Data Protection Impact Assessment

ESB Networks –Smart Metering Data DPIA

September 2022

DPIA540

The below approvers confirm that all required sections in this document have been completed accurately.

Approved By	Date
Process Owner	
Data Owner (ESBN)	
Data Protection Officer (ESB)	

Contents

Glossary

Abbreviation	Meaning
AMI	Advanced Metering Infrastructure
BPD	Business Process Design
CoLE	Change of Legal Entity
CoS	Change of Supplier
CRU	Commission for Regulation of Utilities
DB	Data Base
DSO	Distribution System Operator
DUoS	Distribution Use of System
ESM	Electricity Smart Meter
HES	Head End System
IPS	Intrusion Protection System
KMS	Key Management System
MDMS	Meter Data Management System
MEA	Microgen Export Application
MID	Measuring Instruments Directive
MPRN	Meter Point Registration Number (MPRN)

Abbreviation	Meaning
NSMP	National Smart Metering Programme
SMDH	Smart Metering Data Hub
SMOC	Smart Meter Operation Centre
SST	Standard Smart Tariff

1. Background and Risks to the Data Subject

Section 1 and Section 2 constitute an Initial DPIA.

For the complete list of values for Data Subject Categories etc., please refer to the Records of Processing.

	Background Information
Business Unit	ESB Networks
Business Area	National Smart Metering Project (NSMP)
Process Name	Recording and Collection of Smart Meter Data
RoP Process Reference	ROP N.SM.07
Process Owner	Retail Market Services Manager
Process Purpose	To operate in the retail electricity market in Ireland, companies must comply with a range of obligations, rules, systems and processes which are captured in legislation, licences, codes and

	Background Information
	procedures. This regulatory framework is continuously updated and is designed to promote effective competition between electricity suppliers, promote customer choice based on good quality information, support Ireland's Climate Action targets and to provide an appropriate framework of customer protection. To facilitate the implementation of the NSMP by ESB Networks (ESBN), Electricity Smart Meters (ESM) accurately record electricity energy usage for customers who have a smart meter installed. This DPIA addresses the recording and the collection of data from the ESM. The DPIA is focussed on the key processes that process Personal Information for the implementation of smart metering. The existing electricity market processes are not addressed in detail and are included as context. The data is categorised in the following: • **Interval and Meter Register Data:** Used for retail electricity market and DSO processes, including customer billing, market settlement aggregation, & electricity network planning and real time grid management; • **Instrumentation Data:** Used for electricity network planning and real time grid management; and • **Event Data:** Used for operational smart meter systems management, electricity network planning and real time network management. To facilitate the implementation of the National Smart Metering Programme, ESM accurately record electricity energy usage for customers who have a smart meter installed. ESB Networks is further required to: • Implement an interim retail market microgeneration solution in-line with requirements established by CRU in its 'Interim Clean Export Guarantee' decision paper (CRU/21/131) published on 1 December 2021.

	Background Information
	• Enable the National Energy Security Framework which outlines the structures which are in place within Government to monitor and manage Irish energy supplies. It sets out the plans which are in place to deal with energy security emergencies should they arise, and outlines out how these plans will be tested. • Support customers in making informed decisions regarding their electricity consumption: National Energy Security Framework April 2022: Response 22: Leverage the successful roll out of the National Smart Meter Programme by providing electricity customers with access to their data and greater insight into their consumption patterns thus enabling them to select the most appropriate tariff. The Commission for Regulation of Utilities will also examine the charges within its remit to ensure that the differential between peak and off-peak tariffs provides the opportunity for electricity customers to save money by moving some consumption to off peak times . Further to the purpose described above, the implementation of the Smart Metering Data Hub (SMDH) supports the ESBN requirement to make the Customer's data available to them in the future in an accessible manner via the Customer Portal.
Data Subject Categories	Customers
Name of Controller / Joint Controller	ESB Networks
Name of Processor	ESB Networks
Estimated Frequency of Process	**Interval and Register Data** • 30-minute Interval Data Channels are recorded continuously in the ESM. • Midnight snapshots of the SST Registers are recorded daily on the ESM.

	Background Information
	• The ESM is recording the 24-hr Cumulative Registers continuously. Snapshots of these registers are taken at midnight each day and stored on the ESM. • The ESM is updating the Maximum Demand Register continuously if the previous value is exceeded. The monthly snapshot of the register is stored on the ESM. • Metered microgeneration data (kW P-) is exported daily to the Microgen Export Application (MEA). **Instrumentation Data** Instrumentation Data comprises two data types: 1. **Analysis Channel Data** – Up to 8 Analysis Channels can be configured to record on the Electricity Smart Meter (ESM). These channels are defined on the ESM, but do not normally record any data. These can be enabled as required to facilitate grid management and issue resolution. 2. **Instrumentation Counters** - The Instrumentation Counters increment whenever a power quality threshold is breached. The instrumentation configuration on the ESM includes thresholds for power quality metrics including Voltage, Frequency and Total Harmonic Distortion. If these counters are regularly incrementing on a meter it can be a signal for power quality issues on the LV network at the premises which will help ESB Networks identify developing issues on the distribution network before they become critical faults. **Event Data** The ESM reviews its event logs every 2 hours. If any new events have been recorded since the last check, it packages up the new events into an encrypted data package and pushes them to the Head End System (HES). The HES receives the package, decrypts it and passes the events to the MDMS.

	Background Information
	The events are stored on the ESM in circular buffers which will wrap. The buffers are of a finite size and will be overwritten depending on the frequency and quantity of events. Event Data packages which arrive at the HES are generally only retained for a few minutes while they are being processed but could remain in the HES for up to 15 days if the MDMS is unavailable to receive them. If the MDMS does not accept the events within 15 days, they are deleted from the HES holding database. Detailed Event records will be held in the MDMS and SMDH for as long as required to analyse and act upon them. The event analysis process within the MDMS will summarise the data by event type (effectively retaining counters per event type per ESM) to allow statistical analysis. The detailed Event records will be deleted following this summarisation except where they are required to support other follow on processes.
High Level Description of the Flow of Data	**Interval and Register Data** Interval Data is sent from the ESM as an encrypted data package to the HES every 2 hours containing the most recent 30-minute interval values and it will send an additional encrypted data package to the HES just after midnight containing the appropriate 24-hr Cumulative Register snapshots and SST Register Data. There are a number of 24-hr Cumulative Registers recorded by the ESM. The midnight snapshots for the 24-hr Cumulative Import Registers and the 24-Hr Cumulative Export Registers are automatically packaged by the ESM into an encrypted data package just after midnight each day and pushed to the HES. The Max Demand Register is sent monthly to the HES. The 24-hr Cumulative Active Import Register is required to support supplier billing, Change of Supplier (CoS), Change of Legal Entity (CoLE), ESBN Distribution Use of System(DuoS) billing and

	Background Information
	market settlement aggregation and will be provided from the MDMS upon request to ESBN Market Systems. The processes which operate on the data once it enters ESBN Market Systems are consistent to the processes which applied before ESMs were installed, except that, the meter reading is being provided by the MDMS instead of the manual meter reading service. These downstream processes are not within the scope of this DPIA. The appropriate midnight snapshot register value for the billing date will be provided to the supplier with whom the MPRN is currently registered via the Retail Energy Market Systems. This is identical to the bi-monthly process which applied before ESMs were installed. Midnight snapshots of the SST Registers required to deliver the Standard Smart Tariff (SST) are recorded in every ESM each day. These are Cumulative Active Import Registers which only measure energy consumption during certain periods of the day as follows: • SST Night Import Register (KWh) from 11pm to 8am • SST Day Import Register (KWh) from 8am to 5pm and from 7pm to 11pm • SST Peak Import Register (KWh) from 5pm to 7pm The MDMS will push interval data to the ESBN Market System between 1am and 5am each night to support Retail Market Processes. The MDMS will respond to ESBN Market System requests for bi-monthly SST register values for a particular meter to satisfy a billing request. Interval and Register Data is sent to the SMDH on a daily basis. **Instrumentation Data** Instrumentation Counters are recorded on the ESM and delivered to the HES, MDMS and SMDH. Instrumentation Analysis Channels can be configured to record on the ESM. These channels are defined on the ESM, but do not normally record any data and are not configured to record by

