



EcoStruxure Power Monitoring Expert

Power and Energy Management for Large and Critical Facilities

Power Solutions

Life Is On

Schneider
Electric

Танилцуулга



Энлает ХХК – ийн Ерөнхий инженер
Ё.Баясгалан



Энлает ХХК нь Шнайдер Электрик Монголиа – н түнш компани бөгөөд Үйлдвэр, Цахилгаан, Барилгын салбарт автоматжуулалтын чиглэлээр дагнасан үйл ажиллагаа явуулдаг мэргэжлийн инженерингийн компани юм.

Growing complexity in the model has its challenges

22% of fires in a facility are due to electrical failures, and 50% of electrocutions occur within facilities

70% of Power Quality disturbances originate within facilities leading to 30-40% of downtime incidents.

Power interruptions cost the US economy \$110 billion per year

There is an average 10% potential reduction in energy cost in critical facilities and an additional 15% savings in maintenance OPEX

There is a 15% potential reduction in project costs during the CAPEX phase of a project

Compliance to energy efficiency standards can improve energy intensity by up to 10% and add up to a 15% premium in building price

Хэрэгцээ шаардлага

Utility – дэд бүтэц (үйлдвэрлэх, дамжуулах, түгээх)

- Технологийн найдвартай ажиллагаа
- Аюулгүй байдал, реле хамгаалалт
- 24/7 диспетчерийн хяналт
- Хэрэглэгчийн тоолуур, төлбөр тооцоо
- Ашиглагч нь диспетчер, реле автоматжуулалтын инженерүүд

Үйлдвэр, барилга г.м үүрэг хүлээсэн хэрэглэгчид

- Байнгын хяналт шаардлагагүй, асуудал гарах үед болон гарахаас өмнө мэдэх
- Эрчим хүчний хэрэглээгээ хянах
- Хэмнэлт хийх боломж?
- Эрчим хүчний гэрээгээр хүлээсэн үргүүд
- Тайлан
- Эрчим хүчний менежерүүд, захирал

Шийдэлүүд

- Тоолуурын систем?
- SCADA систем?

A photograph of a man and a woman in an office environment. The man, wearing a dark striped shirt over a blue t-shirt, is standing and smiling broadly as he looks at a laptop. The woman, wearing a purple and orange top, is sitting at the desk and looking at the laptop screen. The background is a bright, modern office space with a window and a whiteboard.

Discover PME

Offer Overview

Power Monitoring Expert

1. Хэрэглэгч байгууллагад зориулсан тоолуурын систем – AMR

- Төрөл бүрийн электрон тоолуураас мэдээлэл цуглуулах
- Төлбөр тооцоо бодох

2. Цахилгаан хангамжийн хяналтын систем

- Цахилгаан хангамжийн тоноглолыг хянах
- Таслуур, Реле, UPS, Генератор, Автомат, Давтамж хувиргуур, PLC, контроллёрууд, Температур бусад мэдрэгч

3. Эрчим хүчний хяналт, удирдлагын систем

- ISO50001, ISO50002, ISO50006

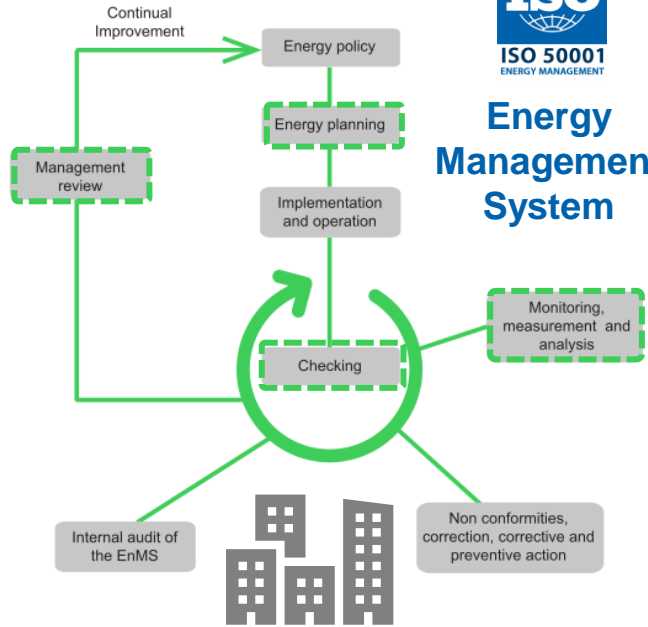


Ус, Агаар, Хий, Цахилгаан, Уурын тоолуур (WAGES)

Energy Management is simple with PME and all PS devices

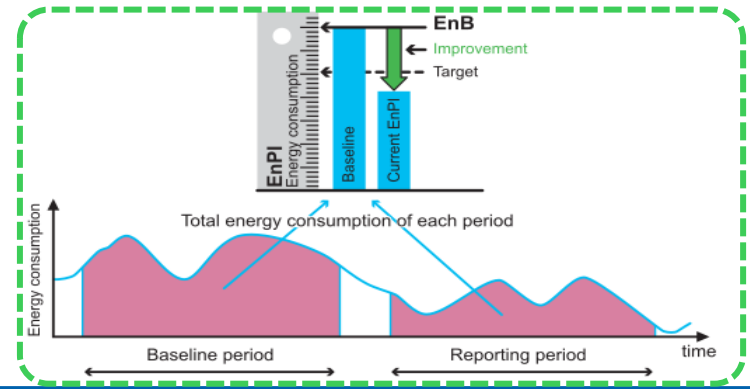


Energy Management System



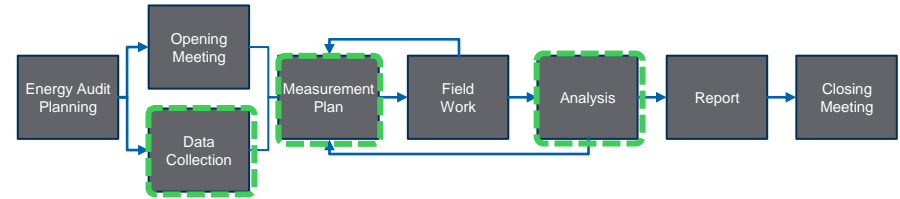
ISO 50006

Measuring Energy Performance



ISO 50002

Energy Audit



Confidential Property of Schner

- Energy Data Collection
- Energy Monitoring
- Energy Alarms

- Pareto Charts
- Sankey Charts
- Energy Heat Maps

- Energy Modeling
- Energy KPI Gadget
- Energy Calendar Report

Energy Management is simple with PME and all PS devices



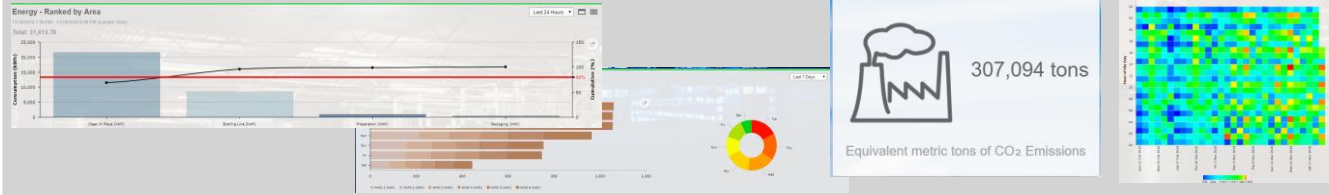
ISO Requirements

Samples of how we make it simple to comply

ISO 50001

- Energy review

We analyze energy consumption data, and identify area of significant use for you to develop energy review



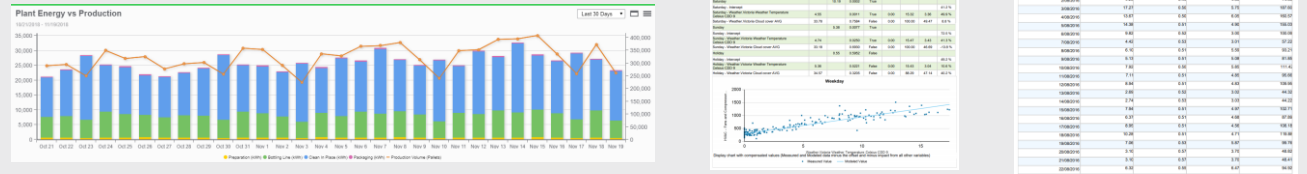
ISO 50002

- Analysis of current energy performance

ISO 50001

- Energy baselines (EnBs)
- Energy performance indicators (EnPIs)

Energy modeling helps you to understand energy consumption characteristics to establish EnBs and EnPIs



