

SP Energy Networks 2015–2023 Business Plan

Updated March 2014

Annex

Non-Operational IT and Telecoms Strategy

SP Energy Networks

February 2014



**SP ENERGY
NETWORKS**

Non-Operational IT and Telecoms Strategy

February 2014

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1.	Scope	3
2.	Table of linkages	3
3.	Introduction	4
4.	Our strategy	4
4.1.	Our approach	4
4.2.	Our initiatives	6
5.	Process	11
5.1.	A Multi-Layered Strategic Approach	11
5.1.1.	Basis of Allocation of costs to businesses	12
6.	Outputs & long term view	13
6.1.	Our track record	13
6.2.	Benefits for our customers	14
6.3.	Long term benefits	14
7.	Roadmap for delivery & efficient expenditure	16
7.1.	Roadmap for delivery	16
7.2.	Efficient expenditure	18
7.2.1.	Our planned expenditure	18
8.	Uncertainty & risk	19
8.1.	Short term uncertainties and risks	19
8.2.	Medium term uncertainties and risks	19
8.3.	Long term uncertainties and risks	19
8.4.	Mitigation of uncertainties & risks	19

1. Scope

This Annex covers our Non Operational portfolio. It should be read in conjunction with the following additional annexes to obtain an overall picture of our IT & Telecoms Strategy.

- **Annex C6 – Operational IT and Telecoms Strategy – SPEN**
- **Annex C7 – Smart Meter Strategy – SPEN**
- **Annex C7 – Smart Grid Strategy - Creating a Network for the Future – SPEN**

2. Table of linkages

This strategy supports our ED1 Business Plan. For ease of navigation, the following table links this strategy to other relevant parts of our plan.

Document	Chapter / Section
SP Energy Networks 2015–2023 Business Plan	Chapter B1 – About us a. Our strategic vision and guiding values
SP Energy Networks 2015–2023 Business Plan	Chapter C5 – Outputs c. Reliability and Availability d. Connections f. Customer Satisfaction
SP Energy Networks 2015–2023 Business Plan	Chapter C6 - Expenditure
SP Energy Networks Business Plan 2015- 2023 Annexes	Annex B3 – Stakeholder Engagement – SPEN
SP Energy Networks Business Plan 2015- 2023 Annexes	Annex B3 – Stakeholder Engagement Further Detail – SPEN
SP Energy Networks Business Plan 2015- 2023 Annexes	Annex C6 – Operational IT and Telecoms Strategy – SPEN
SP Energy Networks Business Plan 2015- 2023 Annexes	Annex C7 – Smart Meter Strategy – SPEN Annex C7 – Smart Meter Strategy – SPEN: Section 5 – Outputs and Long Term View Section 6 – Roadmap for delivery & efficient expenditure
SP Energy Networks Business Plan 2015- 2023 Annexes	Annex C7 – Smart Grid Strategy - Creating a Network for the Future – SPEN

3. Introduction

In our business plan we set out improvements which require investment in Information Technology and Telecoms. This annex describes SPEN's Non Operational IT & Telecoms strategy, how it has been derived, and our applications / systems portfolio at the end of the ED1 period / beginning of ED2. This annex is primarily concerned with our Non Operational IT & Telecoms, however SPEN recognise that our Non Operational systems cannot operate in isolation to our Operational systems portfolio and other areas of IT Innovation. We therefore describe and include reference to our Operational systems as well as our investments for Smart Metering and Smart Grid.

During the DPCR5 Price Control Period, SPEN implemented a number of core, strategic applications. Our ED1 IT & Telecoms strategy supports our business plan by building upon the systems implemented during DPCR5, supplemented with a number of new applications and technology enablers.

An understanding of SPEN's IT & Telecoms Strategy is relevant to the ED1 business plan because the components of our strategy underpin the improvements outlined in an number of areas in the business plan. This includes:

- *Chapter B1 – About Us – a. Our Strategic Vision and Guiding Values*
- *Chapter C5 – Outputs – e. Connections*
- *Chapter C5 – Outputs – f. Customer Satisfaction*

This accounts for £49.8m of planned Non operational Capex expenditure over the ED1 period. **Chapter C6 - Expenditure – i. Non Operational Capex** provides more expenditure information. This IT & Telecoms component is included as part of the overall non operational capex figures in **Chapter C6 - Expenditure**. (The numbers in this section also include Vehicles, Non-Operational Property, and Small Tools, Equipment and Plant & Machinery)

4. Our strategy

4.1. Our approach

Scottish Power Energy Networks developed an IT strategy aligned to the Iberdrola Global Energy Networks IT Strategy to meet local requirements. Our Corporate IT team, Systems UK, deliver all IT services to Energy Networks, except for SCADA systems and associated Critical National Infrastructure (CNI), which relate to monitoring and operation of the live power network (415 to 132kV in SP Manweb and 415 to 400kV in SP Distribution / SP Transmission); these are supported by our Real Time Systems (RTS) group within Energy Networks which we class as Operational systems.

The Systems UK team provide commercial & planning, operations and technical architecture expertise and specific project delivery resource. Project delivery is managed and governed by the Systems UK team, with development and integration of solutions being provided by external parties. Development work is put to competitive tender, where possible, to ensure the best solution is provided at the most competitive cost. The diagram in section 5 depicts our IT Strategy from a global and local perspective.

Our IT & Telcommunications Strategy over the ED1 period represents a combination of “Business as Usual” investments, infrastructure / application refurbishments, and investments to support future innovation such as Customer Self Service, Optimised Scheduling, Asset Management, Enterprise Content Management, Smart Metering and Smart Grid as demonstrated in section 4.2 of this Annex.