	Background Information
	default. These can be enabled as required to facilitate grid management and issue resolution. When recorded on the ESM, these channels are delivered to the HES, MDMS and SMDH. Instrumentation data will be used by ESBN for electricity network power quality monitoring, LV network planning and performance improvement activities. **Event Data** Event Data is recorded into logs in the ESM whenever specific events occur such as physical or magnetic tampering, voltage sag or swell threshold being breached, meter temperature threshold being breached, meter clock resynchronised etc. The full list of ESM events recorded is contained in the Appendix, Section 4. If it has events to send, the ESM creates an encrypted data package and pushes it to the HES over the dedicated Communication Services Provider (CSP) network. Every two hours the ESM determines if it has any new events to notify to the HES. The HES receives the data package and temporarily stores it while it is being decrypted. It then extracts the events from the package and pushes them to the MDMS. Relevant events are sent to the Complex Event Processor (CEP) which allows for the management of security events using data pushed from both HES's. The MDMS receives the events from the HES and stores them. Event data will be used to help direct meter operation monitoring & troubleshooting within the Smart Meter Operation Centre and also used by ESBN for electricity network power quality monitoring, LV network planning and performance improvement activities. Events are not distributed to other parties or customers. **Common process for all data** When the HES receives a data package it decrypts the package and extracts the meter data. It passes the data to the MDMS. This process normally only takes minutes, but the HES can hold the data for up to 15 days before deleting it (to cater for outages on the MDMS). When the MDMS receives the data, it validates it and stores it.

	Background Information
	Interval and Register Data, Instrumentation data and Event data is stored in the SMDH. Customers can create an account on the Customer Portal and access their Interval and Register smart metering data. **Interim Micro Generation** For Micro Generation customers the MEA combines the data from the MDMS and SAP IS-U. Both smart meter export data (for communicating meters) and deemed export quantities will be provided to the registered supplier on a D+1 basis via the Microgeneration Export Application (MEA) and the existing Secure File Transfer Service (SFTS). SFTS is an existing technology. ESB Networks will also provide deemed export quantities to the registered supplier in scenarios where no data is available from the smart meter. Where a site is not eligible to have a smart meter installed, ESB Networks will execute CRU's deemed export formula and provide the deemed export quantities to the registered supplier.
Data Fields	**Interval Data and Meter Register Data** Interval Data is recorded and stored in every ESM at 30-minute granularity for 4 discrete energy measurement quantities: • Active Import Energy (P+). This is the energy consumed from the grid at the premises measured in kilowatts (kW). • Active Export Energy (P-). This is the energy exported to the grid from the premises measured in kilowatts (kW). Only customers with micro-generation equipment installed have the potential to export active energy to the grid. • Reactive Import Energy (Q+). This is the reactive energy consumed from the grid at the premises measured in kiloVArs (kVAr). It is usually consumed if inductive motors or other reactive loads are installed at the premises.

	Background Information
	• Reactive Export Energy (Q-). This is the reactive energy exported to the grid from the premises measured in kiloVArs (kVAr). It is usually generated if capacitive loads such as synchronous motors/rotating generators or Inverters are installed at the premises. The following 24-hr Cumulative Registers are **recorded** on every ESM: • 24-hr Cumulative Active Import Register (KWh) - This is the energy consumed from the grid at the premises measured in kilowatt-hours (kWh). • 24-hr Cumulative Active Export Register (KWh) - This is the energy exported to the grid from the premises measured in kilowatt-hours (kWh). Only customers with micro-generation equipment installed have the potential to export active energy to the grid. • 24-hr Cumulative Reactive Import Register (KVARh) - This is the reactive energy consumed from the grid at the premises measured in kilovar-hours (kVARh). It is usually consumed if inductive motors or other reactive loads are installed at the premises. • 24-hr Cumulative Reactive Export Register (KVARh) - This is the reactive energy exported to the grid from the premises measured in kilovar-hours (KVARh). It is usually generated if capacitive loads such as synchronous motors or rotating generators are installed at the premises. All four 24-hr Cumulative Registers are viewable on the ESM display. The Maximum Demand Register is a measure of the maximum power demand at the premises and is only updated by the ESM when the power demand at the premises exceeds the highest previous value. It is automatically reset to zero by the ESM every month. It is measured in kilowatts (KW). The interval and register data is referenced to the Unique Meter Identifier (i.e. Meter Point Registration Number (MPRN)) in the MDMS.

	Background Information
	No customer identifying information is associated with the data in the ESM, while it is traversing the network or in the HES. When the data arrives in the MDMS, it can be linked to the Meter Point Registration Number (MPRN) for the premises at which the meter is installed. The address of the premises at which the meter is installed is also recorded in the MDMS. The customer name is not recorded in the MDMS. When the data arrives at the ESBN Market System via SAP-ISU it can be linked to the corresponding name and address of the customer as provided to ESBN by their Supplier. The Ordinance Survey X-Y co-ordinates for the premises at which the meter is installed are also recorded in the MDMS. **Instrumentation Data** Instrumentation Counters comprise of the following counters: • FrequencyCounter42.5Hz • FrequencyCounter47.0Hz • FrequencyCounter49.0Hz • FrequencyCounter49.5Hz • FrequencyCounter50.5Hz • FrequencyCounter51.0Hz • FrequencyCounter52.0Hz • FrequencyCounter57.5Hz • VoltageVariationCounter10%UnderVoltage • VoltageVariationCounter15%UnderVoltage • VoltageVariationCounter10%OverVoltage • VoltageVariationCounterRapidVoltageChanges 5%

	Background Information

- PowerInteruptsLong
- PowerInteruptsShort
- VoltageTHDL1Counter
- CurrentTHDL1Counter
- VoltageDipsCounter
- VoltageSwellsCounter

Analysis Channel Data Comprises of the following components:

Channel Name	Description
U Avg L1	Average Single Phase voltage
Min L1 Voltage	Minimum Single Phase voltage
I L1 Avg	Average Single Phase current
P+ Avg L1	Average Single Phase power
Power Factor Avg	Average Power Factor
Max P14	Maximum Active Import power
THD U L1	Total Harmonic Distortion of the Single Phase Voltage Waveform
THD I L1	Total Harmonic Distortion of the Single Phase Current Waveform

Note: The 8 Power Quality Analysis Channels are not normally collected. These can be enabled as required to facilitate grid management and issue resolution.

Event Data

Physical or Magnetic Tamper Events, Voltage Quality Events, Meter Temperature Events, Grid Harmonic Events, Local Threshold Exceeded Events, Meter Clock Synchronisation Events, Meter Reconfiguration Events, Meter Firmware Update Events, Meter Security Events – All events are timestamped as they are recorded in the event logs on the ESM and within the other

	Background Information
	components of the AMI solution. See Appendix section for a full list of the Events recorded on the ESMs.

Please complete the following questions as instructed. Please see Appendix Document Number 1 for definitions.