ISO 50006

- Identifying energy performance indicators

ISO 50001

- Monitoring, measurement and analysis

We monitor and measure the key characteristics that determine your energy performance



EcoStruxure™ Power - Digitizing your electrical distribution system with a future proof IoT Power Management platform

We deliver safe, reliable, efficient and compliant Power Management systems for large & critical facilities



Data Centres



Healthcare



Industry



Infrastructure



Buildings

Life Is On

Schneider
Electric

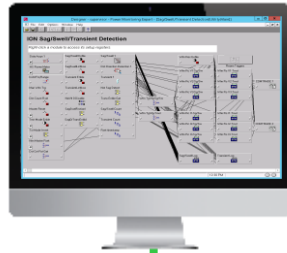
PME Architecture

Simple and Centralized

Server:
Application + Database



Thick Clients:
Engineering Tools



Thin Clients:
Main User Interface (Web based)



IP Backbone



Modbus and ION Protocols



Power Meters



Protection Relays



Breakers, Trip Units, Gateways



UPSs



PQ Correction Equipment



Variable Speed Drives



Final Distribution Breakers, Sensors, Gateways



RTUs, PLCs



Water, Air, Gas, Steam

PME is Integration Ready

Open and Interoperable

Context Data



Power and Energy/WAGES Data



User Interface Integration



Wonderware
Historian

EcoStruxure Building
Innovation At Every Level



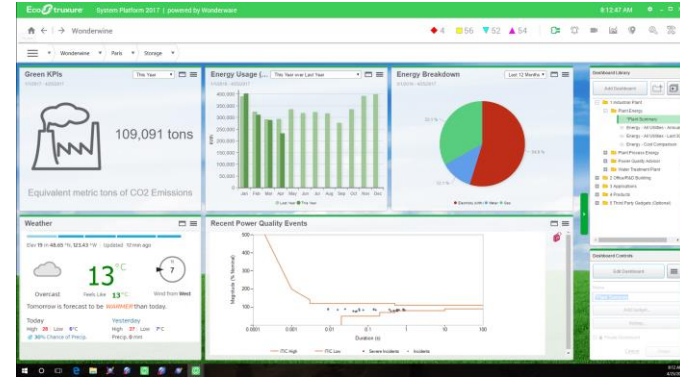
3rd party



EcoStruxure
Power Monitoring Expert
v9.0

PME Data import options:

- ETL (CSV, OLEDB, WW Historian, EBO)
- OPC and XML
- Meter or PLC I/Os
- Manual Data Entry



PME Dashboards inside Wonderware HMI



Value Propositions

End User Value



Digitized Electrical Distribution Network

PME Helps Facilities Be More

SAFE



Protect People & Assets

- Avoid electrical fires
- Prevent electrical shock and ensure protection
- Recover from an outage and restore power safely

EFFICIENT



Maximize Lifecycle Efficiency

- Save money in design & deployment
- Save money by reducing energy spend
- Save money by optimizing maintenance

RELIABLE



Optimize Business Continuity

- Avoid disruption of business by preventing failure of Electrical Distribution
- Increase Electrical Asset & System Reliability and Lifetime

COMPLIANT



Simplify Regulatory Compliance

- Demonstrate commitment to sustainability
- Maintain compliance obligations

Available Software Modules

Efficiency and Compliance



Energy Analysis Reports Module

- Improve operational efficiency, energy performance and help achieve ISO50001 compliance

Energy Analysis Dashboards Module

- Advanced visualization for energy analysis and achieving ISO 50001 compliance

Energy Billing Module

- Flexible rate engine and reports for cost allocation, bill verification and tenant billing.

Reliability and Safety



Power Quality Performance Module

- Simple overview of the impact of power quality on your facility's operations

Capacity Management Module

- Monitor the capacity loading of electrical equipment (UPS, Generators, multi-circuits)

Insulation Monitoring Module

- Monitor insulation levels for power Isolated panels (IEC and ANSI)

Asset Performance and Reliability



Breaker Performance Module

- Breaker settings monitoring and aging analysis including electrical ageing and mechanical wear for proactive maintenance

Backup Power Module

- Monitor health of generators and UPSs that provides sufficient power to maintain operation continuity in case of power outage

Event Notification Module

- Receive text or email notifications when power system events occur.

Data Exchange Module

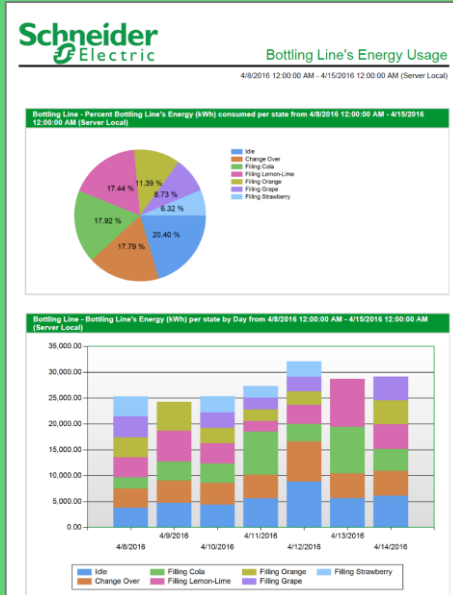
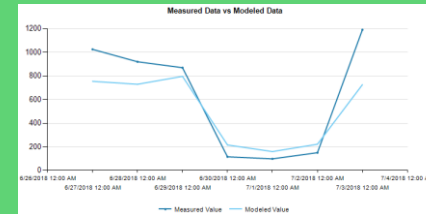
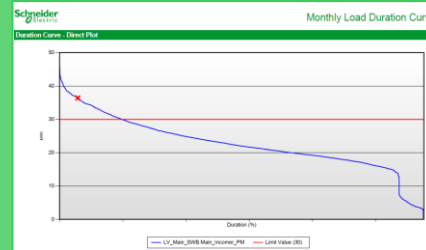
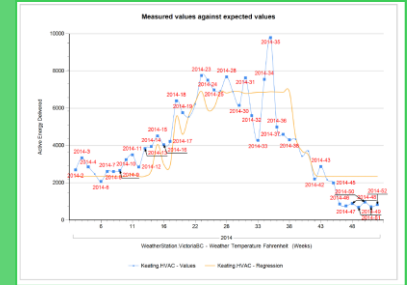
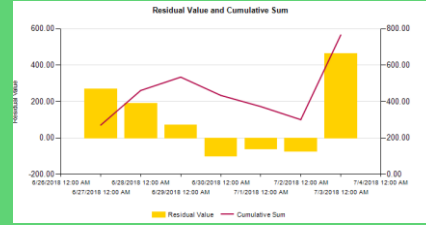
- Connect PME with other systems to allow data and system integration

A professional meeting in a conference room. A man in a light blue shirt and tie stands in the center, looking towards the camera. To his right, a woman in a green shirt sits at a table, looking at a document. In the background, a large screen displays a pie chart on the left and a bar chart on the right. The pie chart has several segments in various colors (blue, green, yellow, purple, red). The bar chart has multiple bars with stacked segments in blue, yellow, and purple. A green horizontal bar is overlaid across the middle of the image, containing the text 'Modules for Efficiency and Compliance'.

Modules for Efficiency and Compliance

Energy Analysis Reports Module

- Energy Performance Analysis and Verification
- Energy Usage and Performance Analysis based on operational data
- Calculation of energy Performance Indicators (EnPIs)
- Isolate factors contributing most to energy usage and help target efficiency initiatives
- Capacity Usage and Analysis



Energy Analysis Reports Module

Module Contents

The Energy Analysis Reports Module Enables the following Features:

11 web reports:

- Create Model
- Use Model
- Energy Regression Analysis
- KPI Engine
- Energy Usage by State
- Power Usage by State
- Single Equipment Operation
- Multi-Equipment Operation
- PUE
- Duration Curve
- KPI by TOU

1 Web configuration interface for the Modelling engine to setup SubModels, Exception periods and manage saved models

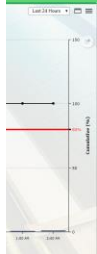
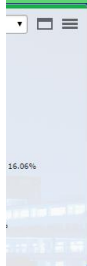
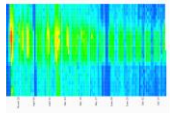
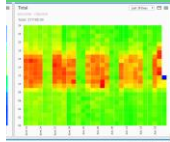
Module Requirements:

- Energy and Power or Demand historical values
- Contextual information for energy performance analysis (production, weather, machine state, building mode, etc)
- External Imported to PME via ETL, OPC, Modbus, or Metering inputs.