During the DPCR5 Price Control Period, SPEN implemented a number of core, strategic applications in the following areas:

- *Customer Relationship Management*
- *Enterprise Asset Management*
- *Field Force Management*
- *Document Management*
- *Business Intelligence*
- *Outage & Distribution Management (Operational IT & Telecoms)*

Our ED1 Non Operational IT & Telecoms strategy supports our business plan by building upon the systems implemented during DPCR5, supplemented with a number of new applications and technology enablers. Our key IT & Telecoms investments for ED1 are categorised into the following broad areas and are described later in this Annex:

- *Infrastructure & Application Re-furbishment (ie. Infrastructure & application upgrades)*
- *Enhancements to existing applications (ie. New functionality added to existing applications /systems)*
- *New applications (ie. new systems)*
- *Technology enablers (ie. Technologies which enable better management and distribution of data)*
- *Future Innovation - Smart Meter & Smart Grid*

The benefits of our approach in the short term will see improvements in customer service/satisfaction as we look to leverage the investment made in our CRM solution. We aim to build upon our CRM investment by adding significant customer and stakeholder self-service capability. This will allow our customers and stakeholders access to key services and information 24 hours a day, 365 days a year. In the short term we will also be investing in systems and solutions to allow us to be ready for the mandatory roll-out of Smart Meters and interface to the new Data Communication Company (DCC) Services (See **Annex C7 – Smart Meter Strategy – SPEN**).

In the short to medium term we aim to implement a fully integrated scheduling system which can be made available to customers and other stakeholders via our CRM offering so they can book and schedule appointments of their choosing, thereby improving the customer / stakeholder experience. A new fully integrated work scheduling system with replenished mobile communications technology will also optimise many of our field force management processes, allowing engineers to support customers in shorter periods of time. Also in the short to medium term we will be looking to invest in our Enterprise Asset Management, Inspection and Maintenance, Integrated Planning and Document Management systems. These investments will in turn require a step increase in Business Intelligence and Analytics solutions as the amount of data emerging from the Smart Meter roll-out reaches a critical mass.

The deployment of ever increased levels of Grid Instrumentation and Smart Meters will necessitate solutions / investments to manage vast quantities of Structured and Un-Structured data. For this reason our longer term investments propose to implement advanced technologies for managing, distributing and analysing large volumes of data. These investments will allow us to gather and analyse more targeted information pertaining to the performance of our electrical network, which will ultimately result in improved customer service via reduced interruptions and improved planning.

Over the course of the ED1 period we will have a programme of continuous Product and Infrastructure upgrades to comply with vendor support and warranty requirements and technology obsolescence. We will also be implementing new Technology Enablers to support significant increases in data volumes emanating from Smart Meters and Smart Grid Instrumentation as well as introducing new technology and policies in relation to Information Security Management.

Our current track record for delivering Non Operational IT & Telecoms projects involves competitive tendering and leveraging the size and scale of the Iberdrola group to deliver solutions and services shared globally, where relevant. Many of our large investments in Non Operational IT & Telecoms are part of a wider global approach from which we can leverage competitive pricing, economies of scale and shared technology experiences.

4.2. Our initiatives

SP Energy Networks shares IT applications where possible for Distribution and Transmission Asset Management. Our Investment Strategy for IT & Telecoms is driven by our ED1 Business Plan with each initiative aligned to how it will support that plan. Costs were estimated based on expert knowledge of previous and similar programmes of work and in some cases, particularly the introduction of SMART, we consulted with IT suppliers and other industry experts to estimate costs. The following table lists our IT & Telecoms investments, how each supports/enables aspects of the business plan and the category which that investment belongs to.

Non Operational IT & Telecoms Capital Investments

The total cost of these investments over the ED1 period is £49.8m (See Business Plan **Chapter C6 - Expenditure – h. Business Support Costs** and table C36 of our submission) £12.8m of the Capex relates to Infrastructure and Management shown in Rows 144 to 151 (C36) (£6.4m each for SPD and SPM). The remaining £37m of the Capex is for Application costs and is detailed in Row 176 (C36) (£18.5m each for SPD and SPM)