Risks to the Data Subject Questions	Responses
1. Does the process involve the use of sensitive personal data, or highly personal data relating to criminal convictions or offences?	No The process does not collect any sensitive personal data.
2. Does the process involve large amounts of personal data, either considered by the number of data subjects concerned, the volume of data processed, the duration of the process or the geographic spread?	Yes The process will involve the processing of Interval and Register Data on all ESMs. The provision of Interval and Register Data to registered ROI electricity suppliers will align to the electricity services that the customer has signed up for with the their supplier, and the supplier has provided to ESB. Customers will in future have access to their Interval Data via the customer portal from ESBN. The interim retail market microgeneration solution will involve the collection, processing and provision of smart meter export data in Half Hourly (HH) interval format and 24hr cumulative register format to the registered supplier for the purposes of remunerating the customer who is exporting.

Risks to the Data Subject Questions	Responses
3. Does the process involve evaluating or scoring, including profiling or prediction, of data subjects, from personal data concerning performance at work, economic situation, health, location or movements?	No The data recorded on the ESM is only used by ESBN to execute its obligations under the DSO license and customer Interval and Register Data will only be provided in accordance with their contractual agreement with their suppliers. Interval and Billing Register Data The data will be provided to used suppliers for billing and settlement purposes and not used by ESBN in any subject evaluation, profiling or prediction.
4. Does the process include automated decision making with legal or similar significant effects, e.g. does the processing lead to the exclusion of, or discrimination against, data subjects?	No The Interval and Register Data, Instrumentation Data, and Event Data will be recorded and collected on the ESM and no automated decision making will be carried out involving this data.
5. Does the process include systematic monitoring / processing used to observe, monitor or control data subjects, such as data collected through "a systematic monitoring of a publicly accessible area“?	No The Interval and Register Data, Instrumentation Data, and Event Data will be recorded and collected on the ESM. The process does not include systematic monitoring of data subjects .
6. Are datasets combined or matched within this process (from multiple controllers or multiple processes) in a way that would exceed the	No The data collected from the ESM is not combined with data from other controllers.

Risks to the Data Subject Questions	Responses
reasonable expectations of the data subject?	
7. Is personal data about data subjects that could be considered vulnerable (including children) processed?	No Data for vulnerable customers is managed separately as per the ESBN existing processes and is not in scope for Smart Metering.
8. Does the process use innovative technological or organisational solutions for personal data processing that are new to ESB?	Yes ESBN have been managing ESMs in Ireland since June 2020. However, going forward the use of the ESM data for the purposes of MicroGen and the use of the SMDH to allow data subject access to their data will be new.
9. Does the process prevent data subjects from using an ESB service or exercising any of their rights mandated by GDPR?	No Customers are not prevented from using any ESB service and can exercise all of their GDPR rights with respect to data stored and processed in ESBN IT systems.
10. Does the process involve data transfers across borders outside the EU (note that this includes access by people based outside the EU)?	Yes The Republic of Ireland (ROI) Tibco hub has been separated from the Northern Ireland (NI) hub but is the ROI hub is hosted in Northern Ireland which is outside the EEA. The current transfer of meter data through this system to ROI Energy Suppliers is facilitated by the GDPR EU adequacy decisions of 28th June 2021. The ROI Tibco hub is to be migrated to the ROI in March 2023.

2. DPIA Outcome

The below outlines whether a "full" DPIA is required. If a "full" DPIA **is** required, please complete the remaining Sections.

DPIA Requirement Questions	Response
Has "Yes" been answered to at least two questions in Section 1?	Yes
Has there been a DPIA previously completed where the nature, scope, context and purposes of the processing are very similar to the processing for this process?	Yes
Has the process previously been checked by the Data Protection Commission and found not to be high risk?	Yes
Is there any other reason why a DPIA is not required?	No (If "Yes", please provide further details to justify the response)
Based on the above, a full DPIA is:	Required

If a full DPIA is **not required**, the following sections do not have to be completed.

3. Scope and Description of Processing

Please provide a detailed description of the process and the lawful basis for the process in the table below.

Main Processing Activity	
Recording, Collection and Processing of Interval, Event, Instrumentation and Meter Register Data	**Legal obligation** **Performance of a contract** **Public interest or exercise of official authority** • The Interval and Register Data, Instrumentation Data, and Event Data will be recorded on, and collected from, ESMs to facilitate ESB Networks compliance with Condition 3 (Operation agreements), Conditions 7 (Detection and Prevention of Theft of Electricity) and 9 (Provision of Metering and Data Services) of the DSO Licence issued by the CRU (Refer No.3 in the Appendix). • The requirement to implement an interim retail market microgeneration solution in-line with requirements established by CRU in its 'Interim Clean Export Guarantee' decision paper (CRU/21/131) published on 1 December 2021. • CER-Metering-Code-CER13281 – section 4.2.3: 'As a minimum, for each registered Meter, [7] full years of metered data shall be retained'. • National Energy Security Framework April 2022: Response 22: Leverage the successful roll out of the National Smart Meter Programme by providing electricity customers with access to their data and greater insight into their

	consumption patterns thus enabling them to select the most appropriate tariff.

If sub-processing activities are involved which rely on a different lawful basis for processing, please elaborate in the table below.

Sub-Processing Activity/Activities	
N/A	

3.1 Personal Information

Please complete the following table outlining the different types of personal and sensitive personal data which is processed. For the complete list of values for each category, please refer to the Registry of Processing.

Personal Data	Sensitive Personal Data or Data of a Highly Personal Nature
Interval • Energy data measured at half-hourly intervals **Register** • Snapshot of energy data measured in three TOU periods per day • Daily snapshot of 24-hr Cumulative Register Data • Max Demand Register **Other** • Premises address • MPRN • Ordinance Survey X-Y co-ordinates for the premises	**Sensitive Personal Data** • N/A **Children's Data** • N/A **Criminal Convictions or Offences** • N/A

3.2 Recipients and Retention Period

Please complete the following table to describe who receives the data, and the retention period that applies in each instance.

Internal Recipients	Retention Period
• **ESM** (Interval data only)	Up to 350 days
• **ESM (Register data only)**	Up to 175 days for the daily snapshots Up to 36 iterations of the monthly snapshots
• **ESM (Event data only)**	Buffer wraps and overwrites when full.
• **ESM (Instrumentation data only)**	Buffer wraps and overwrites when full.
• **Kamstrup HES**	Up to 15 days (to cope with MDMS outages)
• **SagemCom HES**	Up to 15 days (to cope with MDMS outages)
• **MDMS**	Up to 7 years for billing related data and 2 years for other data
• **Central Retail Market System**	Up to 7 years for both data types
• **Microgen Export Application**	14 months meter export data
• **File Share (Archive)**	90 days
• **File Share (Processed Folder)**	10 days
• **Smart Meter Data Hub (SMDH)**	Up to 2 years
• **Customer Portal**	Up to 2 years

External Recipients	Retention Period
• **Suppliers** **Interval Data and Register Data** will be provided to the registered supplier of end customers in accordance with the customers contract with suppliers.	• N/A

3.3 Assets on Which Personal Data is Stored

Please complete the following table to describe the assets on which personal data relies and the associated Access Rights and Technical Security measures.

Assets on which personal data relies				
Storage Type	**Location**	**Descriptions**	**Access Rights**	**Technical Security Measures**
Kamstrup & SagemCom ESM	Flash Storage on ESM	Interval data is contained in Interval data logs which store a new value every 30-minutes. Most Meter Register data is contained in Daily logs which store a new snapshot of register values every 24 hours. Meter Register data also contains logs which store a new snapshot of register values every month. Event data is stored in the event logs store in flash memory on ESM	Accessible remotely by the ESBN HES application.	Access to the data stored on the meter requires possession of one or more encryption keys which are unique to each ESM. The encryption algorithm used is AES-128. Data Packets sent to the HES are encrypted by the ESM using a key which is unique to the ESM and can only be decrypted by the HES. The encryption algorithm used is AES-128.

