Digital System Map we can understand the customer impact and benefit of investment decisions at a local leve.

A sharper customer focus

Our emerging distribution system operations role and a changing, more competitive energy sector widens the range of customer types and needs that SSEN will need to fulfil. To exceed customers expectations in an efficient way we need to organise ourselves to be more responsive and focused on what our customers' most value and to enable the public good.

- Organising our asset, operations and customer teams around key customer value streams gives us great agility in the workforce to focus on the customer outcomes and goals and not be wedded to historic processes and approaches.
- Working in teams focused on customer value provides our workforce a clear sense of purpose and a deep appreciation for the value provided to customers through their day-to-day responsibilities and SSEN more broadly.

Technology enabled working practices

Targeted field inspections informed by predictive maintenance will be completed with safety checks embedded in the process, with technology leveraged to ensure that critical steps cannot be missed. Based on a user's skill set, in the moment guidance can be provided using digital based training and remote support.

- AI powered maintenance and inspections activities based on predictive insight.
- Access to virtual / remote engineering support from the field.
- Secure and real time visibility of operational status of flexibility assets.
- Digital tools providing for more efficient organisation and routing of work.

3. Our Digital Journey

Our Digital Journey

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; and** iii. **Enable the energy system to reach net zero carbon emissions .**
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 energy	■ 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 energy system & 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.

Our intent is to develop our business across four areas

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

Platform
- ■ Platform capabilities to optimise investment decisions.
- ■ Platforms based on Open Data across the energy system and wider with appropriate governance and standardisation.
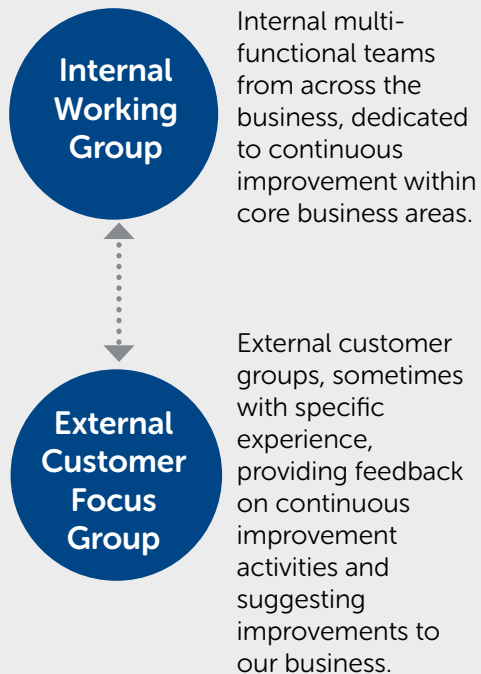
Insights & Automation
- ■ Automation of key end-to-end processes.
- ■ Data-driven decision making that uses AI.
- ■ Strong cybersecurity and data privacy standards.
- ■ Data exchange and value focused services for our strategic partners.

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

Customer & Ecosystem

We are determined to continue to be the industry benchmark for digital services. Our leadership position is based on a deep empathy of current and evolving customer needs. We will pull in compelling ideas and key capabilities from external partners to better serve these changing needs.

Listening to our customers and increasing awareness is critical to our success. We have established the initiatives below to ensure we continue to act on customer feedback and educate customers to highlight the benefits of digital.

Internal Working Group

Internal multi-functional teams from across the business, dedicated to continuous improvement within core business areas.

External Customer Focus Group

External customer groups, sometimes with specific experience, providing feedback on continuous improvement activities and suggesting improvements to our business.

We believe compelling customer experiences and propositions should be anchored on a deep, primary understanding of the current and evolving needs of our 3.8m customers, whilst working towards a long term goal of net zero carbon emissions in partnership with many other stakeholders.

Our current investments

SSEN is:

- Delivering the Project LEO initiative which creates an innovative ecosystem that financially rewards a diverse range of participants as they deploy LCT in the most cost effective manner.

- Trialling the JustEat Partnership which provides customers digital self-service tools to order food vouchers during a power cut. This enhances the customer experience and helps meet the needs of customers with medical, ethical and religious requirements when providing food.

