**TIMESCALE**

**Work Package 1:**
Medium Voltage Direct Current Specification and Holistic Monitoring System

**Work Package 2:**
MVDC Link - Design of Factory Acceptance Testing (FATs), Site Acceptance Testing (SATs) and Commissioning

**Work Package 3:**
Alternating Current (AC) System - Specification Tender and Installation

**Work Package 4:**
Holistic Monitoring System Installation

**Work Package 5:**
Cable Data Gathering and Analysis

**Work Package 6:**
Knowledge Dissemination continued

**Work Package 7:**
Publication of Operational Performance of MVDC converters

**Work Package 8:**
Effective Knowledge Dissemination

**SRDC 1:**
Publication of Holistic Monitoring System

**SRDC 2:**
Publication of MVDC Technical Specification (TS)

**SRDC 3:**
Commissioning of Holistic Monitoring System

**SRDC 4:**
Factory Acceptance Testing (FATs) of MVDC Converters

**SRDC 5:**
Publication of Holistic Monitoring System Data

**SRDC 6:**
有效知识传播

**SRDC 7:**
Publication of Operational Performance of MVDC converters

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**CONTACT US**

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**SP ENERGY NETWORKS**
We are SP Energy Networks, part of the Iberdrola Group, leaders in sustainable innovation. As a Distribution and Transmission Network Operator we keep electricity flowing to homes and businesses throughout Central and Southern Scotland, North Wales, Merseyside, Cheshire and North Shropshire. We do this through the network of overhead lines and underground cables which we own and maintain.

Our three regulated electricity licences are:
- SP Transmission (SPT)
- SP Distribution (SPD)
- SP Manweb (SPM)

Our aim is to deliver a safe and reliable electricity supply 24 hours a day, 365 days a year whilst providing exceptional value for money.

WHO ARE WE?

**ANGLE DC**

Angle-DC is a smart and flexible method for reinforcing distribution networks. The project is creating a controllable bidirectional Direct Current (DC) link between two sections of our network, Isle of Anglesey and North Wales. Angle-DC is converting existing 33kV Alternating Current (AC) assets to DC.

This innovative project will adapt existing electronic technologies to build Medium Voltage DC (MVDC) link. This will smooth the way for the integration of increasing volumes of renewable generation and accommodate the growth of electricity demand. Angle-DC is building confidence in deploying MVDC technologies by other UK Distribution Network Operators and triggering the MVDC supply chain.

**PROJECT PARTNERS**

- **Project Partners**
  - GE Power Conversion

- **Academic Partners**
  - Cardiff University

- **Project Supporters**

**LINK BETWEEN TWO SECTIONS**

- **Isle of Anglesey**
- **North Wales**

Our aim is to deliver a safe and reliable electricity supply 24 hours a day, 365 days a year whilst providing exceptional value for money.

**BENEFITS FOR CUSTOMERS**

- **Increased capacity for load and generation connections.**
  - Reduced axializing of Horizon Nuclear Power transfer via the parallel 33kV network.

- **Enhanced power flow through existing circuit to defer reinforcement which may be necessary for some connection requests.**

- **More precise control of the flow of power in the distribution circuit for improved efficiency to avoid naturally occurring AC overloads. This prevents the possibility of overload of the circuit, helping to reduce the number of faults.**

- **Control of voltage at either end of the distribution circuit to enhance the flow of electricity to customers.**

- **Control of reactive power flow at both ends of the distribution circuit.**

- **To lower losses and save wasted energy in the wider distribution network due to the improved voltage control.**

- **Rapid support to the system during faults to enhance the electricity quality of supply to our customers.**

- **Fault level decoupling between distribution systems.**

- **Enables faster access to the network for renewable connections.**

The benefits customers who wish to connect low carbon technologies such as wind turbines and photovoltaics to the network.