Initiative	Description	Benefits & Link to the ED1 Business Plan	Investment Category
Replacement of Mobile Communications Framework and refresh of Mobile Field Devices	Energy Networks current Mobile Communications Framework was commissioned in 2006 and will require a technology refresh to allow Scottish Power to continue to deliver improvements in Field Force efficiencies and take advantage of the new mobile technologies now readily available in the marketplace. Energy Networks will also require to continue to refresh the mobile device technology being used by it's 1000 strong Field Force. This will involve replacing the current Toughbook estate when it reaches end of life, whilst introducing new Tablet and Smart phone devices which are now becoming the standard throughout business and consumer markets.	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) GS2 - 18 to 12 Hour Restoration Standard (Chapter C5 – Outputs – c. Reliability and Availability) Customer Minutes Lost (CML) - 16% Improvement (Chapter C5 – Outputs – c. Reliability and Availability) Customer Service (BMCS) - 20% Improvement in scores (Chapter C5 – Outputs – f. Customer Satisfaction)	Field Force Management Infrastructure & Application Re-furbishment
Mobile Fault Management (Field Force)	Energy Networks wish to build upon the GIS Workflow and Incident Dispatch and Status Mangement improvements delivered in DPCR5 by providing the capability to automate the dispatch of field staff, automating the HV switching processs and improve the existing LV Status management functions allowing realtime updates from the field. This would introduce mobile device technology to allow field staff to access switching schedules electronically and carry out remote switching from the field directly into the SCADA system.	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) GS2 - 18 to 12 Hour Restoration Standard (Chapter C5 – Outputs – c. Reliability and Availability) Customer Minutes Lost (CML) - 16% Improvement (Chapter C5 – Outputs – c. Reliability and Availability) Customer Service (BMCS) - 20% Improvement in scores (Chapter C5 – Outputs – f. Customer Satisfaction) Restoration after Storms - 36 hours (Chapter C5 – Outputs – c. Reliability and Availability)	Field Force Management Enhancements to existing applications
Automated Field Data Management	Allow field staff to send electronic data returns directly back to the Data Capture bureau, by introducing the ability for field staff to update the asset records directly from point of action.	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Achieve zero employee lost time accidents (Chapter C5 – Outputs – b. Safety)	Field Force Management Enhancements to existing applications
Optimised Scheduling and Workforce Management	Introduction of a fully integrated scheduling system for both planned and unplanned work. This would be fully integrated with CRM, Asset Management, GIS and Field Technology to provide visability of all work types and resources.	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) GS2 - 18 to 12 Hour Restoration Standard (Chapter C5 – Outputs – c. Reliability and Availability) Customer Minutes Lost (CML) - 16% Improvement (Chapter C5 – Outputs – c. Reliability and Availability) Business Carbon Footprint - 20% reduction (SP Group) - (Chapter C5 – Outputs – d. Environment)	Field Force Management New Application
Customer Relationship Management	Upgrade, automation and streamlining of CRM processes including the introduction of Customer & Stakeholder Self Service capabilities, more pro-active communication with customers via medium of choice to arrange appointments, notification of outages and full Smart Metering integration with CRM	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Customer Service (BMCS) - 20% Improvement in scores (Chapter C5 – Outputs – f. Customer Satisfaction) Avoidance of Guaranteed Standards Failures (double compensation if we fail) – (Chapter C5 – Outputs – c. Reliability and Availability) Communicate proactively with customers in ways they prefer (incl. social media etc) - (Chapter C5 – Outputs – e. Connections) Social Obligations - Contact Priority Service Register Customers before planned outages and during emergency power cuts (Chapter C5 – Outputs – g. Social Obligations) Smart Data - future use of smart metering data to proactively manage customers (Chapter C5 – Outputs – f. Customer Satisfaction) Connections - Improve our communication channels with customers (Chapter C5 – Outputs – f. Customer Satisfaction) Connections - Time to Connect Incentive (max. £2.7m pa reward) - (Chapter C5 – Outputs – e. Connections) Connections - Incentive on Connections Engagement (ICE) - max. £6m pa penalty (Chapter C5 – Outputs – e. Connections)	CRM Enhancements to existing applications
Asset Management	Expansion of Asset Management to include additional asset types, for example, Smart Assets	Service Improvement - Reduce by 25% the average time all customers are without power (Chapter C5 – Outputs – c. Reliability and Availability) Data Improvement Ofgem's requirement for DNOs to report greater disaggregated Asset Condition data	Enterprise Asset Management Enhancements to existing applications
Integrated Project Information Management	Central Repository for all information relating to a SPEN capital programme/project, elimating the need to extract data from multiple systems/locations	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Supports delivery of 'Secondary Deliverables' i.e. Asset Investment Programme - volumes and unit costs driven by EIR Mechanism. (Chapter C6 – Expenditure – a. Expenditure Overview)	Enterprise Asset Management Enhancements to existing applications

Initiative	Description	Benefits & Link to the ED1 Business Plan	Investment Category
New Inspection and Monitoring Policy	Optimisation of asset inspections and maintenance incorporating SMART data, remote information, alerting, condition and consequential based risk management	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Managing Our Assets - Optimised Asset Management (Chapter C6 – Expenditure – b. Asset Stewardship). Delivered by 'deploying industry leading asset management techniques'.	Enterprise Asset Management New Application / Enhancements to existing applications
Global Unified SAP System	Implementation of Global Unified System Work and Asset Management systems incorporating best practice/lessons learned from other group implementations.	Reduction in Corporate re-charge from Systems UK (Efficiency)	Enterprise Asset Management Infrastructure & Application Re-furbishment
Regulatory Reporting	Enhanced Regulatory Reporting solution	Chapter B4 – Preparing our 2015-2023 Plan – c. Governance, Assurance & Approval - specifically 'Statement of Assurance & Accuracy'	Business Intelligence New Application
Operational Reporting and Analytics -	Operational Reporting, Analytics, Decision Support, "Big Data", Scenario Planning, Financial Forecasting	Our Guiding Values Today & Our 2023 Vision (Chapter B1 About Us – a. Our strategic Vision and Guiding values) - Supports Customer and Asset Vision for ED1 and beyond.	Business Intelligence New Application
Enterprise Content Management and Collaboration (Document Management)	Implement an Enterprise Content management solution which will render relevant documents to customers, engineering partners and contractors via self-service channels. Integrate Asset Work Management and Enterprise Content Management so that all documentation associated with any Asset (including Planned and Unplanned Asset works) can be managed irrespective of which system is being accessed. Ensure all key Enterprise Documentation available to Field Operatives and other, relevant external parties via Mobile channels. This will allow Field Operatives and other external parties to access documentation associated with Assets, Work Orders (Planned & Unplanned) on their Mobile devices. This will also include the ability of Field Operative and other external parties to upload electronically, any new, relevant documentation or document changes as a result of planned / unplanned field works.	Integrated Management Systems SPEN Certified to ISO9001; ISO14001; OHSAS18001; PAS55. Supports Improved Regulatory Reporting. Chapter B4 Preparing our 2015-23 Plan – c. Governance, assurance and policy development - specifically 'Statement of Assurance & Accuracy' Integrates with CRM System - Supports customer service vision & Outputs (Chapter C5 – Outputs – f. Customer Satisfaction).	Document Management New Application / Enhancements to existing applications
Network Design	Integrate the Design function in GIS with Asset Management to enable design to be set out electronically using an agreed toolkit of compatible units and then final design to be automatically input back into Asset Management system	Connections Outputs - Providing First Class Customer Service (Chapter C5 – Outputs – e. Connections). 1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking)	Enterprise Asset Management Enhancements to existing applications
Application Product Upgrades	This programme of work incorporates the costs and activities to upgrade to the latest versions of products and applications which underpin the core applications portfolio within Energy Networks (Non Operational).	Required to maintain support & warranty Technology obsolescence	General Infrastructure & Application Re-furbishment
Infrastructure Upgrade	This programme of work incorporates the costs and activities to upgrade to the latest versions of Infrastructure products (eg Database and Operating System versions) which underpin the core applications portfolio within Energy Networks (Non Operational)	Required to maintain support & warranty Technology obsolescence	General Infrastructure & Application Re-furbishment
Smart GIS Geospatial	Provide GIS information to new applications Update maps for Smart Meter and Grid components	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Connections - Improve our communication channels with customers (Chapter C5 – Outputs – f. Customer Satisfaction) Data Improvement Programme	Enterprise Asset Management Future Innovation - Smart Meter & Smart Grid
Smart Mobile Work Management	New work orders for Smart Devices and associated data	1% Year on Year Ongoing Business Efficiency (Chapter C5 – Outputs – f. Customer Satisfaction) Customer Minutes Lost (CML) - 16% Improvement (Chapter C5 – Outputs – c. Reliability and Availability) Customer Service (BMCS) - 20% Improvement in scores(Chapter C5 – Outputs – c. Reliability and Availability)	Field Force Management Future Innovation - Smart Meter & Smart Grid
Smart DUoS Billing	The introduction of Smart Metering will necessitate changes to the Data Transfer Network (DTN) and potentially Settlements process. In addition transactional charges incurred via DNO / DCC communication will require to be validated and reconciled prior to payment	Governance, Assurance & Policy Development	Business as Usual Smart Metering