Interval Data (kW)

Hour of Day	Day							Total
	5/8/2024	5/9/2024	5/10/2024	5/11/2024	5/12/2024	5/13/2024		
0	745.52	415.81	424.84	397.01	379.33	367.86	2,730.37	
1	733.96	373.60	410.13	394.12	370.91	379.21	2,661.93	
2	738.68	442.64	447.32	384.41	377.74	376.58	2,767.36	
3	740.15	445.73	419.78	378.32	367.01	363.14	2,714.13	
4	682.74	383.73	415.05	368.60	382.47	362.50	2,595.10	
5	729.47	439.22	433.58	374.55	382.55	364.38	2,723.75	
6	727.08	435.19	390.60	356.65	355.55	366.39	2,631.45	
7	1,521.20	1,214.19	937.48	386.39	369.02	785.92	5,214.18	
8	2,021.06	1,746.83	3,571.07	508.17	354.91	2,413.37	10,615.42	
9	2,092.76	2,996.19	3,464.65	539.56	373.37	2,680.44	12,146.98	
10	1,995.15	2,892.78	2,398.82	354.12	367.18	2,664.49	10,672.53	
11	2,044.01	2,461.59	2,206.88	357.84	335.33	2,481.24	9,886.88	
12	1,983.26	2,448.72	2,240.23	374.09	352.31	2,282.59	9,681.19	
13	2,367.96	2,248.58	2,566.55	351.12	352.43	2,366.46	10,253.09	
14	2,204.00	2,157.20	3,011.49	364.31	347.64	2,433.44	10,518.09	
15	2,285.94	2,329.25	2,207.79	376.05	398.02	2,333.22	9,930.29	
16	2,199.50	2,131.37	2,457.88	381.12	363.69	2,265.28	9,798.84	
17	2,167.64	2,066.19	1,918.22	365.50	349.01	2,211.04	9,077.61	
18	702.21	500.70	1,405.79	342.12	350.57	1,082.64	4,384.03	
19	377.51	458.75	372.48	382.91	358.25	468.80	2,418.71	

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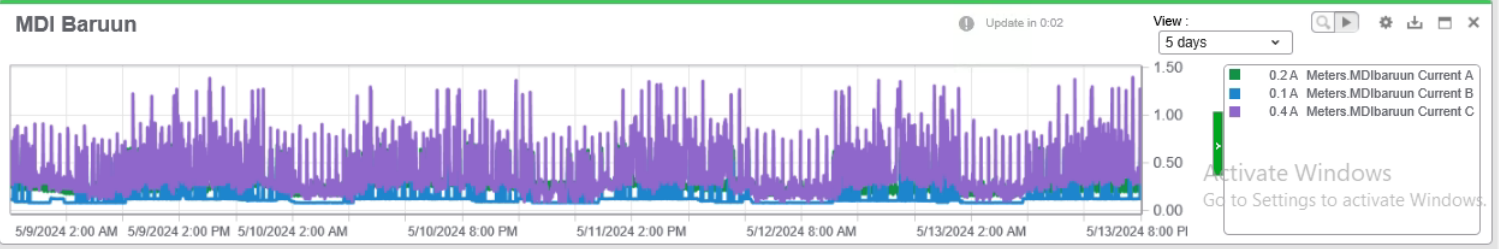
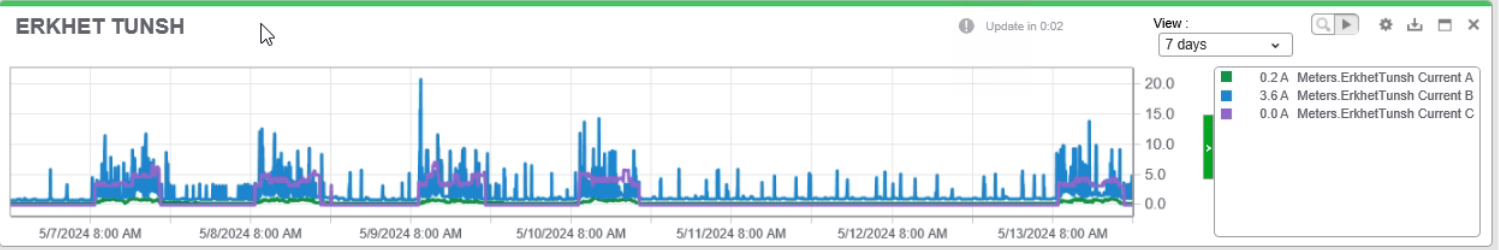
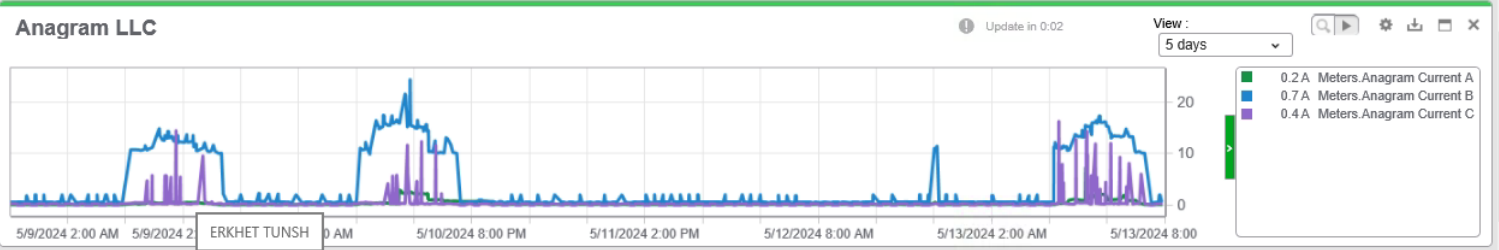


Trend Library

Search Trend Library...

Back Global

- AERO
- AERO 1
- Anagram LLC
- C and C LLC
- Capitron Bank
- ERKHET TUNSH
- Gal Togoo
- Golomt Bank
- LIMITED LIABILITY
- MDI Baruun
- MDI Zuun
- meter
- MONNIS INT
- NORMOUNT LLC



Energy Billing Module

The Energy Billing Module provides the ability to do cost allocation, energy usage chargeback and export energy data into accounting or financial systems

Prevent unnecessary utility charges

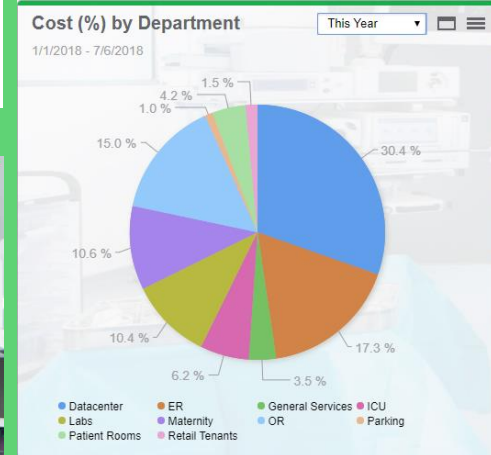
- Ensure that utility bills are correct via shadow billing
- Avoid demand charges and Power Factor penalties

Improve Energy Accountability

- Allocate energy costs and share energy billing data
- Create energy charge back reports and summarize tenant energy spend
- Export energy billing data to accounting or financial systems

Schneider Electric		Billing Summary Report		
Billing Period: 2015-03-01 12:00:00 AM - 2015-04-01 12:00:00 AM (Server Local)				
Tenant	Item	Units	Unit Cost	Cost
ABC Soft	Energy Consumption Charge Victoria_Keating_main_7650 (24 %)	44,929.32 kWh	\$0.05762	2,588.83
Example Rate - Basic	Peak Demand Charge ABC Soft Peak @ 2015-03-01 2:00 PM Victoria_Keating_main_7650 (24 %)	81.17 kW	\$6.89	559.29
Processing Fee				20.00
Total				\$3168.12
ACME Technology	Energy Consumption Charge Victoria_Keating_main_7650 (32 %)	59,905.76 kWh	\$0.05762	3,451.77
Example Rate - Basic	Peak Demand Charge ACME Technology Peak @ 2015-03-01 2:00 PM Victoria_Keating_main_7650 (32 %)	108.23 kW	\$6.89	746.72
Processing Fee				20.00
Total				\$4217.49
Apeex Co.	Energy Consumption Charge Victoria_Keating_main_7650 (16 %)	29,952.88 kWh	\$0.05762	1,728.88
Example Rate - Basic	Peak Demand Charge Apeex Co. Peak @ 2015-03-01 2:00 PM Victoria_Keating_main_7650 (16 %)	54.12 kW	\$6.89	372.86
Processing Fee				20.00
Total				\$2118.76
Group Financial	Energy Consumption Charge Victoria_Keating_main_7650 (15 %)	28,080.82 kWh	\$0.05762	1,610.82
Example Rate - Basic	Peak Demand Charge Group Financial Peak @ 2015-03-01 2:00 PM Victoria_Keating_main_7650 (15 %)	50.73 kW	\$6.89	349.56
Processing Fee				20.00
Total				\$1987.58
Pinnacle Inc	Energy Consumption Charge Victoria_Keating_main_7650 (10 %)	18,720.55 kWh	\$0.05762	1,078.68
Example Rate - Basic	Peak Demand Charge Pinnacle Inc Peak @ 2015-03-01 2:00 PM Victoria_Keating_main_7650 (10 %)	33.82 kW	\$6.89	233.04
Processing Fee				20.00
Total				\$1331.72
Grand Total				\$12,823.65