Assets on which personal data relies Storage Type	Location	Descriptions	Access Rights	Technical Security Measures
		Instrumentation data contained in analysis log store in flash memory on ESM.		
Kamstrup & SagemCom HES	Databases	Receiving landing areas provide temporary storage for all encrypted data packets received from the ESM while they are awaiting decryption. They reside here for only minutes normally. 2nd database provides temporary storage for the ESM data after it has been decrypted while it is waiting for the MDMS to collect and store it. Again, the data generally remains here for only minutes but could	No end user access is permitted to the HES application or to either database. Access is restricted to Role Based Access Controls and HES application jobs that process the data prior to transferring it to the MDMS. Role based access with logging, monitoring and auditing is provided to Database Administration and HES Maintenance Accounts. All backups of the databases are encrypted.	Access to the HES application and its databases is controlled by Role Based Access Controls (RBAC) which are implemented via dedicated Active Directory accounts, unique to each user and system service. Formal Joiner, Mover, Leaver (JML) processes and periodic access reviews. Formal logging and monitoring of activity is carried out.

Assets on which personal data relies Storage Type	Location	Descriptions	Access Rights	Technical Security Measures
		remain here for up to 15 days if the MDMS is unavailable for any reason.		
MDMS	MDMS DB	The MDMS stores Interval and Register Data, Instrumentation Data, and Event Data received from a HES. It also stores master data for the premises including the MPRN, Premises Address and X-Y co-ordinates.	The MDMS is the main end-user system for managing the ESM estate and the data collected from the ESMs. ESBN administrators access the application via a Web browser-based GUI. Database administrators and application support staff utilise management tools installed in the isolated OT domain. Role based access with logging, monitoring and auditing is utilised for all user and system accounts. All backups of the databases are encrypted.	Access to the MDMS application and its database utilises Role Based Access Controls (RBAC) and is implemented via dedicated Active Directory accounts which are unique to each user and system service. A dedicated and isolated Active Directory Forest is implemented for the Smart Metering Operational Technology (OT) services including the MDMS. Formal Joiner, Mover, Leaver (JML) processes and periodic access reviews. Formal logging and monitoring of activity is carried out.
ESBN Market	DB	The database (DB) in the ESBN Market System stores Interval	End users access the application via a Web GUI Client. Database	Access to the ESBN Market System application and its database utilises Role Based Access Controls (RBAC) and is implemented via dedicated Active Directory accounts

Assets on which personal data relies Storage Type	Location	Descriptions	Access Rights	Technical Security Measures
System (SAP-ISU)		and Meter register data received from the MDMS. It also stores master data for the premises including the MPRN, Premises Address and X-Y co-ordinates. It also stores customer name and address details received from the energy Supplier and vulnerable customer attributes.	administrators and application support staff utilise management tools installed in the ESBN corporate domain. Role based access with logging, monitoring and auditing is utilised for all user and system accounts. All backups of the databases are encrypted as per ESB standard practice.	which are unique to each user and system service. A dedicated security team manage and monitor all access to the ESBN Market System and implement a very granular security model. Formal logging and monitoring of activity is carried out.
Microgen Export Application (MEA)Data base	MEA DB	The Microgen Export Application (MEA) Database is on-premises in ESBN and combines the data from the MDMS and SAP IS-U.	Role based access with logging, monitoring and auditing is provided to Database . Regular Joiner, Mover, Leaver reviews as part of the AD maintenance of the groups granting access to the MEA.	Access to the MEA application and its databases is controlled by Role Based Access Controls (RBAC) which are implemented via dedicated Active Directory accounts, unique to each user and system service. Formal logging and monitoring of activity is carried out.
Shared Drive	OT	Temporary location where daily files	Read / Write access managed through AD User	Access controlled via Active Directory user groups unique to system service.

Assets on which personal data relies Storage Type	Location	Descriptions	Access Rights	Technical Security Measures
		extracted from MDMS and SAP IS-U are moved to a shared folder until they are processed by the SMDH, and then will be deleted. For reporting purposes data will be stored in Fileshare locations. The data will be picked up by Power BI and input into dashboards for daily reporting. In the OT environment reports stored in the O: drive are zipped and sent to an archive folder after a period of time. Reports are also stored in Fileshare locations on SharePoint for reporting purposes.	Groups specific to the OT domain. Access to OT file shares, databases and servers is not possible using ESB Corporate domain accounts.	Level of access is controlled using a user group per role e.g. admin vs read-only.

Assets on which personal data relies Storage Type	Location	Descriptions	Access Rights	Technical Security Measures
SMDH - Data Lake	ESB Cloud Storage	MDMS and SAP IS-U data stored in the Data Lake for processing	Access is restricted to the ESBN authorised users (At this point only ESBN users for Network management)	This infrastructure encryption enabled, which means double layer encryption (By default, the platform encrypts storage account data at rest. Infrastructure encryption adds a second layer of encryption to storage account's data).
SMDH - Data Warehouse	ESB Cloud Storage	MDMS and SAP IS-U data stored in the Data Warehouse for consumption by PowerBI	Access is restricted to the ESBN authorised users (At this point only ESBN users for Network management)	• Access control to data warehouse resources • At rest data encryption using Transparent Data Encryption (TDE) features of Synapse data warehouse • Vulnerability Assessment and Advanced Threat Protection are enabled on the production Synapse Dedicated SQL Pool • Formal Joiner, Mover, Leaver (JML) processes and periodic access reviews are conducted
SMDH - Analytics	ESB Online Tenant	A single Power BI Workspace designated for ESBN authorised users only	Access is restricted to two types of users: • ESBN authorised Workspace Users • Report Users (Read-Only Interactions) (At this point only ESBN users for Network management)	• Reports don't host data as they are developed to sit directly on top of the Data warehouse. • The analytics platform facilitates users downloading data to their personal reports • It also includes features to disable the ability to download data from the Visuals platform.

Assets on which personal data relies Storage Type	Location	Descriptions	Access Rights	Technical Security Measures

Customer Portal	ESB DB	Customer Portal is the external interface that allows customers access to their electricity data. Customers will be able to use the following services:
		
		• Find my MPRN Service
		• My Historic Consumption & Harmonised Downloadable File (HDF)
		• Meter Reading
		• Outage Information Service
			Customer Portal is only available to registered users. To register users must complete the online registration process. Users are validated against a valid MPRN via an SMS to the mobile number registered against the electricity account associated with the MPRN. Where the validation fails, customers will need to contact the ESBN call centre or their supplier and follow existing processes to update their data.
			
			For users who do not know their MPRN, this information may be found by using the Find My MPRN service within the Customer Portal. However, access to information relating to that meter on the Customer Portal will only be available if
				• When accessing the Customer Portal via the ESB Networks website, the customer will have the option of selecting a Create Account button which will bring them to a page where they will be asked for basic info needed to create their account. They will be asked to:
				  ○ Input their Email address
				  ○ Complete a captcha
				• Upon successful completion of the captcha, an email will be sent containing a 2FA (two factor authentication) verification code to validate the customer has access to the provided email address. The customer must input the correct 2FA verification code to the Portal within a five minute window in order to progress with the registration. Upon email confirmation, the customer will be asked to input
				  ○ Password (must meet specific set of password requirements)
				  ○ Accept Terms and Conditions
				  ○ Name
				  ○ Mobile Phone Number (2FA requested at a later point, when MPRN is added)
				• Upon selecting create account, this account information will be sent to Cloud Database B2C and a profile will be created for the customer. The user will then have completed their account creation.
				• When linking an MPRN to an account the mobile phone number is used as part of the 2FA process.

Assets on which personal data relies Storage Type	Location	Descriptions	Access Rights	Technical Security Measures
			the User is the Registered Customer for that MPRN.	