Initiative	Description	Benefits & Link to the ED1 Business Plan	Investment Category
Smart Customer Service	Information relating to fault location and network status which is made visible to the CRM agents Confirm customer on/off supply. Direct interaction with smart meters.	1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Avoidance of Guaranteed Standards Failures (Chapter C5 – Outputs – c. Reliability and Availability) Avoidance of Voluntary Payments Communicate proactively with customers in ways they prefer (Chapter C5 – Outputs – e. Connections) Social Obligations - Contact Priority Service Register Customers before planned outages and during emergency power cuts(Chapter C5 – Outputs – g. Social Obligations) Smart Data - future use of smart metering data to proactively manage customers (Chapter C5 – Outputs – f. Customer Satisfaction) Connections - Improve our communication channels with customers (Chapter C5 – Outputs – f. Customer Satisfaction) Connections - Time to Connect Incentive (Chapter C5 – Outputs – e. Connections) Connections - Incentive on Connections Engagement (ICE) (Chapter C5 – Outputs – e. Connections)	Customer Relationship Management Future Innovation - Smart Meter & Smart Grid
Smart Asset Management	Smart instrumentation and device config. Management	Governance, Assurance & Policy Development	Enterprise Asset Management Future Innovation - Smart Meter & Smart Grid
Smart Gateway	Messaging and Communications Interface (including security) between DNO and DCC. Later to include non-SCADA field data acquisition and management	Enabler for all other smart meter benefits Regulatory Requirement 1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking)	Technology Enabler Future Innovation - Smart Meter & Smart Grid
Smart Data Management	Master Repository for EN Smart Meter Points information, and eventually non-SCADA monitors Audit information for Smart Metering. Manages field data acquisition and management Aggregation and anonymisation	Enabler for all other smart meter benefits 1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking)	Enterprise Asset Management Future Innovation - Smart Meter & Smart Grid
Smart Network Data Store	Master repository for time series data, both Analogue and Digital, SCADA and non-SCADA This repository will be a key source of information for Business Intelligence, augments Historian	Enabler for all other smart meter benefits 1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Data Improvement Programme Report greater disaggregated Asset Condition data	Business Intelligence Future Innovation - Smart Meter & Smart Grid
Smart Network Modelling	Master Repository of network model in CIM compliant form. Standards-based grid model management and reference data exchange	Governance, Assurance & Policy Development 1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Avoidance of Guaranteed Standards Failures (Chapter C5 – Outputs – c. Reliability and Availability) Avoidance of Voluntary Payments Connections - Time to Connect Incentive (Chapter C5 – Outputs – e. Connections) Connections - Incentive on Connections Engagement (ICE) (Chapter C5 – Outputs – e. Connections) - Data Improvement Programme	Business Intelligence Future Innovation - Smart Meter & Smart Grid
Smart Business Intelligence (Real Time)	Decision Support. Demand Response management. Grid engineering and planning analytics and visualisation. Advanced DMS capabilities and control room decision support - LV network. Advanced Asset Lifecycle Management and Optimisation	Supports operational decisions on best course of action 1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking) Customer Minutes Lost (CML) Customer Service (BMCS) Restoration after Storms (Chapter C5 – Outputs – c. Reliability and Availability)	Business Intelligence Future Innovation - Smart Meter & Smart Grid
Smart Business Intelligence (Analytics)	New combined analytics using all data sources Grid engineering, planning analytics, visualisation, Trending, planning	1% Year on Year Ongoing Business Efficiency (Chapter C5 – Outputs – c. Reliability and Availability) Customer Service (BMCS) Chapter C5 – Outputs – f. Customer Satisfaction Restoration after Storms Storms (Chapter C5 – Outputs – c. Reliability and Availability)	Business Intelligence Future Innovation - Smart Meter & Smart Grid
Smart Enterprise Service Bus	Communications bus to share information between main platforms	Technology enabler supports all other SM benefits 1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking)	Technology Enabler Future Innovation - Smart Meter & Smart Grid
Smart Event Processing	Rule based event processing for Smart Metering and Smart Grid. Manage multiple information streams	Technology enabler supports all other SM benefits 1% Year on Year Ongoing Business Efficiency (Chapter C6 – Expenditure – m. Cost Efficiency and Benchmarking)	Technology Enabler Future Innovation - Smart Meter & Smart Grid
IT Communications Network Upgrade	Communications network upgrade to cater for step increase in Smart Grid Instrumentation and Smart Metering data	Technology enabler supports all Smart Metering and Smart Grid investments	Technology Enabler Future Innovation - Smart Meter & Smart Grid