Schneider Electric		Monthly Shadow Bill			
3/1/2015 12:00:00 AM - 4/1/2015 12:00:00 AM (Server Local)					
Tenant	Devices	Rate	Number of Units	Unit Cost	Cost (\$)
	Campus Main Incomer	Example Rate - Advanced			
	LV_Main_SWB_Main_Incomer_PM				
Energy Register Readings					
LV_Main_SWB_Main_Incomer_PM	Start: 9/16 12:00 AM				
	End: 9/16 12:00 AM				
Energy Consumption Charge	LV_Main_SWB_Main_Incomer_PM	71,128.64 kWh	\$0.05762	4,096.43	
Transmission Charge		71,128.64 kWh	\$0.00340	241.94	
Line Maintenance Charge		71,128.64 kWh	\$0.00193	137.28	
On Peak Usage Charge 30kwh/den between 8:00am-6:00pm	LV_Main_SWB_Main_Incomer_PM	25,031.28 kWh	\$0.03450	857.26	
Off Peak Usage Charge	LV_Main_SWB_Main_Incomer_PM	45,197.35 kWh	\$0.00742	335.80	
Peak Demand Charge	Campus Main Incomer Peak @ 2015/03/15 10:00 AM	157.81 kW	\$6.89	1,087.87	
	LV_Main_SWB_Main_Incomer_PM	157.81 kW			
Power Tax	Subtotal	\$0.038-73	4.61 %	304.64	
Daily Charge		31.0 Days	\$3.87 per Day	36.87	
Processing Fee				20.00	
Recycling Fee				1.35	
TAX (Tax)	Subtotal	\$0.060-91	0.00 %	366.21	
Total (\$)					7,286.21



Energy Billing Module

Module Contents

The Energy Billing Module Enables the following Features:

6 Reports:

- Billing
- Billing Summary
- Multiple Billing
- Multiple Billing Export
- Energy by IT customer
- Billing Verification

Web Based Rate Editor

НЭХЭМЖЛЭХ



Тахилт Хайрхан

5/7/2024 12:00:00 AM - 5/14/2024 12:00:00 AM (Server Local)

Банкны нэр
Банкны дансны дугаар

Худалдаа Хөгжлийн Банк
2619002728

Цахилгааны төлбөр							
	Эхний заалт	Сүүлийн заалт	Зөрүү	Коэффициент	Хэрэглээ	Тариф/Төгрөг	Нийт
Өдөр	10,197.240	10,349.999	152.759	1	152.759	187.000	28
Шөнө	3,480.819	3,522.285	41.466	1	41.466	121	5
Оргил	3,393.390	3,445.385	51.995	1	51.995	291	15
Нийт	17,071.448	17,317.665	246.217				48

Энэхүү нэхэмжлэхийг хүлээн авснаас хойш ажлын 3 өдөрт багтаан төлнө үү.

Чадлын төлбөр	5
Талбайд ногдох	53
НӨАТ	5
Нийт ДҮН	58

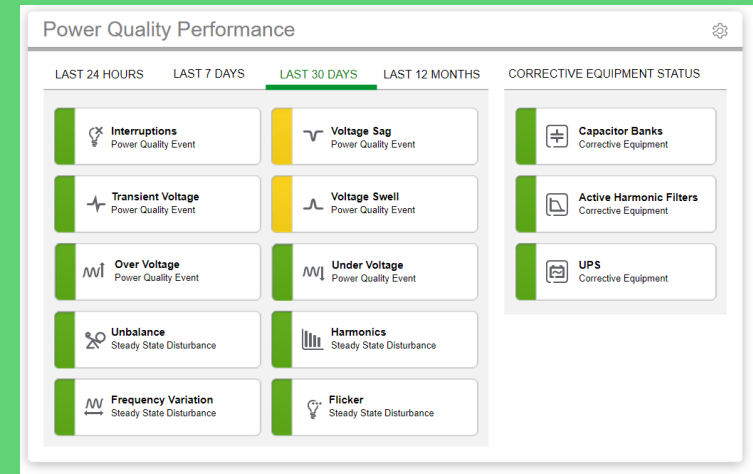
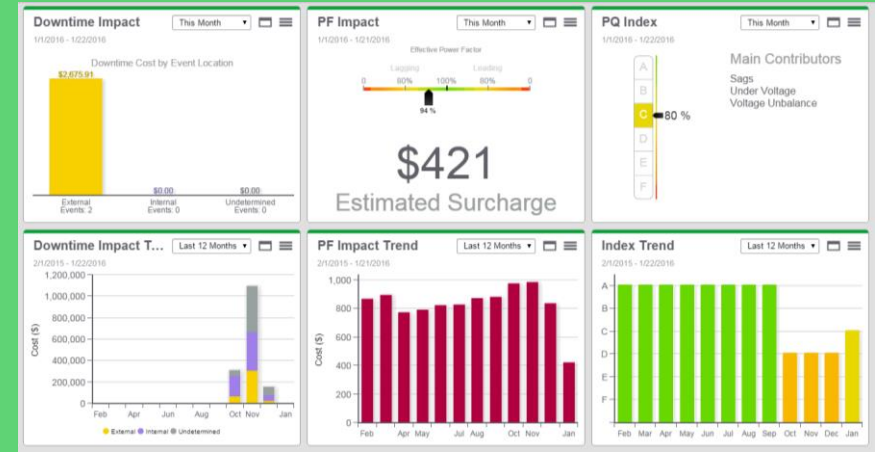


Modules for Reliability and Safety



Power Quality Performance Module

- Base lining and monitoring power quality in facilities, with an easy to read power quality rating index!
- Understand the financial impact of power quality related downtime or outages
- Visualize the cost of power factor penalties
- Identify the type, source (internal vs external) and potential impact of power quality events
- Drill down to a color based (red, yellow, green) indication of power quality conditions to better diagnose the system



Power Quality Performance Module

Module Contents

The Power Quality Performance Module Enables the following Features:

9 Gadgets:

- Power Quality Rating
- Power Quality Rating Trend
- Power Quality Impact
- Power Quality Impact Trend
- Power Factor Impact
- Power Factor Impact Trend
- Power Quality Incident Breakdown
- Power Quality Incident Impact
- Power Quality Incident Location

2 Reports:

- Power Quality Analysis
- Power Quality Impact

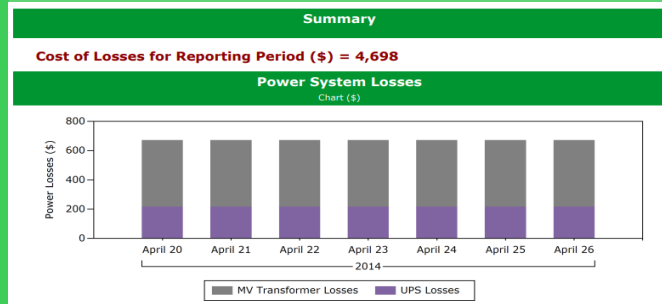
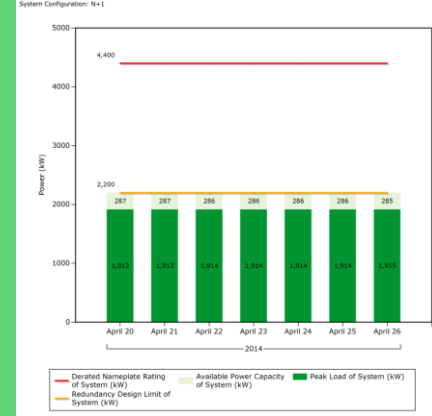
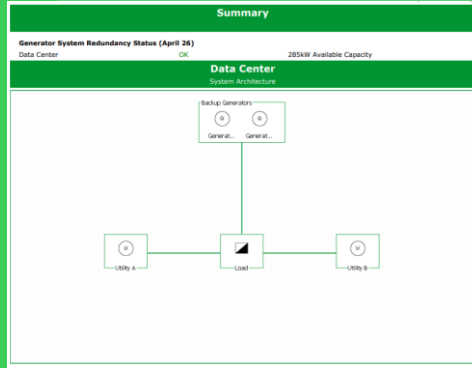
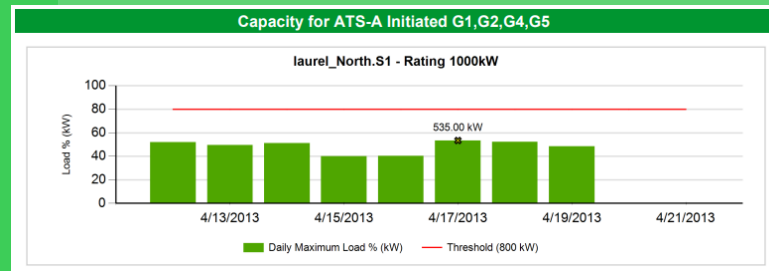
Pre-engineered library of Power Quality Indicators and mitigation equipment Diagrams

