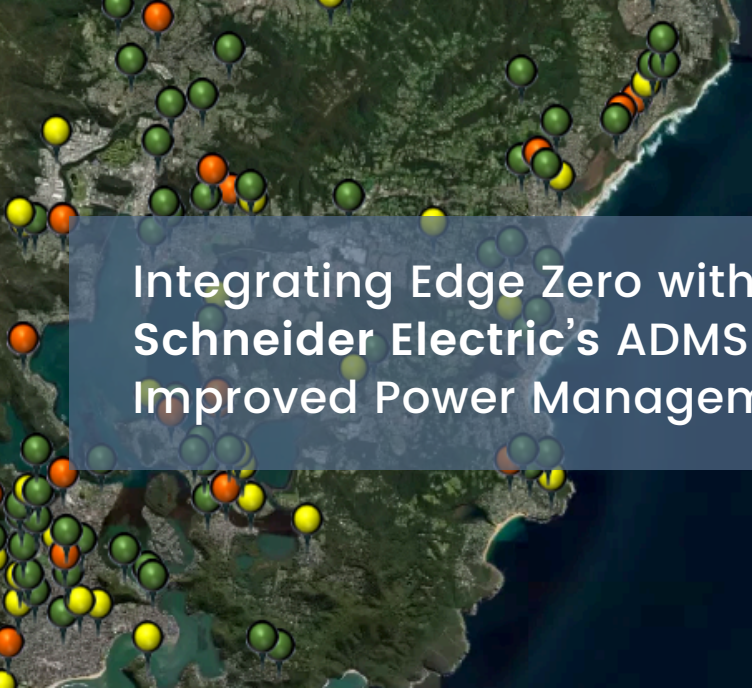

Integrating Edge Zero with Schneider Electric's ADMS for Improved Power Management

OBJECTIVES

Edge Zero integrated its low voltage (LV) network monitoring solution with Schneider Electric's ADMS to boost Endeavour Energy's distribution network efficiency and reliability. This integration was implemented to improve outage response, voltage management, state estimation and network optimization. The project also aimed to enhance hosting capacity visibility and decision-making capabilities related to current challenges and future planning across the LV network.

APPROACH

- **Software Development Kit (SDK)-based Integration**: The team utilized Edge Zero's EdgeSensor units and API SDK to connect seamlessly with Endeavour Energy's historian and AMI systems.
- **Data Alignment**: Integration efforts ensured that 5-minute averaged data from the eSensors was perfectly aligned with AMI data intervals.
- **Power Quality Metrics Inclusion**: The integration incorporated essential power quality metrics—including voltage (V), current (I), power factor (PF), active power (KW), apparent power (KVA), and reactive power (KVAr)—into the ADMS.
- **Live Event Alerts:** Schneider Electric customized real-time alerts for critical incidents such as power outages, voltage surges, and high current spikes into the ADMS to enhance response capabilities.

RESULTS

The integration of Edge Zero's EdgeSensor units and EdgeConnected™ platform with Schneider Electric's ADMS led to significant improvements in Endeavour Energy's network operations. Enhanced outage response, voltage management and state estimation accuracy were achieved. Real-time impact assessments improved, and network optimization and capacity visibility were greatly enhanced, demonstrating the benefits of combining advanced sensor technology with sophisticated distribution systems.

AT A GLANCE

Challenges

- **Data Integration**: Aligning data with AMI intervals.
- **System Compatibility**: Seamless platform and ADMS integration.
- **Real-Time Alerts**: Integrating live alerts for immediate action.

Benefits

- **Improved Outage Response**: Faster outage detection.
- **Enhanced Voltage Management**: Better voltage control.
- **Accurate Modeling**: More precise state estimation.
- **Customer Impact Analysis**: Immediate event impact insights.
- **Network Optimization**: Ehnhanced low voltage network optimization.
- **Increased Capacity Visibility**: Improved DER integration insights.