Smart Information Security Management	End-to-end Security for Smart Metering and Smart Grid.	Regulatory Requirement Governance, Assurance & Policy Development ISO 27001 Compliance	Technology Enabler Future Innovation - Smart Meter & Smart Grid

5. Process

5.1. A Multi-Layered Strategic Approach

Iberdrola operate a global IT model with local implementation by Group companies with objectives for Service, Efficiency and Integration:-

- **Global Solutions** – to provide “best in class” capability through integration of people and teams globally
- **Global Consolidation** – to reduce complexity and Total Cost Of Ownership by unifying core applications to be shared globally
- **Exploit Global Scale** - to unify to a small number of strategic suppliers – hardware, software and services – to leverage and exploit the size and geographical reach of Iberdrola Procurement
- **Sharing Best Practice Globally** – to maximise efficiency and provide service excellence to IT “customers” by sharing knowledge and promoting best practice technologies, processes and methods.

These objectives require common, globally aligned, IT disciplines across:-

- **Governance** – common governance across all IT activities
- **Service Delivery** – centralised service delivery for day to day operations and fulfilment of end user requests
- **Project Delivery** – a common approach to project management underpinned by a strong centralised programme management office
- **Architecture** – a centralised architecture function to promote “best practice”; consolidated IT solutions optimizing infrastructure investments and services.

The IT strategy cascades from a holistic global strategy to specific strategies for each global line of business. Energy Networks in the UK is driven by the Global Regulated Business IT Strategy, which fully applies to Non-Operational systems and applies where possible to the Operational systems. This strategy has been developed with input from the regulated businesses in Spain, UK and USA, and includes:

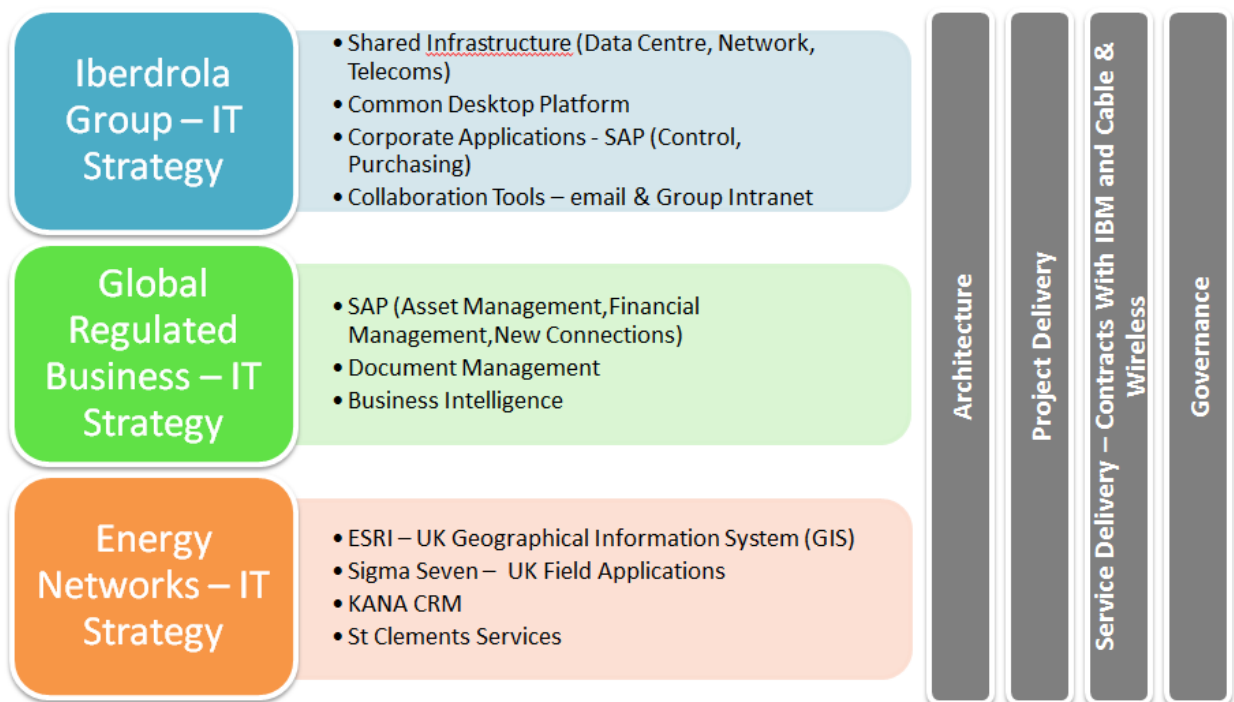
- *Evolution Of Customer Management Systems;*
- *Network Management, Development and New Connections;*
- *Field Force Automation Solutions;*
- *Geographic Information Systems;*
- *Scorecards, Business Intelligence and Document Management*