Module Requirements:

- PME supported Power Quality meters with PQ capture enabled
- Hierarchy and rate configured for Power Factor penalty calculation
- Process alarms and meter groups and downtime cost for impact calculation
- Please refer to the PME System Guide for full details

Capacity Management Module

- The Capacity Management Module provides the ability to analyze and understand generator system, UPS system, ATs and IT branch circuit system power loading.
- This module will enable the customer to make better decisions around power loading schemes and plans in the facility.
- Capture and Report System Losses
 - Total Costs of Losses Over Reporting Period
 - Average kW Value of Losses Over Reporting Period
 - Analyze and Quantify the True Costs of System Inefficiencies



Capacity Management Module

Module Contents

The Capacity Management Module Enables the following Features:

6 Reports:

- Generator Capacity
- Equipment Capacity
- Generator Power
- UPS Power
- Branch Circuit
- Power Losses

Module Requirements:


- Meters located in Generators, ATS, UPS and transformers (primary and secondary).
- Branch circuit metering and hierarchy configured for Branch Circuit Power Report
- Please refer to the PME System Guide for full details


Insulation Monitoring Module


- Minimize risk by monitoring insulation levels in critical circuits (e.g. Operating theater).
- Real time secured power alarming system
 - IEC is focus on Insulating, overload and overheating status of the IT system
 - ANSI is focused on the Potential Hazard Current

Maternity_Panel01:

Status: Normal



 Impedance: 3.90 kOhm

 Load: 71.00 %

 Temperature: Normal

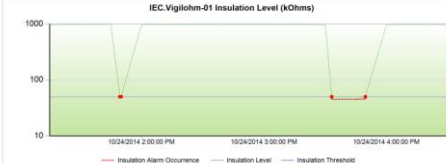
Hospitals
Line Insulation Monitoring System

Summary: OR - Rooms: 2

 OR Room 1 Status: Hazard	 OR Room 2 Status: Safe
<ul style="list-style-type: none"> ● OR_Panel01 THC: 7.80 mA ● OR_Panel02 THC: 3.90 mA 	<ul style="list-style-type: none"> ● OR_Panel03 THC: 4.80 mA ● OR_Panel04 THC: 3.90 mA

Schneider Electric Operating Room Isolated Power Report (IEC)

Report ID: Operating Room 01
 Description: Logs from Operating Room 01
 Report Generated: 10/24/2014 4:39:05 PM



OR_Panel01: No Test In Progress

Status: Hazard

● Total Hazard Current: .. 7.80 mA

● Load: ... 71.00 %

Volts L1 - L2: ... 119.64 V

Volts L1 - Ground: ... 70.38 V

Volts L2 - Ground: ... 70.38 V













Impedance: 28.00 kOhm

Resistance: 28.00 kOhm

Leakage Cap: ... 8.00 nF

Temperature: Normal

Circuit Fault Location

 EDS151_1 1	 EDS151_1 2	 EDS151_1 3
 EDS151_1 4	 EDS151_1 5	 EDS151_1 6
 EDS151_2 1	 EDS151_2 2	 EDS151_2 3
 EDS151_2 4	 EDS151_2 5	 EDS151_2 6

Insulation Monitoring Module

Module Contents

The Insulation Monitoring Module Enables the following Features:

2 Reports:

- Isolated Power Panel Report (ANSI)
- Isolated Power Panel Report (IEC)

Pre-engineered library of diagrams with indication of summary alarms for the panels with drill down capabilities into the details of each of the insulation monitoring devices

Module Requirements:

- Schneider Electric Isolated Power Panels with Vigilohm IM20-H for IEC and Iso-Gard IG6 for ANSI
- Configuration of module using PME's OR configuration Tool
- Configuration of VIP frameworks for summary alarms



Modules for Asset Performance and Reliability

Breaker Performance Module

The Breaker Performance Module allows you to address safety concerns and save money by providing actionable information on your low voltage circuit breakers.

Address Facility Safety

- Ensure proper breaker operation and fault isolation
- Schedule maintenance before safety hazards occur
- Monitor breaker protection setting and track changes

Save time and money

- Perform maintenance based on the condition of the breaker; shut down only where and when you need
- Avoid unnecessary downtime by servicing breakers that have highest probability of failure
- During scheduled outages, focus on breakers in need of service
- Minimize inventory by ordering parts when you need them

Breaker Group Summary

Select an icon below to view detailed information. ● Normal Operation ▲ Requires Attention

Datacenter_Breakers Status: ● Breakers: 1	ER_Breakers Status: ● Breakers: 3	General_Services_Breakers Status: ● Breakers: 3
Generators_Breakers Status: ▲ Breakers: 3	ICU_Breakers Status: ● Breakers: 2	Labs_Breakers Status: ● Breakers: 3
Maternity_Breakers Status: ● Breakers: 1	OR_Breakers Status: ● Breakers: 1	Patient_Rooms_Breakers Status: ● Breakers: 2


Generator_Switch1

HC.Gen_MAIN_Bkr		
● Breaker Aging:	22.5	%
● Electrical Wear:	90.0	%
HC.Gen_1_Bkr		
● Breaker Aging:	16.8	%
● Electrical Wear:	68.0	%
HC.Gen_2_Bkr		
● Breaker Aging:	13.7	%
● Electrical Wear:	5.4	%

HC.Gen_MAIN_Bkr

Status: Closed

● Electrical Wear:	90.0	%
● Breaker Aging:	22.5	%
Mechanical Wear:	1.5	%
Environmental Aging:	0.3	%
Control Unit Aging:	22.5	%
Thermal Aging:	22.5	%
Corrosion Aging:	0.9	%
Number of Operations:	215	
Load Profile:		
0 - 49 %:	17,972.0	h
50 - 79 %:	556.0	h
80 - 89 %:	0.0	h
90 - 100 %:	0.0	h
Temperature Profile:		
< -30 deg. Cel.:	0.0	h
-30 - 59 deg. Cel.:	1,524,772.1	h
60 - 74 deg. Cel.:	303,842.8	h
75 - 89 deg. Cel.:	24,085.1	h
90 - 99 deg. Cel.:	0.0	h
> 99 deg. Cel.:	0.0	h



Breaker Performance Module

Module Contents

The Breaker Performance Module Enables the following Features:

2 Reports:

- Circuit Breaker Aging
- Circuit Breaker Settings

Pre-engineered library of Diagrams for breaker groups, panels and individual devices to monitor key operational parameters for condition based maintenance.