Our strategic intent to develop Customer & Ecosystem capabilities

SSEN will:

- Continue to build a leading customer experience in Connections, Flexibility Services and Interruptions by relentlessly focusing on the needs of our customers to make propositions relevant, simple, effortless and personal.

- Build a flexible set of integrated digital channels recognising some customers may want non-digital, in-person interaction, then use feedback to drive real-time improvements.

- Design customer journeys that integrate with other parties such as ICPs and EV providers and provide expert guidance at key moments along those journeys.

- Address the holistic needs of customers, for example "I want to charge my EV at home" and not "Complete a LCT notification form".

- Harness Open Data to enable an ecosystem of partners to bring more innovation, leading external insight into our data to drive better asset performance and deliver optimised investment plans across Local Authorities, Transmission Owners, ESO and DSOs.

Where this will create value for our business

Provide access to our in-house analytics capability

SSEN could use its in-house analytics to provide services to help DER owners and aggregators develop their investment case over different network planning horizons, or help Local Authorities define their energy pathways. This could be a highly personalised offering, or be provided by a self-service platform.

Deeper engagement with innovation partners

SSEN has an opportunity to reinvent the engagement model with innovation partners by providing access to its data and working together to create valuable insight e.g. a fault prediction solution developed by a trusted third party using SSEN's asset data. We see potential for a more open procurement model that can be accessed by wider range of providers.
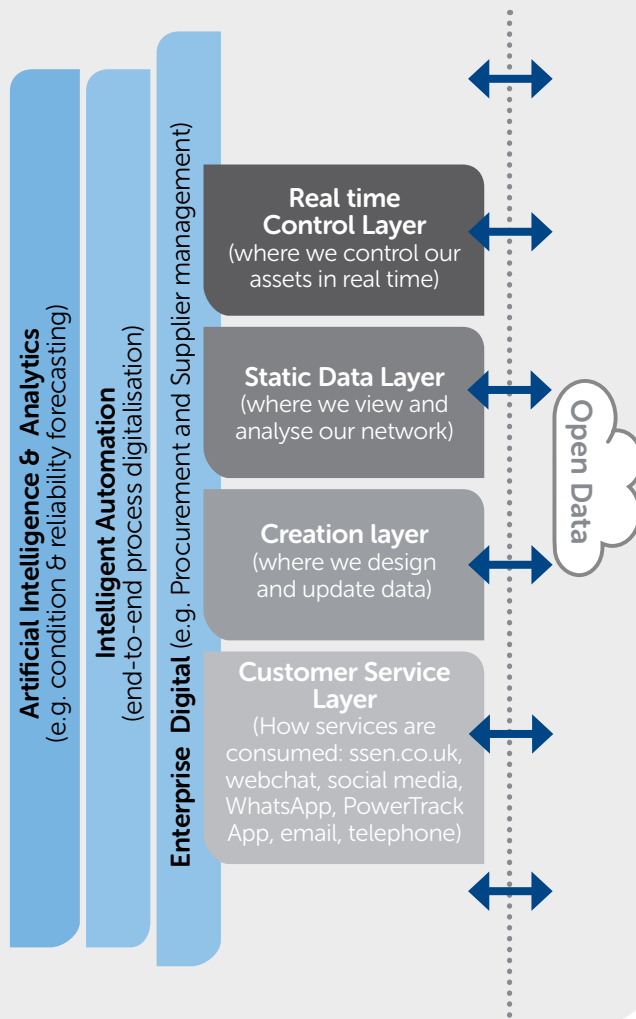
Potential to develop innovative propositions for new customers

SSEN can serve a broader set of customers using a wider range of propositions. This will include services to local authorities as they plan their energy infrastructure, new entrants who can build platforms based on our data and services and the EV supply chain to support the transition to EVs.

Platforms

We see IT and Operational Technology (OT) systems across two lenses: firstly, as an enabler for data to be extracted and analsyed. Secondly, to ensure reliability, availability and resilience as the usage of the network evolves. Both these roles help to deliver flexibility services and supports EV and LCT uptake.