Major contracts for service delivery are competitively tendered by Iberdrola leveraging the size and scale of the Iberdrola group to deliver solutions and services shared globally. In many cases Energy Networks consumes a portion of a UK wide or global service, application or contract. Significant examples are:

- *SAP – Energy Networks uses the global SAP platform for financial and asset management.*
- *Telecoms – a UK wide contract with Vodafone (Previously Cable & Wireless Worldwide) for the provision and support of Telecoms infrastructure for data and voice. This contract will expire 31 December 2014. There is also a contract for Energy Networks strategic Telecoms infrastructure covering fibres on overhead lines, pilot wires under the ground, microwave links and radio communications associated with operation of the live power network.*
- *Service Delivery – a UK wide contract with IBM for the provision of IT infrastructure (data storage, servers, desktops, laptops, workstations, databases) and business application support, including Operational IT. This contract will expire 31 March 2021.*

Costs for services are re-charged to individual business units, based on a formula pro-rated on numbers of users that consume the service.

Major contracts to support the strategy are mapped out below:-



5.1.1. Basis of Allocation of costs to businesses

Contracts and costs directly associated with business specific applications are apportioned directly to each business. This covers 3rd Party maintenance and support of applications, dedicated internal resources providing IT services, project delivery and application development.

Contracts and costs associated with applications shared between ScottishPower businesses are based on an apportionment model depending on the number of users in each business. In general, SPD and SPM have been allocated a percentage of overall Energy Networks costs each. This is based on the average of the last 3 years historical figures.

Contracts and costs associated with infrastructure which is shared with other ScottishPower businesses are based on an apportionment model using a mixture of capacity utilised and number of users.

The UK wide contract with Vodafone (Cable & Wireless Worldwide), covering Non-Operational elements, for provision and support of Telecoms infrastructure is based on a percentage of line and service usage.

Applications and Infrastructure which are supported in Spain are recharged along with Depreciation at year end from Iberdrola. We have used the latest forecast received from our Financial Control department.

6. Outputs & long term view

6.1. Our track record

SP Energy Networks have already implemented a number of core applications which we plan to continue to invest in. These core applications over the ED1 period include:

- *Customer Relationship Management*
- *New Connections*
- *DUOS Billing*
- *Outage and Distribution Management Systems (Operational)*
- *GIS Geospatial*
- *Work & Asset Management*
- *Mobile Work Management*
- *Scheduling*
- *Contractor Management*
- *Land Agreements*
- *Business Intelligence*
- *Document Management*
- *Planning.*

As part of ED1 we will be introducing new applications for Integrated Resource Scheduling and Smart enablement (see Section 4.2), and continue our policy for application / infrastructure refurbishment and rationalisation. The initial implementation of our new CRM system will be completed by the end of the DPCR5 period. Throughout ED1 we will build on this to introduce pro-active management of customers and enable our customers to be connected more quickly.

Our Policy and delivery will differ from other DNOs depending on where they are in their system investment profile. We have already invested in core platforms, and can build on this, rather than having to replace a lot of our IT estate. Another difference is our Global solutions and Global Consolidation approach. The Iberdrola group standardisation of many of the systems (eg Work & Asset Management, Mobile Work Management, New Connections) enables improved efficiency and integration, and leverages the bargaining power of the group.

We anticipate our policy and delivery will be similar to other DCCs for the core new “standard” components of the Smart Meter and Smart Grid programmes. There will be “industry synergies” from a joint DNO approach for systems linking to the DCC (Smart Gateway, Registration Data Provider etc). For other Smart enabling components, there is an opportunity for SP Energy Networks to utilise existing expertise, governance, applications, and procurement leverage across the Iberdrola Group to devise more tailored innovative solutions.

6.2. Benefits for our customers

The Non Operational IT and Telecoms strategy is geared to support the ED1 outputs. Linkage between Capex projects and ED1 outputs is outlined in the tables in section 4.2.

Annex B3 – Stakeholder Engagement – SPEN and **Annex B3 – Stakeholder Engagement Further Detail – SPEN** show the improved outputs expected from our stakeholders. Examples of how this strategy will assist the outputs are listed below:

Output Category	Benefits
Safety	The Smart Meter Rollout will enable improvements in Power outage handling (see Annex C7 – Smart Meter Strategy – SPEN). Automated Field Data Management will also contribute to this output.
Reliability and Availability	Improved Asset Management will reduce the average time all customers are without power (Chapter C5 - Outputs – c. Reliability and Availability) Mobile Fault Management, Optimised Scheduling and Management, and Improved BI(Real Time and Analytics) and RTS(Visibility of smart grid events) will also contribute to this output.
Environment	Greater use of mobile technology amongst field staff will minimise travel and the effect on the environment (Chapter C5 - Outputs – d. Environment) The Environment footprint will also be reduced by optimising Scheduling and Workforce Management
Connections	The continual improvements in the CRM system and online tools/heat maps will ensure customers are better informed and get quicker decisions/feedback. (Business Plan, page 109) Increased Self Service for Connections customers through CRM will provide opportunities for quote, apply and payment to be progressed quicker. The Active Network Management (ANM) LCNF funded solution will dramatically increase the speed, and decrease the cost of connecting new customers. (Chapter C5 - Outputs – e. Connections)
Customer Satisfaction	The planned CRM enhancements will improve the customer experience by offering a range of different communication channels, with enhanced web services including use of social media and web chat. (Chapter C5 - Outputs – f. Customer Satisfaction) The roll out of Smart Metering will provide data to allow us to be notified quicker, confirm the status of customer supply, and contact our customers proactively to give progress updates (Chapter C5 - Outputs – f. Customer Satisfaction)
Social Obligations	The Smart Meter Roll out and improved Asset Management will minimise outage times for all customers, including vulnerable customers. CRM Enhancements will help contact with Priority Service Register Customers before planned outages and during emergency power cuts