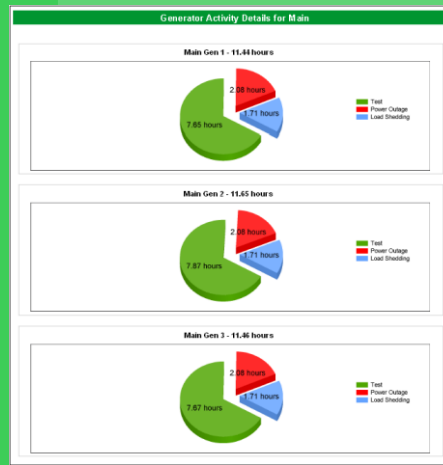
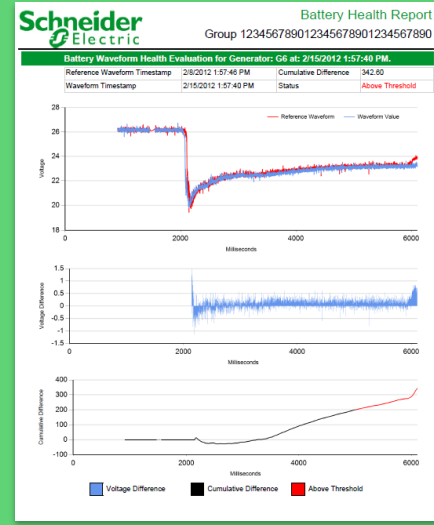
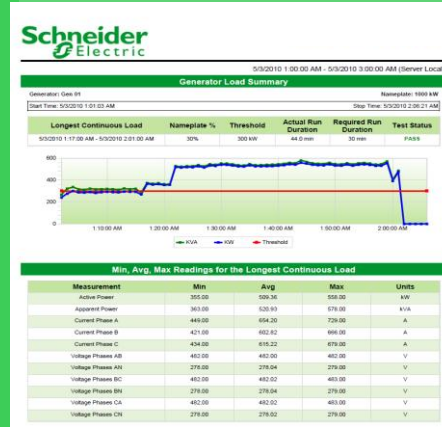
Out of the box alarms to notify on breaker protection settings changes

Module Requirements:

- SE Electric LV breakers supported and communicating with PME
- Refer to PME System Guide for full details

Backup Power Module

- The Backup Power Module provides the ability to automatically record and document the testing of backup Power Systems.
- It provides a standard methodology for testing the generators and ATSS and provides a detailed report of the generator operation during the test.
- Ensures traceability through data logging in the system, making it easy to demonstrate standards compliance, and reduce litigation risks.
- Monitors and records the status of UPSs, reducing the risk of battery failure and supporting predictive maintenance activities



EPSS Group Details
Emergency Power Supply System

EPSS Groups: [EPSS Groups](#) Generators: [Generators](#) ATSS: [ATSS](#)

EPSS Group: EPSS Test Group 1

Generators

Click a generator icon to view details.

HC_Feed_Gen_1

Status: ● Normal

Nameplate: 100 kW

Load: ... kW

HC_Feed_Gen_2

Status: ● Test

Nameplate: 1600 kW

Load: ... kW

Automatic Transfer Switches

Click an ATSS icon to view details. Click an ATSS Test button icon to change the Status from Normal to Test. Click again to reset to normal.

HC_ATS_Main

Status: ● Normal

Backup Power Module

Module Contents

The Breaker Performance Module Enables the following Features:

7 Reports:

- Generator Test (EPSS)
- Generator Activity
- Generator Load Summary
- Generator Battery Health
- Generator Battery Health Export
- UPS Auto Test
- UPS Battery Health

Pre-engineered library of Diagrams to monitor key operational parameters for backup power systems (generators, ATSSs, and UPSs)

Module Requirements:

- Specific metering type and location to capture generator and ATS status changes and electrical parameters during test.
- UPS: Galaxy 5500 (with Modbus module), Galaxy VX/VM/VS
- Refer to PME System Guide for full details

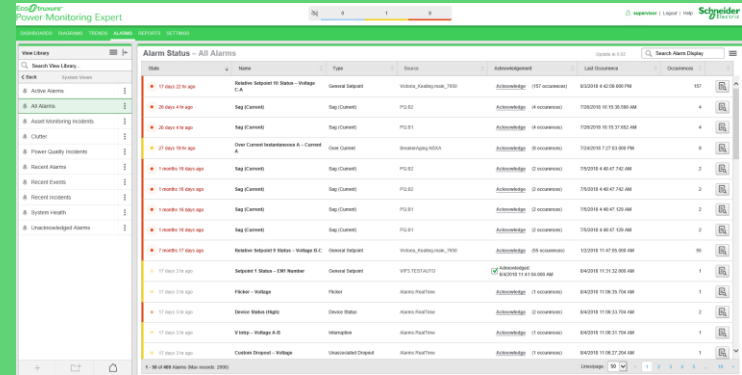


Modules for Interoperability

Event Notification Module (PME)

High priority alarming module of Power Monitoring Expert.

- Ensure the specified people in the facility are notified about critical power incidents no matter where they are.
- Delivers timely alerts of power system events via email or SMS
- Helps to quickly identify system abnormalities and take appropriate action.



Email and/or SMS

Device Communication - 2 Alarms

Notification sent at: 7/11/2019 6:35:57 PM [\(More Details\)](#)

Communication Status (Offline) 7/11/2019 6:35:44 PM
Test.IONE7650_Meter2 Active

Communication Status (Offline) 7/11/2019 6:35:34 PM
Test.IONE7650_Meter1 Active

This is an auto-generated message. Please do not reply.
www.schneider-electric.com

Event Notification Module (PME)

Module Contents

The Event Notification Module (PME) enables the following features:

- Notification engine to send notifications via email and SMS

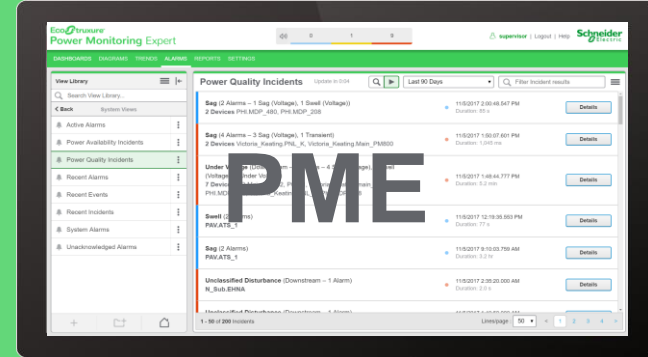
Module Requirements:

- PME alarms configured
- Twilio SMS Web API subscription
- Configured SMTP Server

Data Exchange Module

Integrate data from PME into other systems

- Send data via OPC DA or Modbus TCP in real time
- Export historical data to CSV files
- Export PME waveform data to COMTRADE



Data Exchange Module

Module Contents

The Data Exchange Module enables the following features:

- OPC DA Server
- Measurement Aggregation Export Report
- Measurement Statistics Export Report
- VIP Modbus Slave Module with Modbus TCP Support
- ETL COMTRADE Load Task

Module Requirements:

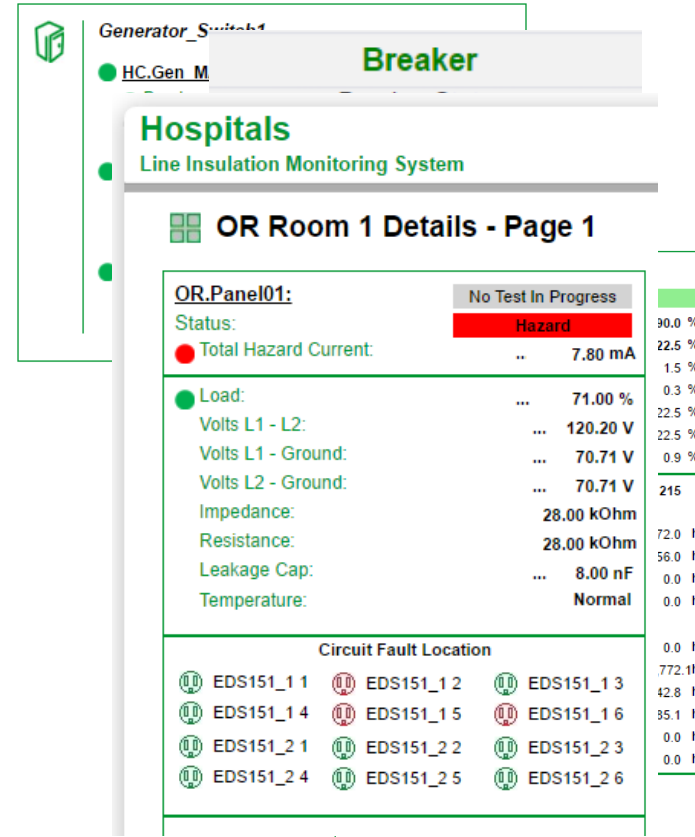
- Configuration to expose measurements over OPC DA
- Configure VIP to send data over Modbus TCP
- Configure ETL to extract waveform and load into COMTRADE file

Safe

Protect people and assets

Keeping track of key electrical and operational parameters in your power network

- Ensuring proper breaker operation and fault isolation avoiding safety hazards
- Detecting abnormal conditions (e.g Temperature) that represent a risk to operations.
- Operate breakers remotely to minimize exposure to arc-flash risk
- Monitor and locate circuit insulation faults (e.g protect patient safety during operations)