To realise the potential benefits of Open Data SSEN will securely open up selected platforms to harness the expertise of others

Artificial Intelligence & Analytics (e.g. condition & reliability forecasting)

Intelligent Automation (end-to-end process digitalisation)

Enterprise Digital (e.g. Procurement and Supplier management)

Real time Control Layer (where we control our assets in real time)

Static Data Layer (where we view and analyse our network)

Creation layer (where we design and update data)

Customer Service Layer (How services are consumed: ssen.co.uk, webchat, social media, WhatsApp, PowerTrack App, email, telephone)

Open Data

SSEN believes that platforms and a digital architecture are key to delivering the service our customers most value and our energy system needs. Further investment in unified platforms will help address the challenge of fragmented and orphaned data sets. As SSEN simplifies and modernises its technology estate, we expect to be become a more efficient business by reducing the cost and time to deliver incremental change.

Our current investments

SSEN is:

- Developing platform capability to value flexibility from different generation and demand sources, helping a range of new customers participate in flexibility and ancillary service markets.

- Investing in Geographical Imaging System (GIS) connectivity to deliver a foundational Digital System Map.

- Upgrading asset and geospatial data to provide a leading connectivity platform. This gives customers an online connection analysis and quotation tool and improves external visibility of network challenges.

Our strategic intent to develop platform capabilities

SSEN will:

- Use our GIS connectivity platform to apply data triage and analytics to improve data access and quality to securely expose data across third parties.

- Build platform capabilities to enable Open Data across the energy system. We will lead the development of an industry standard and over time look to expose more of our data.

- Build platforms to optimise Network investments. This will be driven by analytics and AI that combine SSEN and external data sets (e.g. EV uptake and location) to create the most likely and most efficient investment plans.

- Develop external platforms to better coordinate the Long-Term Development Statement and whole system planning activities.

- Enhance cybersecurity controls in line with the Network and Information Systems Directive. Build internal platform capabilities in a way that can work alongside industry wide Co-ordination of Asset Registration (CAR).

Where this will create value for our business

Customer Connectivity Model

Our new Connectivity Model uses GE's Electric Office solution to combine our assets with the capability of those owned by customers into a single model. This provides us with a Digital System Map that we can use to share data with trusted partners and will support a single asset register for the industry.

Asset Optimisation through IoT Technology

We plan to increase monitoring equipment on our LV network. This will provide real-time insight on how the network is coping with the changing usage patterns of DER, and provide the data to forecast future demand scenarios at a local level. This data will be incorporated into a Digital System Map.

Transition enabling Platform

Active Network Management Centralisation gives a scalable capability to manage large volumes of flexible connection and dispatch "time critical" flexibility in a economic manner i.e. best value for the network and our customers.

Note: Platforms in this context refers to IT and Operational Technology systems and not multi-sided / market platforms.

Insight & Automation

Computing power is constantly increasing, available data sets are expanding and the number of connected devices is proliferating. There is no doubt of the significant potential for SSEN to drive further value for money for current and future customers through improved collection, sharing and analysis of data.

As SSEN continues to mature its Insight & Automation capabilities, it can unlock new benefits for its customers, shareholders and enhance the employee experience across the below five areas:

Illustrative examples

Artificial Intelligence	Pre-fault identification changes that inform network decisions	Identifying malicious intent in markets on our network
Analytics	Continued data quality assurance through analytics	Producing a real-time health index of our assets
Reporting & Visualisation	Improved root cause analysis of customer satisfaction	Capacity heat maps enriched with GIS data for external use
Data Management	Robust data triage tools	Formalised data ownership and support for open data sets
Data Integration	'Single source of truth' for customer connectivity	APIs for consumer services to enable 'data on demand'

At SSEN we see managing, governing, improving and sharing data as a core competence and a way to drive a differentiating level of value for our consumers. To better serve evolving new customer groups, continue to maintain a reliable and environmentally sustainable network, data will need to become further democratised, enriched with more diverse insights and used to deliver smarter decision making by default.

Current investments

SSEN is:

- Consolidating planning and operational data sets and re-aligning how core systems share data. This data is being integrated to become part of our Digital System Map.

- Upgrading the control system to increase the level of cybersecurity.

- Finalising system investment that provides us with the platform to share aspects of our Digital System Map with third parties.