3.4 Policies and Procedures

Please complete the following table to describe the internal policies and procedures that were consulted during the design of this process and any exception that may apply to each policy.

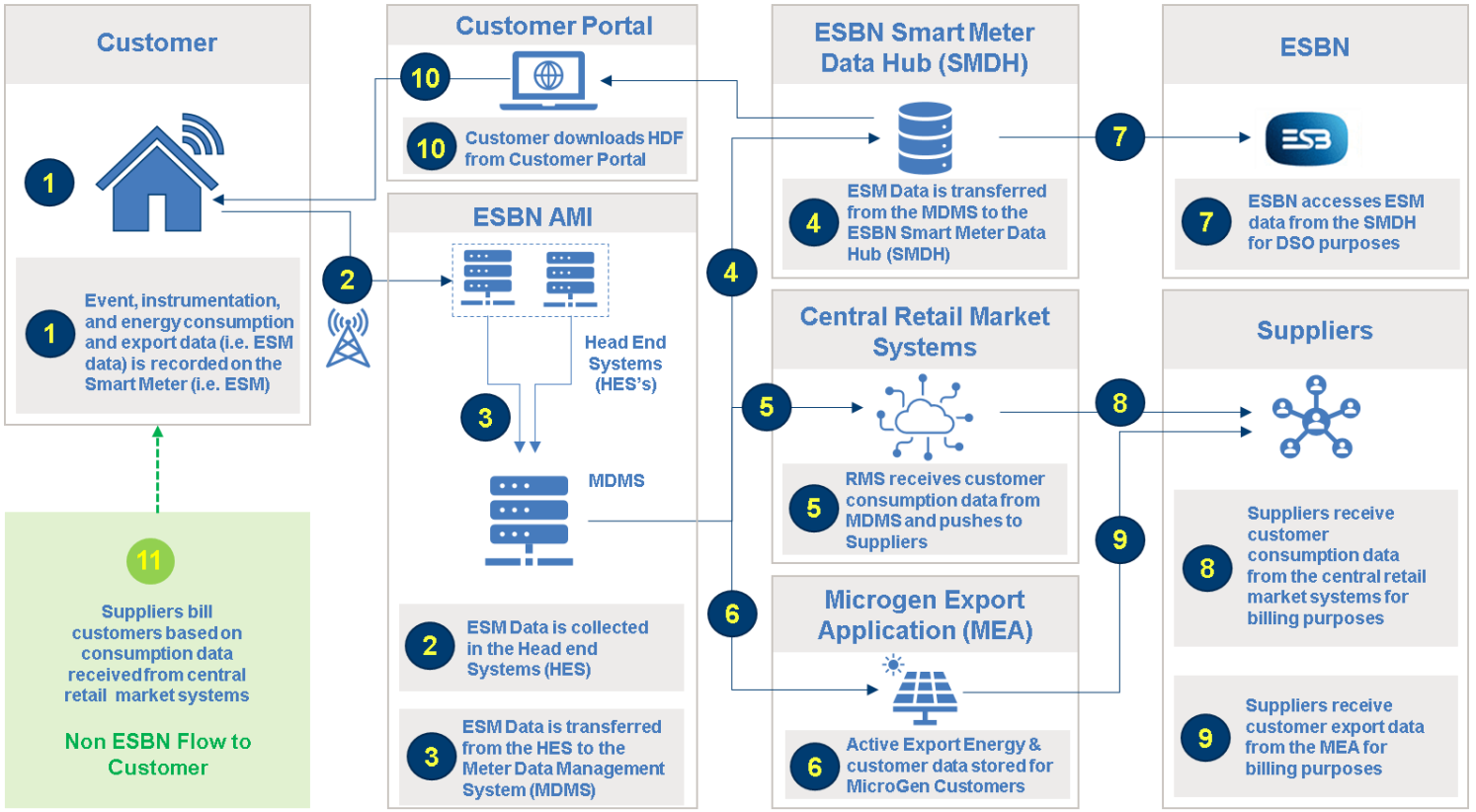
Policy or Procedure	Document Date and Version	Exception to Policy (if applicable)
CE16 - ESB Data Protection Policy	25/05/2018 v5.0	Right to erase not fully complied with.
CE10 Corporate Policy on Cybersecurity	20/12/18 v3.0	None
ICTP 36 - Information Management	07/09/2016 v1.4	None
GP-004 Risk Management Policy & Governance Framework	15/07/2019 v9.0	None

For each exception listed above, please justify the reason why the exception is required.

Exception to Policy (if applicable)	Justification
Not fully compliant with right to erase	An exception to this policy applies for technical reasons, as the record of Interval data will remain on the meter for a period, the daily snapshot records of Register data will remain on the meter for a period, and up to 36 iterations of the monthly snapshot will remain on the Kamstrup meter before the buffer wraps and overwrites the old data. It is not technically possible to erase these buffers. 25 iterations will remain on SagemCom meter. Event and Instrumentation data will also remain in the buffers until these are overwritten.

3.5 Data Flow Diagram

Following the instructions and using the template below, please complete and attach a Data Flow Diagram:

Data Flow Diagram	
• Completed Data Flow Diagram for this Process.	 *Customer Portal will not be delivered until November 2022.

4. Necessity, Proportionality & Risk Assessment

Please complete the table below to describe the process risks and associated mitigations.

The risks noted in this section are considered from the perspective of the data subject. The risks have the potential to cause physical, material or non-material damage to the data subject in areas such as identity theft, fraud, financial loss, and reputational damage, loss of confidentiality or privacy related to sensitive categories of data, being deprived of their rights and freedoms or prevented from exercising control over their personal data. The risk rating criteria can be found in the Appendix in Section 9.

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
R1	Are there measures to ensure data collected is specified, explicit and legitimate in purpose?	Risk of data being collected for unspecified and/ or illegitimate purposes	ROP N.SM.07.01	The services and functions ESBN are required to provide are set out in its DSO Licence. The Interval and Register Data, Instrumentation Data, and Event Data will only be used by ESBN to meet its Licence obligations.	1	1	1	The Interval and Register Data, Instrumentation Data, and Event Data are collected from all ESMs by ESBN as required for ESBN to execute on its DSO obligations. Interval and Register Data for customers is provided to Suppliers in accordance with the supplier contracts with customers as	Risk eliminated.

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
								provided to ESB through the market systems. Export Interval Data is collected from all meters as determined by the CRU pursuant to Condition 9 (2) of the DSO Licence.	
R2	Are there measures to ensure data is processed lawfully? (If consent is the basis to process personal data, are there measures to demonstrate consent and deal with withheld or withdrawn consent?)	Risk of unlawful processing of data	ROP N.SM.07.02	The services and functions ESB Networks are required to provide are set out in its DSO Licence. The Interval and Register Data, Instrumentation Data, and Event Data will only be used by ESBN to meet its Licence obligations. Export Interval data will be collected from all meters under requirements from the CRU.	1	1	1	The Interval and Register Data, Instrumentation Data, and Event Data are collected from all ESMs by ESBN as required for ESBN to execute on its DSO obligations. Interval and Register Data for customers is provided to Suppliers in accordance with the supplier contracts with customers as provided to ESB through the market systems.	Risk eliminated