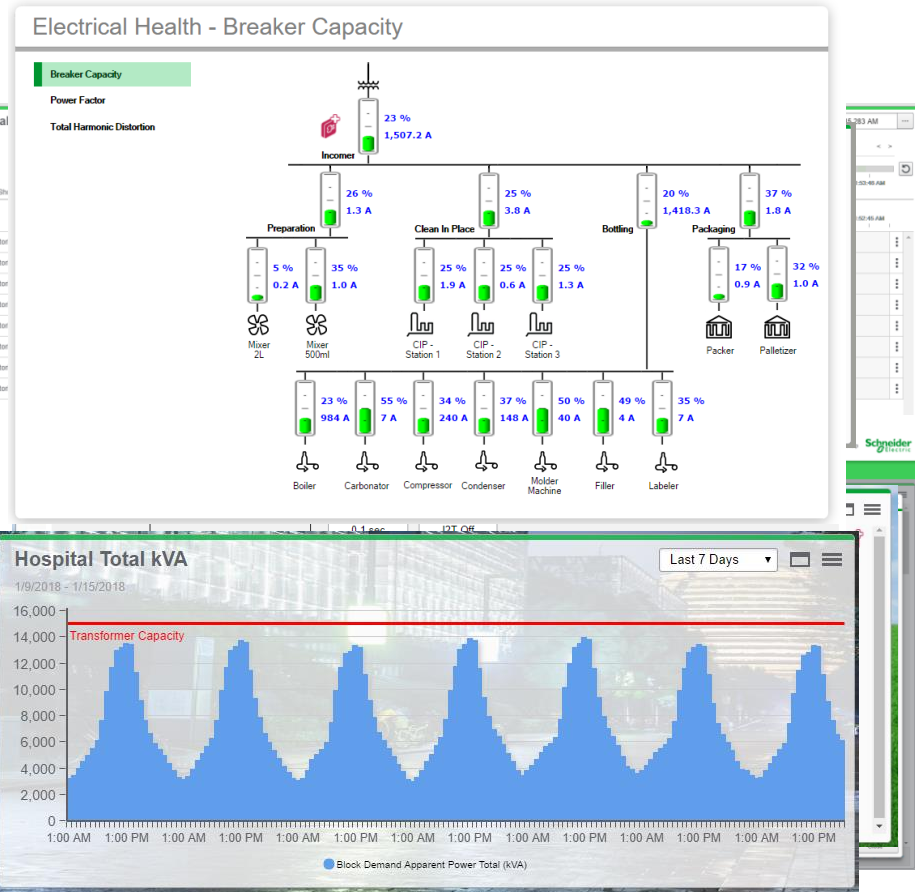


Reliable

Optimize business continuity

Simplified details of power distribution system are provided for facility people to ensure reliable operations:

- Understand the cause of events affecting your electrical system
- Identify patterns for power events to avoid or mitigate future occurrences
- Monitor protection settings to ensure proper isolation of faults to avoid system wide outages
- Track system capacity to avoid overloads and make sure backup power system is able to handle loads in case of an outage

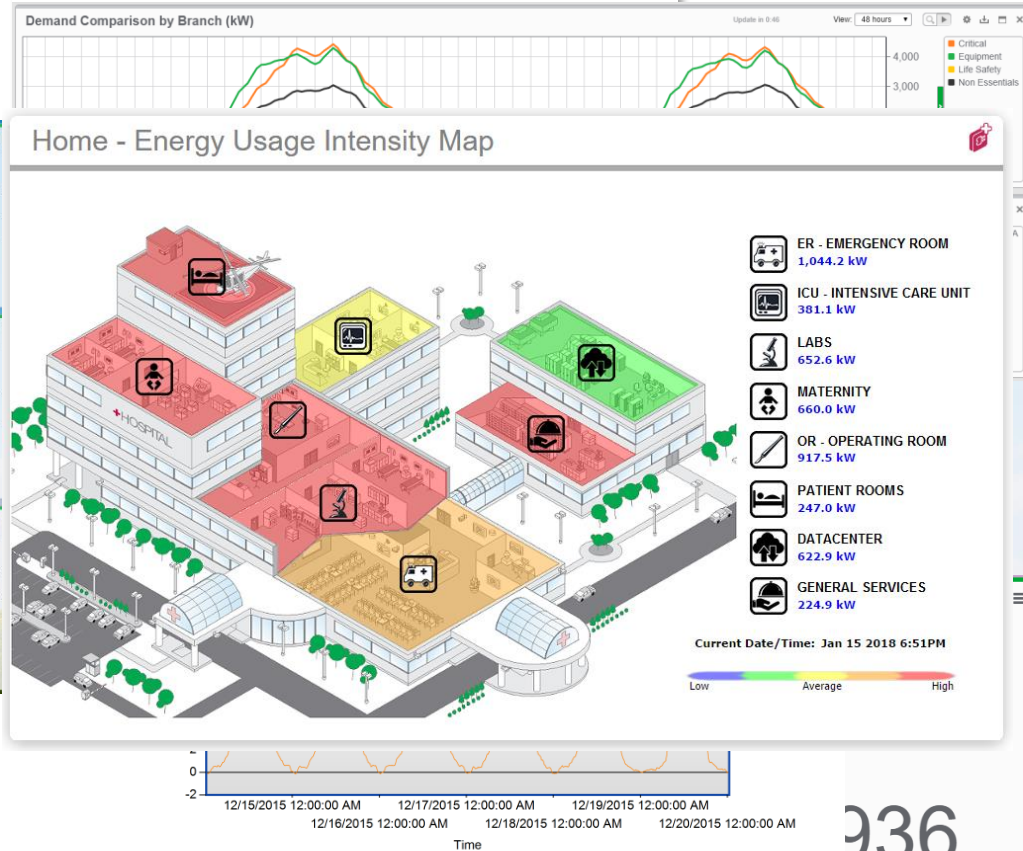


Efficient

Maximize lifecycle efficiency

Easy to deploy and maintain. Empowers users to actively improve efficiency by revealing opportunities and verifying savings

- Provide visibility to abnormal usage of energy and other utilities (WAGES)
- Avoid penalties and billing discrepancies due to peak demand, power factor and errors in utility bills
- Participate in demand response programs
- Create accountability by allocating costs to departments or processes



*Maximum Value :13.31

Compliant

Simplify regulatory compliance

The system enables regulatory compliance with common standards relevant to the operation of critical facilities

- Monitoring and reporting tools for energy efficiency and green building standards (ISO 50001, ISO 50002, ISO 50006, SEP, LEED, NABERS, etc)
- Verify utility/grid service and internal compliance to power quality standards (EN50160, IEEE519, ITIC, etc)
- Ensure regulatory compliance with backup power system testing in healthcare facilities (NFPA110 and others)

Complete Compliance in this Summary? No

<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> <p>Saved 1/1/2018 - 1</p> <p>OOO.PM8000_1</p> </div>	Power Frequency	Supply Voltage Magnitude	Flicker	Supply Voltage Dips	Short And Long Interruptions	Supply Voltage Swells	Supply Voltage Unbalance	Harmonic Voltage	Interharmonic Voltage
--	-----------------	--------------------------	---------	---------------------	------------------------------	-----------------------	--------------------------	------------------	-----------------------

Automatic Transfer Switch Summary

Lead ATS

Lead ATS	Transfer Time	Required Transfer Time	Test Status
Prairie Heart TS CL	14.60 s	30 s	PASS

Time to Emergency Power Source Available

Source	Time to EPS Available	Required Time to EPS Available	Test Status
Prairie Heart Gen	12.70 s	12 s	FAIL