- Mobilising a central Data Hub to improve data quality through analytics and provides tools to apply data triage principles.

Our strategic intent to develop Insight & Automation capabilities

SSEN will:

- Build the core data and integration infrastructure in preparation for sharing data in future as the energy system moves towards an Open Data framework.

- Commit to end-to-end process digitalisation that improves customer experience and reduces cost-to-serve. This benefit is then shared with our consumers.

- Make high quality metadata and a data catalogue available and we will work with other DNOs and partners to do this in a co-ordinated way.

- Extract insight from raw data using analytics, machine learning and AI capability. We will base our future business plan on this output and further optimise as we deliver on that plan.

- Champion and advocate the value of open data by defining and iterating data standards, trial the sharing of data and pro-actively engage in regulatory conversations.

- Hold itself to best practice data privacy standards to embed responsible data practices and avoid unintended and socially harmful consequences.

Where this will create value for our business

AI driven guided actions and decision making

AI will automate and guide actions for operational and contact centre staff (i.e. provide 'next best action') to better identify and serve vulnerable consumers, assist our Engineers to be more efficient, reduce our cost-to-serve and promote greater safety in engineering field work.

Business intelligence as an external value add service

Externalising business intelligence capabilities to answer questions like 'what might happen to the network in future?', 'where would I best connect by EV chargers?' to provide whole system insights to Water, Gas and Telecommunications companies as well those looking to deliver energy infrastructure.

Apply robotics to automate the simpler core processes

Applying robotics on top of existing platforms to automate low value, repeated processes, decreasing the administrative burden on our people and renewing their focus on value-add tasks. In turn this enables improved data quality, greater focus on our consumers, improves safety and enables us to attract the best talent to our business.

Organisational Alignment

As we prepare to play a leading role in the future energy system and a world which is increasingly more digital, we are also making aligned strategic investments in our organisation – to evolve our ways of working to be more responsive to our customers and more agile in the way we work.
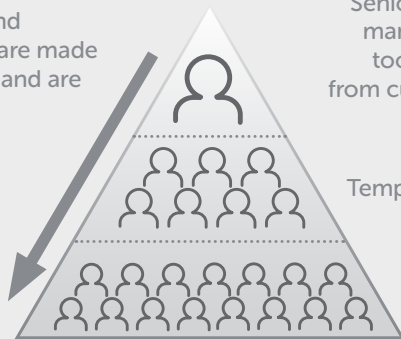
Agile organisations are more responsive, more customer centric with empowered people helping to de-risk the core business

From Top Down Hierarchical...

Change and decisions are made top down and are slow

Senior and middle management are too far removed from customers and partners

Temporary projects are created around work

...To an Agile Organisation

Self-autonomous teams responding quickly to customers and the broader market

Consistent practices promotes discipline, safeguards quality to take 'measured risks'

The cost, time and risk associated with change is reduced

Multi-functional teams with diverse skill-sets supported by pockets of expertise

At SSEN we believe that investing in technology is not enough to digitalise our core business. Our people, culture, how we collaborate and ways of working are also fundamental to the success of our digital strategy. We operate in an increasingly uncertain environment with an uncertain path to realise the UK's net zero carbon emissions ambitions. It is this uncertainty that makes SSEN committed to change its ways of working to promote agility and speed to market whilst maintaining our pedigree of safety and reliability.

Our current investments
SSEN is:

■ Benefiting from a major change to our structure that moves each business unit to be more market facing. This is driving greater customer centricity and minimising handoffs.

■ Making use of customer working groups that bring together people from across our business to improve the customer experience.

■ Recognising the benefit of organising around small, multi-functional teams. In building a Field Data Gathering system, we worked with an external partner in an agile way that brought staff together from various disciplines.

Our strategic intent to develop Organisational Alignment capabilities and an Agile culture
SSEN will:

■ Embrace agile ways of working and continue to invest in the digital skills of our people (including digital tooling) and attract leading digital talent.

■ Organise around high-priority customer value streams (our customers journeys with us) so that work is brought to teams rather than building teams around work.