6.3. Long term benefits

In the Long term there will be significant benefits from the Smart Grid in terms of improving the quality of data we collect/manage. This is outlined in more detail in **Annex C7 – Smart Grid Strategy - Creating a Network for**

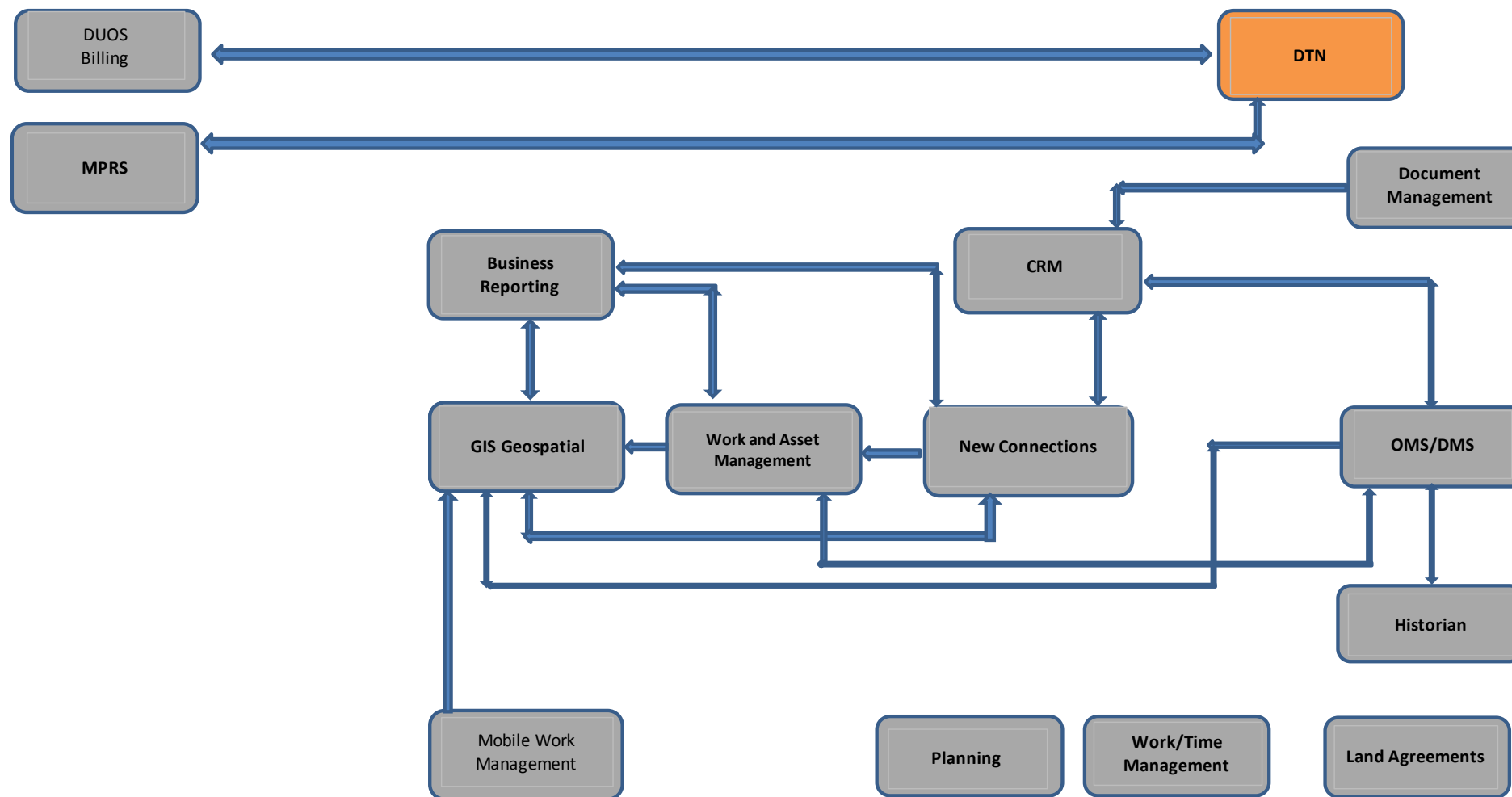
the Future – SPEN. In particular the move towards a Distribution System Operator (DSO) will change how distribution networks are operated and designed, enable more commercial solutions, and introduce a wider role of balancing generation, demand and storage in the distribution network.

7. Roadmap for delivery & efficient expenditure

7.1. Roadmap for delivery

The diagram below shows our current portfolio of core applications. The method by which they are integrated requires further innovation technology enablement and investment to support the step increase in data from the Smart Metering and Smart Grid devices.