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
								Export Interval Data is collected from all meters as determined by the CRU pursuant to Condition 9 (2) of the DSO Licence.	
R3	Are there measures to ensure data is not **further processed** in a manner that is incompatible with the original purpose(s)?	Risk of unlawful and/ or undesired further processing/ modification of personal data	ROP N.SM.07.03	The MDMS pushes the Interval and Register Data to Central Retail Market Systems for distribution to the ESBN Market System only for use in DUoS Billing, Market Settlement Aggregation and for delivery to the appropriate Suppliers (i.e. the registered supplier of the end customer). MDMS Interval and Register Data is also sent to the SMDH and then viewed by customer via the Customer Portal. Active Export data will only be shared	1	1	1	The Interval and Register Data, Instrumentation Data, and Event Data are collected from all ESMs by ESBN as required for ESBN to execute on its DSO obligations. Interval and Register Data for customers is provided to Suppliers in accordance with the supplier contracts with customers as provided to ESB through the market systems. Export Interval Data is collected from all meters as determined by the	Risk eliminated

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
				with Suppliers of customers subscribed to a Microgen support scheme. Instrumentation and event data is only used by ESBN to execute on its DSO obligations.				CRU pursuant to Condition 9 (2) of the DSO Licence.	
R4	Are there measures to ensure data is adequate, relevant and limited to necessary data points?	Risk of inadequate, irrelevant, and/ or excessive personal data being gathered	ROP N.SM.07.04	The ESM has been specifically deployed for the single role of recording household energy usage in accordance with the ESBN Meter Operator role in the electricity market.	1	1	1	No unnecessary data is collected from the ESM.	Risk eliminated
R5	Are there measures to ensure data is **accurate** and, where relevant, kept up to date	Risk of inaccurate and/or erroneous personal data being processed	ROP N.SM.07.05	Data recorded on the meter is accurate as the meter is a MID certified measuring device.	1	1	1	The accurate records stored on the MID certified meter are collected into the HES and then onto the	Risk eliminated

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
				All communication paths for the data are encrypted with a unique key for each meter ensuring that the data cannot be altered in transit. The data undergoes a validation process on entering the MDMS to ensure its accuracy.				MDMS. Any modification of the data in the HES or MDMS is logged and audited. Processing is limited to the purpose built AMI smart metering solution. Data sent onto the SMDH is an accurate reflection of this data. The SMDH is required to enable ESBN to execute on its obligations and provide secure access to Interval and Register Data data for data subjects, through the customer portal, without introducing undue risk to the core AMI smart metering systems. Instrumentation and event data is not made available	

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
								to data subjects through the portal.	
R6	Are there measures to ensure data is **kept for no longer than is necessary** for the purposes for which it is processed (limited storage duration of data)?	Risk of personal data being held for longer than is necessary and/or inappropriate destruction/ loss of personal data	ROP N.SM.07.06	ESM data is securely stored on the meter. This is an inherent function of the data logs on the ESM and consists of wraparound buffers configured within the limited flash memory of the device. Data is thus overwritten on the meter as the buffer becomes full. The ESM billing data collected into the MDMS will be stored for 7 years as legally required in compliance with the Meter Code.	1	1	1	Data stored in the HES is retained for a maximum of 15 days. Billing related data in the MDMS is stored for 7 years as legally required due to its use in complying with the Meter Code. Additional data is stored as per the retention periods defined above in this DPIA.	Risk eliminated
R7	Are there measures to **provide relevant information** (per GDPR Articles 12, 13, 14) to the data subjects?	Risk of insufficient information and/ or a lack of transparency related to the processing of	ROP N.SM.07.07	Written information is provided to Data subjects upon ESM installation. Information is published on the	1	1	1	Data is processed by ESBN as per the defined DSO obligations and communicated to the data subjects. The Interval and	Risk eliminated

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
		personal data by the data controller		ESBN Smart Metering web site. ESBN Privacy notice reflects ESM processing activities. Suppliers are obliged to inform the data subjects of the requirements for the collection of interval data prior to subscribing to a Time-of-Use tariff.				Register Data, Instrumentation Data, and Event Data are collected from all ESMs by ESBN as required for ESBN to execute on its DSO obligations. Interval and Register Data for customers is provided to Suppliers in accordance with the supplier contracts with customers as provided to ESB through the market systems. Export Interval Data is collected from all meters as determined by the CRU pursuant to Condition 9 (2) of the DSO Licence.	
R8	Are there measures to ensure **right of access** and **portability**?	Risk of inappropriate and/or untimely response to requests to access/	ROP N.SM.07.08	The solution allows for the extraction of meter data in the case of a SAR request.	1	1	1	The capability to extract the meter data from the MDMS has been	Risk eliminated

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
		transport personal data		Portability is not relevant as ESBN is the only DSO in the Irish Electricity Market.				included in the AMI solution.	
R9	Are there measures to ensure a right to **rectify, erase, object and restrict** processing?	Risk of inappropriate and/or untimely response to requests to rectify, erase, object and restrict processing of personal data	ROP N.SM.07.09	Smart meter data recording is predefined on the meter and cannot be changed by ESBN. The right to rectify, erase, object and restrict can be fulfilled at a later stage of the processing of the data through the existing ESB GDPR processes. Data retention is as per the retention schedule attached above in this document.	1	2	2	As smart metering executes its mandate as defined in the DSO license or as per instruction provided by the supplier, the Data on the ESM is aligned to these by default. Where a data subject invokes a right under GDPR the existing GDPR processes will be followed in ESB to address the data subject concerns. This may include referrals to the Supplier where correction is required.	Risk reduced

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
R10	Are there measures in place to protect the rights of the data subject where data has been or will be **disclosed to other recipients** including the **notification obligation** (Article 19)?	Risk of inappropriate disclosure of personal data	ROP N.SM.07.10	Interval and register data required for billing is shared with a customers' registered supplier. This data is processed under the existing Market System solutions and the control measures are already in place to protect the data subject rights. Access to interval and register data for data subjects through the customer portal is secured and uses 2FA. Instrumentation and event data is only available internally to ESB. Existing logical access and logging controls are in place as would be required for any ESB system.	1	1	1	In the event of inappropriate disclosure, existing standard ESBN procedures for notification of relevant data subjects will be enacted.	Risk eliminated

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
R11	Are there measures in place to protect the rights of the data subject by the processor, where processing is carried out **on behalf of the processor (sub-processing)**?	Risk of inappropriate access to, modification of and/or destruction/ loss of personal data processed by a third-party service provider	ROP N.SM.07.11	The data recorded on the ESM and collected into ESBN systems is processed solely by ESBN. No sub-processors are involved.	1	1	1	Data processing will only be carried out by ESBN in ESBN operated systems. No data will be transferring to any external data processor. No new Third-Party processors are being introduced as part of this project and existing privacy arrangements are in place describing the obligations of a sub-contractor operating with ESBN data.	Risk eliminated
R12	Are there technical and organisational measures in place against **unauthorised access to and/or processing** of personal data?	Risk of inappropriate access to, modification of and/or destruction/ loss of personal data	ROP N.SM.07.12	Data on the ESM is only accessible via an encrypted connection from the HES system, or from an authorised encrypted local connection. Each meter is configured with a unique set of cryptographic keys that enable AES128	1	1	1	The AMI infrastructure has been isolated from the main ESBN Network specifically to protect against unauthorised access to the data contained therein. Existing Market system protections ensure the	Risk eliminated

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
				encrypted messages to and from the ESM. Role based access control mechanisms are in place to limit access to the data to only those ESBN staff who require it to manage the meter estate and to inform LV Network planning. All data transferred between the ESM, HES, MDMS, SMDH, MEA, Customer Portal and market systems is encrypted. The AMI infrastructure is isolated from the Corporate Environment through the use of Firewalls, IPS Devices and separation of services. The AMI infrastructure employs a dedicated IAM solution, ensuring that only				confidentiality of the Interval and Meter Register data after it is transferred to market systems. The SMDH is secure in accordance with recommended security practices. Access to the customer portal is secured and based on the customer creating and account using the 2FA.	