■ Prioritise speed to market by building and quickly testing minimum viable propositions in the market and with our people and adapting as needed.

■ Empower our people through role modelling new ways of working to create a compelling employee proposition, attract new talent and enable workforce renewal.

■ Commit to expanding our use of multi-functional teams to allow for closer collaboration and increase the pace of responding to customer needs and generating new ideas.

■ Flatten hierarchies to increase proximity to our customers and ecosystem partners and increase the speed of decision making.

Where this will create value for our business

Multidisciplinary teams

A multi-functional Connections team (customer contact, planning engineer, commercial, charging, legal, network solutions) could help a community based generator with a quick, tailored and quality connection by having a single point of customer contact and minimising hand-offs.

Empowered workforce

Leaders across SSEN could empower innovation by providing their people with the space and licence to experiment and the tools (e.g. agile training) to develop compelling ideas to improve the customer experience, identify efficiencies and enhance safety.

Digitisation of learning & accreditations

SSEN could digitalise learning, training and accreditation through gamification helping to develop a culture of continuous improvement. Learning and accreditation consumed digitally helps to initiate and reinforce positive behavioural change.

4. Open to you

How we will take this journey together

Open to you

At SSEN we use stakeholder feedback to improve our business and the services we deliver. Your views will make a real difference to our digital future, please let us have your opinions via the link on the right:

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

2. To what extent has this document increased your understanding of the opportunities enabled by digital for us? 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 we serve?

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

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

6. 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 and customer supply interruptions.

Digital feedback survey
www.ssen.co.uk/DigitalFeedback/

Engagement Events

We'll be engaging on our digital strategy soon. For more info, visit: **www.ssen.co.uk/events/**

Digital Collaboration Event

The Energy Networks Association will host a collaborative event for network companies,customers and stakeholders in March 2020. This will be an opportunity to hear more about the strategies of the network companies, toprovide feedback on these strategies and how they can meet user requirements.

energynetworks association
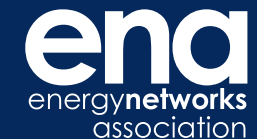
Details will be posted here: **http://www.energynetworks.org/events/**, and will include location and timing, and registration information.

Glossary

Term	Definition
Accreditation	Methodology and way of working based on iterative development, where requirements and solutions evolve through collaboration between self-organising cross-functional teams.
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.
Channel	A digital medium (website, mobile, chatbot) by which to consume content, engage with a brand and / or complete a transaction.
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
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.
Distributed Energy Resources (DER)	Any resource on the distribution system that produces or stores electricity or reduces consumption. This can include distributed generation, storage, heat pumps and electric vehicles as well as other technologies.
Distribution Network Operator (DNO)	The owner and operator of a distribution system comprising of a network of wires and associated infrastructure, transporting electricity from the transmission system or distribution connected generation to domestic, commercial and industrial electricity consumers.
Distribution System Operator (DSO)	Distribution System Operation (DSO) is the secure, active operation of a distribution system comprising of network and flexible distributed energy resources. It encompasses the neutral facilitation of open and accessible markets to deliver security, sustainability, affordability and whole system optimisation.
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.
Electricity System Operator (ESO)	The electricity system operator for Great Britain (GB), who has responsibility for system balancing and moving electricity safely, reliably and efficiently through the system.
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.

Term	Definition
Independent Connection Providers (ICPs)	An accredited company authorised to carry out contestable connections activities to facilitate connections to a DNO's network.
Independent Distribution Network Operators (IDNO)	Independent Distribution Network Operators (IDNOs) develop, own, operate and maintain local electricity distribution networks. IDNO networks are directly connected to the Distribution Network Operator (DNO) networks or indirectly to the DNO via another IDNO.
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.
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.
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.
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 Service Register (PSR)	A register of all customers in an electricity distribution area that are of pensionable age, disabled, chronically sick, require special communication needs, depend on electricity for medical reasons, or require certain information and advice about supply interruptions.
Transmission Owner (TO)	Companies which hold transmission owner licences, and have responsibility from maintaining, developing and investing in transmission infrastructure.
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:

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🖱️ www.ssen.co.uk

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Scottish & Southern Electricity Networks

| Powering our community