Position (As Is) at start of ED1 period



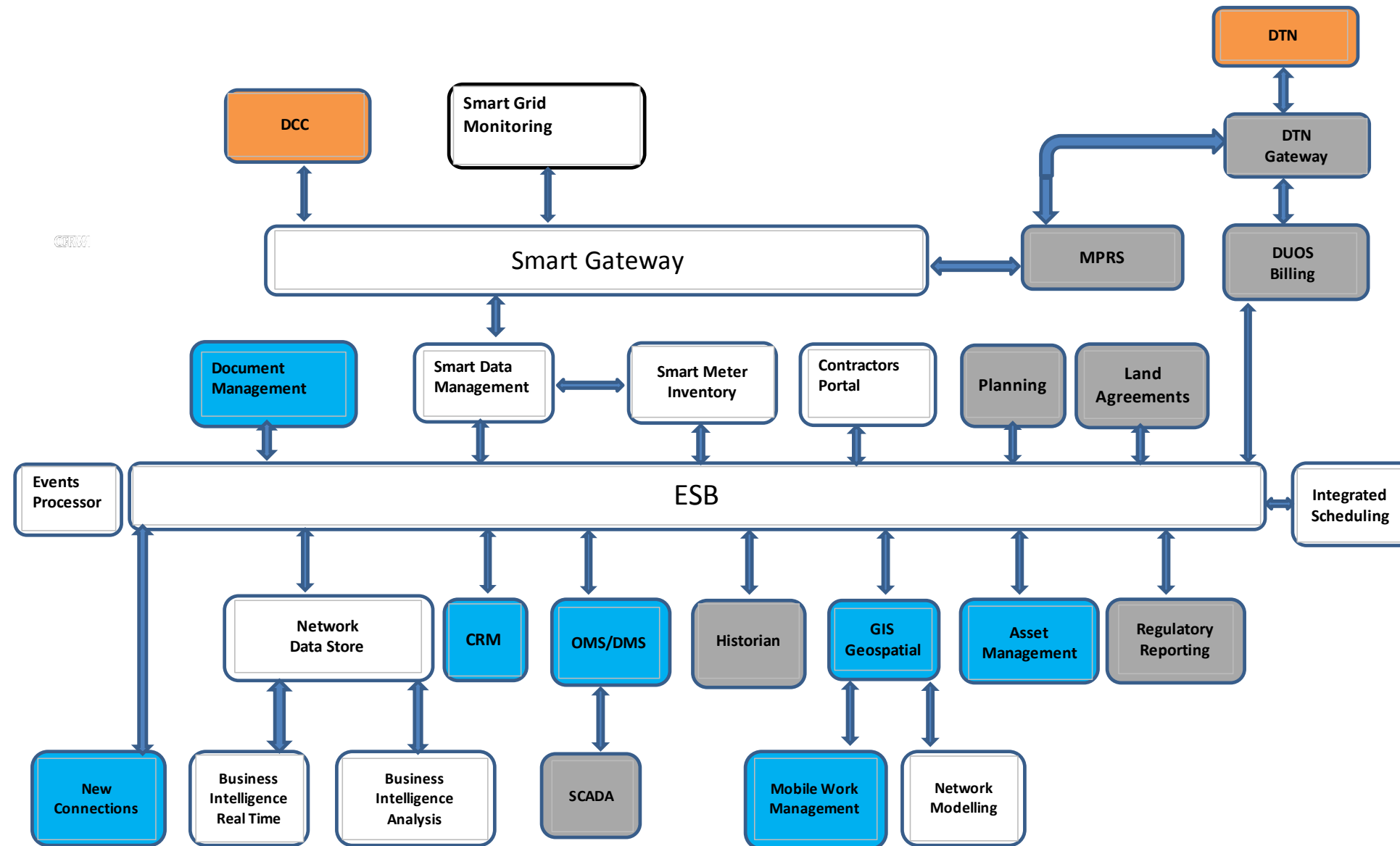
LEGEND



Existing system at start of ED1
External System

The diagram below shows the position after the ED1 initiatives have been completed.

Position (To Be) at end of ED1 period



Legend

- Existing system requiring Small to Medium Investment
- New system to be introduced during ED1
- Existing system requiring large Investment
- External Systems

7.2. Efficient expenditure

7.2.1. Our planned expenditure

Summary of overall non operational Capex:

Overall Non Operational Capex		DPCR5	RIIO-ED1	
		£m pa	£m pa	R11O-ED1 Total
Overall Non Operational Capex	SPD	3.05	3.12	24.93
	SPM	3.04	3.12	24.93
Total		6.09	6.23	49.87

IT Maintenance and Running Costs		DPCR5	RIIO-ED1	
		£m pa	£m pa	R11O-ED1 Total
IT Maintenance and Running Costs	SPD	10.56	9.28	74.4
	SPM	11.65	8.32	66.71
Total		22.21	17.6	141.15

8. Uncertainty & risk

8.1. Short term uncertainties and risks

As a DNO we have no certainty over the operational accuracy, reliability and timing of measurements from Smart Meters. As a result, benefits from network measurements will have to be closely monitored. Our investment in IT to exploit this data will require to be supplemented with appropriate Data Quality Controls and Governance around the use of this data.

8.2. Medium term uncertainties and risks

As the number of enrolled Smart Meter starts to reach a critical mass, the amount of data generated from Smart Meters will require close monitoring to ensure that our Computer Networks and Operational systems are not materially impacted by vast increases in data volume.

8.3. Long term uncertainties and risks

There is a long term risk that Smart Meter data proves to be of insufficient quality and coverage to provide the benefits we propose.

8.4. Mitigation of uncertainties & risks

SPEN has endeavoured to mitigate all areas of risk identified above. Our investments for Smart Metering and future Smart Grid include a number of innovative technological investments. These include a Smart Data Gateway to buffer large volumes of Alerts and Alarms, thereby protecting our Outage and Distribution Management systems from being over-loaded. A new Network Data Store from which Network Models and Analytics can be used to evaluate the quality and completeness of Smart data. Our mitigation strategy also includes investments to upgrade our Computer Network bandwidth and also introduce Enterprise Service Bus technology to share Smart data consistently throughout our core systems. With regards to stakeholder engagement we also aim to engage via the ENA and with manufacturers to ensure our requirements are reflected in final designs.