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
				authorised individuals are able to access personal data. Data in the SMDH is hosted in a cloud platform and complies with the Security baselines. All data access is logged and audited.					
R13	Are there measures to safeguard **international transfers (outside EU/EEA)**?	Inappropriate transfer of personal data to a country or international organisation where enforceable data subject rights and legal remedies are not available	ROP N.SM.07.13	Data will only be processed by ESBN and Registered Electricity Suppliers in the ROI. The Republic of Ireland (ROI) Tibco hub has been separated from the Northern Ireland (NI) hub but the ROI hub is hosted in Northern Ireland which is outside the EEA. The current transfer of meter data through this system to ROI Energy Suppliers is facilitated by the	1	1	1	Access to the data is restricted to ESBN and registered market participants.	Risk eliminated

Risk No.	Considerations	Risk to Individuals/ Data Subject	RoP Process Reference	Current Measures to Address Risk	Probability Score	Impact Score	Risk Rating	Justification for Risk Rating	Result of Current Measures (Risk Eliminated, Reduced, Accepted, Gap)
				GDPR EU adequacy decisions of 28th June 2021. The ROI Tibco hub is to be migrated to the ROI in March 2023.					

5. Actions to Integrate the DPIA Findings into the Process

Following the identification of the Risks in section 5, please complete the table below listing any recommended actions for each risk identified. These should be integrated into the process to incorporate DPIA findings.

Risk No.	Risk to Individuals/ Data Subject	Action No.	Action	Responsible	Completed Yes/No	Sign off
R1	Risk of data being collected for unspecified and/ or illegitimate purposes	N/A	No identified action.		Not Applicable	
R2	Risk of unlawful processing of personal data	N/A	No identified action.		Not Applicable	
R3	Risk of unlawful and/ or undesired further processing/ modification of personal data	N/A	No identified action.		Not Applicable	
R4	Risk of inadequate,	N/A	No identified action.		Not Applicable	

Risk No.	Risk to Individuals/ Data Subject	Action No.	Action	Responsible	Completed Yes/No	Sign off
	irrelevant, and/ or excessive personal data being gathered					
R5	Risk of inaccurate and/or erroneous personal data being processed	N/A	No identified action.		Not Applicable	
R6	Risk of personal data being held for longer than is necessary and/or inappropriate destruction/ loss of personal data	N/A	No identified action.		Not Applicable	
R7	Risk of insufficient information	N/A	No identified action.		Not Applicable	

Risk No.	Risk to Individuals/ Data Subject	Action No.	Action	Responsible	Completed Yes/No	Sign off
	and/ or a lack of transparency related to the processing of personal data by the data controller					
R8	Risk of inappropriate and/or untimely response to requests to access/ transport personal data	N/A	No identified action.		Not Applicable	
R9	Risk of inappropriate and/or untimely response to requests to rectify, erase, object and restrict	A.01.09	Where the data subject has requested GDPR data correction in terms of the data subject rights, this request is evaluated in accordance ESBN GDPR processes. Where data processing issues are confirmed data will be remediated and where relevant data updated in accordance with the data subject rights.	SMOC	Yes	ESBN Smart Metering Project

Risk No.	Risk to Individuals/ Data Subject	Action No.	Action	Responsible	Completed Yes/No	Sign off
	processing of personal data		Existing data contained on the ESM is encrypted with a unique set of cryptographic keys that protect against unauthorised access.			
R10	Risk of inappropriate disclosure of personal data	N/A	No identified action.		Not Applicable	
R11	Risk of inappropriate access to, modification of and/or destruction/ loss of personal data processed by a third-party service provider	N/A	No identified action.		Not Applicable	
R12	Risk of inappropriate access to, modification of and/or destruction/	N/A	No identified action.		Not Applicable	

Risk No.	Risk to Individuals/ Data Subject	Action No.	Action	Responsible	Completed Yes/No	Sign off
	loss of personal data					
R13	Inappropriate transfer of personal data to a country or international organisation where enforceable data subject rights and legal remedies are not available	N/A	No identified action.		Not Applicable	

6. Residual Risks

Following the completion of the Risk Assessment (Section 5) and the execution of the recommended actions (Section 6), please fill in the table below to describe any residual risks.

Residual risks that have been rated as high or very high risk must be reported to the Data Protection Commissioner.

Risk No.	Risk to Individuals/ Data Subject	Residual Risk Description	Justification for Residual Risk	Risk Owner
R9	Risk of inappropriate and/or untimely response to requests to rectify, erase, object and restrict processing of personal data	Low	The recording of the Interval and Meter Register data on the ESM are an inherent feature of the meter. The data is protected against unauthorised access through the use of cryptographic keys protecting access to the data. However, the right to rectify, erase, object and restrict can be fulfilled later on in the ESBN processing of the data.	ESBN Smart Metering

7. Consultations

Please complete the table below to describe the parties consulted in preparing this DPIA and summarises their comments and input.

Consultation Group	Consulted (Y/N)	Detail
Data Protection Officer	Y	DPO and the ESB Legal Department has been engaged proactively by the project to advise and guide the project on compliance obligations throughout the course of the project lifetime.
Views of data subjects or representatives of data subjects, where appropriate	Y	As part of NSMP consultations with the CRU.
Data Protection Commission	Y	Ongoing discussions on the ESBN Smart Metering Project approach.
Others (Please Describe)	Y	Electricity Association of Ireland, DCCAE.

8. Recommended Controls

Following the completion of the Risk Assessment (Section 5) and the execution of the recommended actions (Section 6) as well as the identification of any Residual Risks (Section 7), please see below a list of recommended controls.

Risk No.	Risk to Individuals/ Data Subject	Control No.	Control Description	Evidence of Control Existence	Control Owner	Control Frequency
R1	Risk of data being collected for unspecified and/ or illegitimate purposes	C.01.01	Documentation of Process Designs. Implementation of process to match documentation. Role based access to data and logging/auditing of data transfers.	As part of the project the management of all data flows has been drawn up in Business Process Design (BPD) documents. Specific BPDs have been drawn up how the data is to be processed at each stage through the AMI, SMDH & customer portal infrastructure.	ESBN Smart Metering Project / SMOC /ESBN	Ongoing
R2	Risk of unlawful processing of personal data	C.02.02	Collection of data from ESMs is completed under the obligations outlined in the DSO Licence to provide Metering and Data services. Export Interval data is collected as determined by the	Condition 3,7 & 9 of the Distribution System Operator Licence requires that ESBN provides Metering and Data services to the market.	ESBN Smart Metering Project / SMOC / ESBN	Ongoing

Risk No.	Risk to Individuals/ Data Subject	Control No.	Control Description	Evidence of Control Existence	Control Owner	Control Frequency
			CRU pursuant to Condition 9 (2) of the DSO Licence. Implementation of process to match documentation. Role based access to data and logging/auditing of data transfers.			
R3	Risk of unlawful and/ or undesired further processing/ modification of personal data	C.03.03	Collection of data from ESMs is completed under the obligations outlined in the DSO Licence to provide Meter and Data services to the market. Export Interval data will always be collected from ESMs to facilitate microgeneration. Export Interval data is collected from all ESMs as determined by the CRU pursuant to Condition 9 (2) of the DSO Licence.	ESBN electricity network management processes and systems. Market agreements with Suppliers govern the use of data through the Market System.	ESBN Smart Metering Project / SMOC	Ongoing
R4	Risk of inadequate, irrelevant, and/ or	C.04.04	Solution Design Documents and Business Process Design documents created to define precisely what data is recorded	Smart meter solution designs and testing outcomes confirming the implementation of the required data configuration.	ESBN Smart Metering Project / SMOC	Ongoing

Risk No.	Risk to Individuals/ Data Subject	Control No.	Control Description	Evidence of Control Existence	Control Owner	Control Frequency
	excessive personal data being gathered		on the ESM and how this data will be collected and processed in future phases of the project.	Successful execution of market processes since smart metering went live.		
R5	Risk of inaccurate and/or erroneous personal data being processed	C.05.05	Meter is MID certified to ensure accurate recording. Time is regularly synchronised on the meter to ensure it records meter data with valid date and time stamps.	MID certificate and test results are available for every meter. MDMS validation of meter data received further ensures that any inaccurate or erroneous data is quickly identified.	ESBN Smart Metering Project / SMOC	Ongoing
R6	Risk of personal data being held for longer than is necessary and/or inappropriate destruction/ loss of personal data	C.06.06	Solution Design Documents, as well as Data Inventory Catalogues, identify the lifecycle of the data on the ESM. The ESM is built to automatically manage this data lifecycle.	Project documentation records this information.	ESBN Smart Metering Project / SMOC	Ongoing
R7	Risk of insufficient information and/ or a lack	C.07.07	As part of the smart meter roll out communications process, the customer is informed about the data being recorded	Content in Smart Meter customer communications and in FAQs on the ESBN Smart Metering Website.	ESBN Smart Metering Project / SMOC	Ongoing

Risk No.	Risk to Individuals/ Data Subject	Control No.	Control Description	Evidence of Control Existence	Control Owner	Control Frequency
	of transparency related to the processing of personal data by the data controller		by the ESM and the basis on which it will be collected by ESBN.			
R8	Risk of inappropriate and/or untimely response to requests to access/ transport personal data	C.08.08	Existing procedures in place for fulfilling SAR requests.	Existing corporate processes and procedures.	ESBN Smart Metering Project / SMOC	Ongoing
R9	Risk of inappropriate and/or untimely response to requests to rectify, erase, object and restrict processing of personal data	C.09.09	Data cannot be modified or deleted on the ESM. Facilities within MEA, Customer Portal & SMDH to support requests to rectify, erase, object and restrict processing of personal data.	ESBN GDPR processes and records of data subject rights queries and access requests. ESM automatically implements controls as part of inherent data recording operation. These processes include alerts and events to detect issues (e.g. meter events when a command fails to execute on meter).	ESBN Smart Metering Project / SMOC	Ongoing

Risk No.	Risk to Individuals/ Data Subject	Control No.	Control Description	Evidence of Control Existence	Control Owner	Control Frequency
R10	Risk of inappropriate disclosure of personal data	C.10.10	Data collected from the ESMs will be stored in the MDMS and SMDH. The MDMS isolated from the main corporate LAN through the use of firewalls and uses a dedicated IAM system for user access. There is an automated process to validate information provided by the customer on the Customer Portal, which determines if the customer is the Legal Entity of an MPRN, and therefore whether they are able to view data related to this MPRN, and access self-serve facilities for this MPRN. Interval and Meter Register data is only provided to Suppliers through the Market System. Internal Firewall and IPS device to isolate AMI Infrastructure from corporate network.	Dedicated OT environment implemented for AMI systems. Firewall rules provide explicit control over, and logging of, any communication into and out of this environment. Role based access restricts enablement of remote communications to the ESM and transport of data from the ESM, to authorised individual(s). Data sharing agreements between ESBN and the Suppliers govern the use of customer data. Data is sent to suppliers in alignment with market processes where the supplier has confirmed what data is required for a customer based on their contract with the customer. The list of suppliers is clearly defined in Ireland.	ESBN Smart Metering Project / SMOC	Ongoing

Risk No.	Risk to Individuals/ Data Subject	Control No.	Control Description	Evidence of Control Existence	Control Owner	Control Frequency
			Separate IAM solution (from corporate network) for users who need to access to the AMI infrastructure. Data cannot leave the MDMS without intervention by an authorised user who is trained in handling personal data.			
R11	Risk of inappropriate access to, modification of and/or destruction/ loss of personal data processed by a third-party service provider	C.11.11	There are no Third-Party Service Providers involved in the processing of meter data.	NA	NA	NA
R12	Risk of inappropriate access to, modification of and/or destruction/	C.12.12	Data on the ESM cannot be modified or deleted. Data stored in the MDMS is protected by the underlying infrastructure. The MDMS is	Dedicated OT environment implemented for AMI systems. Firewall rules provide explicit control over, and logging of, any	ESBN Smart Metering Project/ SMOC	Ongoing

Risk No.	Risk to Individuals/ Data Subject	Control No.	Control Description	Evidence of Control Existence	Control Owner	Control Frequency
	loss of personal data		installed in a dedicated isolated environment and uses a dedicated User Access Management System. Internal Firewall and IPS device to isolate AMI Infrastructure from Corporate Network. Separate IAM solution (from corporate network) for users who need to access to the AMI infrastructure. Encryption technology employed for data transfer from meter to backend OT systems. SMDH in ESBN secure architecture. Data shared with Suppliers is regulated by the Market Data Sharing Agreements.	communication into and out of this environment. Data encryption cannot be disabled for communication over the AMI network. Role based access restricts enablement of remote communications to the ESM as well as access to the MDMS. Secure SMDH architecture aligned to security recommended practice. Secure Solution Architecture. Data Sharing Agreements.		

Risk No.	Risk to Individuals/ Data Subject	Control No.	Control Description	Evidence of Control Existence	Control Owner	Control Frequency
R13	Inappropriate transfer of personal data to a country or international organisation where enforceable data subject rights and legal remedies are not available	C.13.13	All AMI data processing activities occur in ESBN data centres located in Ireland. Data will only be processed by ESBN and Electricity Suppliers in the ROI.	Data Sharing Agreements. Dedicated OT environment implemented for AMI systems. Firewall rules provide explicit control over, and logging of, any communication into and out of this environment. Role based access restricts data transport to authorised and trained individual(s).	ESBN Smart Metering Project/ SMOC	Ongoing

9. Appendix

Document Number	Document Name	Detail
1.	Definitions	ESB DPIA Definitions.pptx
2.	Risk Rating Criteria	ESB DPIA Risk Rating Criteria.pptx

Document Number	Document Name	Detail
3.	Distribution System Operator Licence (DSO)	https://www.esbnetworks.ie/docs/default-source/publications/distribution-system-operator-license-(dso).pdf?sfvrsn=4
4.	List of ESM Events	Microsoft Excel 97-2003 Worksheet
5.	Legislation/Regulatory Framework Mandating Smart Metering	Directive 2012/27/EU on Energy Efficiency S.I. No. 426 of 2014 (European Union (Energy Efficiency) Regulations 2014 CER/12/008 Decision on the National Rollout of Electricity & Gas Smart Metering CER/14/046 National Smart Metering Programme High Level Design Code (CER/07/085, Section: 4.2.3 ,As a minimum, for each registered Meter, [7] full years of metered data shall be retained'
6.	Trade and Settlement Code	https://www.sem-o.com/rules-and-modifications/balancing-market-modifications/market-rules/
7.	Metering Code	https://www.cru.ie/wp-content/uploads/2013/07/CER-Metering-Code-CER13281.pdf
8.	Other Relevant Legislation	Statute of Limitations Act 1957, Section 11: Relevance: Data Retention 7 years – Six years liability period plus once for service of proceedings
9.	CRU/21131- Remuneration of Renewables Self-consumers for exported electricity: Interim Clean Export Guarantee	CRU/21131- Remuneration of Renewables Self-consumers for exported electricity: Interim Clean Export Guarantee
10.	National Energy Security Framework	The Framework outlines the structures which are in place within Government to monitor and manage Ireland's energy supplies. It sets out the plans which are in place to deal with energy security emergencies should they arise and outlines out how these plans will be tested in light of the war in Ukraine.