Generator Summary

Generator: **Prairie Heart Gen** Nameplate: **500 kW**

Start Time: 2/10/2015 1:14:46 AM Stop Time: 2/10/2015 2:00:37 AM

Evaluation Method	Overall Test Status
Load	PASS

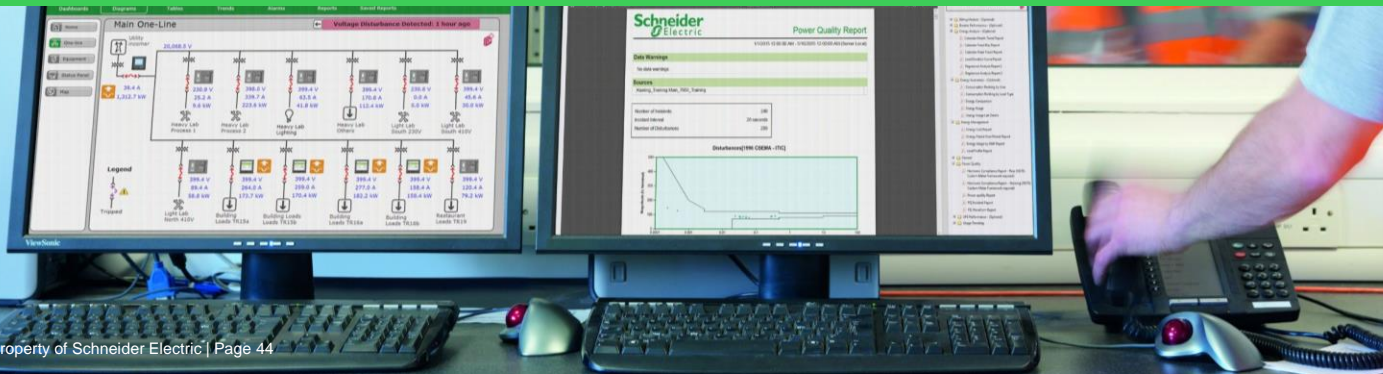
Test	Stage	Test Status
Load	One	PASS

Current Compliance - % of IL

Isc/IL = 50	Individual Harmonic Order (Odd)					TDD (%)
Ratio Window Limit (50 - 100)	<11	11Sh<17	17Sh<23	23Sh<35	35Sh	
IEEE 519 Limit (%)	10	4.5	4	1.5	0.7	12
Maximum Value	I2Hrm 3=10.52 @ 3/24/2015 10:40:51 AM	I2Hrm 13=0.96 @ 3/26/2015 2:18:48 PM	I2Hrm 17=0.44 @ 3/24/2015 1:47:51 PM	I2Hrm 23=0.15 @ 3/24/2015 12:17:42 PM	I2Hrm 35=0.06 @ 3/26/2015 2:18:48 PM	I2 TDD=12.19 @ 3/24/2015 10:40:51 AM
Non-compliant Intervals	559					10
Missing or Invalid Intervals	0					
Total Intervals	475,800					
% Time out of compliance	0.12					0.00
Recommendation	PASS					PASS

Typical Applications

Key Applications to Enable End User Value



From Values to Applications

Key Applications delivered using EcoStruxure Power Monitoring Expert

SAFE

Protect
People & Assets

Continuous Thermal
Monitoring

Insulation Monitoring

Breaker Settings
Monitoring

RELIABLE

Optimize
Business Continuity

Electrical Distribution
Monitoring & Alarming

Power Event Analysis

Power Quality Monitoring

Capacity Management

EFFICIENT

Maximize Operational &
Deployment Efficiency

Configuration &
Commissioning Efficiency

Cost Allocation

Energy Usage Analysis

Utility Bill Verification

COMPLIANT

Simplify Regulatory
Compliance

Energy Efficiency
Compliance

Power Quality Compliance

Backup Power
Compliance (HC)

Cyber Security

EcoStruxure™

Power Monitoring Expert

Life Is On

Schneider
Electric

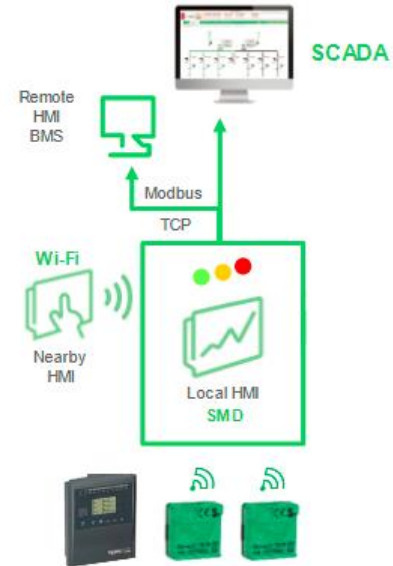
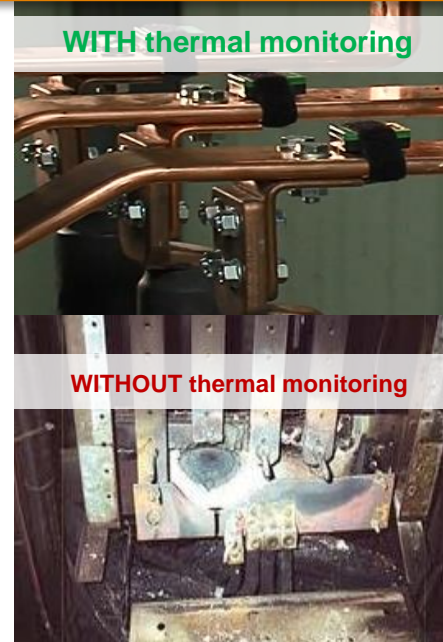
Continuous Thermal Monitoring

“I want to prevent electrical fires in my facility and have a solution to detect abnormal temperature rises in my conductors. This is important at both the MV and LV level.”



Avoid Electrical Fires

- > Wireless sensors installed on busbar help continuously monitor temperature via central data concentrator.
- > Avoid the cost of periodic and manual 3rd party IR scan audits
- > Pre-alarm in Edge Control software as early detection of conditions that could cause fires
- > With optional expert advisor services, reduce total cost of ownership by 60% through continuous improvement
- > With optional expert advisor services, optimize maintenance through more streamlined maintenance planning and scheduling.



[Mining case study](#)
[Customer Use Case](#)

[Digital Architecture](#)

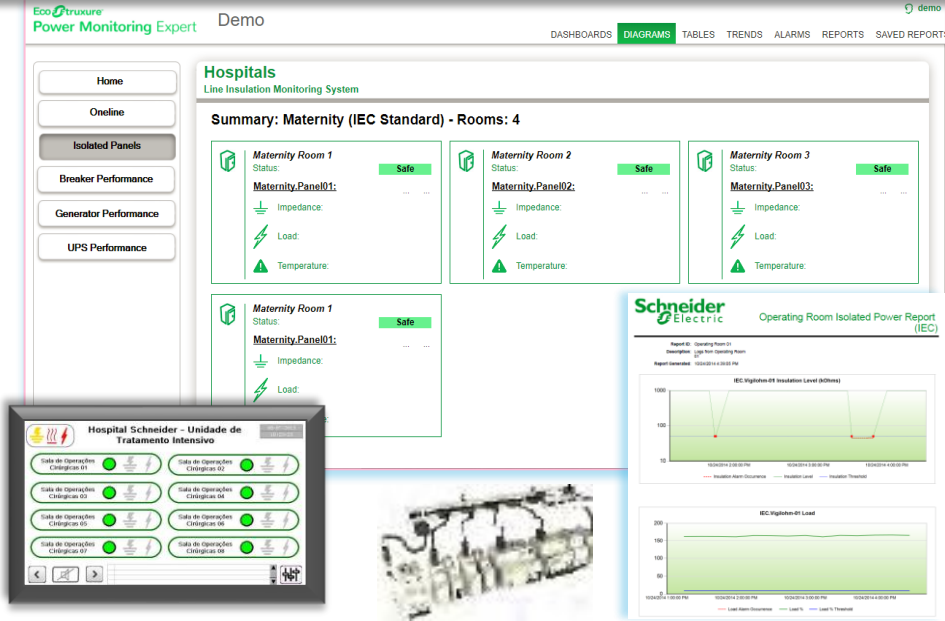
Insulation Monitoring in OT and ICU (IEC)

“I want to remotely view the status of the Isolated Power in my operating rooms and intensive care units, and in case of any insulation fault, I want to know the location of the fault.”



Prevent Electrical Shock and Ensure Protection

- > **Isolated Smart Panels** protect the patient and medical staff against electrical shock
- > The **Insulation Monitoring Device IM20-H** activates an alarm in case the resistance to equipotential bonding drops below 50 K Ω
- > The **Fault Location Device IFM-12H** pinpoints the location of the insulation fault (feeder /sockets) for quick troubleshooting.
- > The monitoring system serves up this information to the chief nurse and/or the facility manager in real time and through a report



Customer Use Case

Digital Architecture

Power Events Analysis

“I want to understand the root cause and impact of cascading and chronic power system events and use this information to reconstruct events, respond appropriately and determine cause to prevent in the future.”



Avoid Disruption of Business by Preventing ED Failures

- > High resolution, high accuracy event sequence record to find origins of fault
- > Cross system event correlation to help reconstruct sequence of events
- > Speed the diagnosis of power incidents by automatically creating a visual timeline of the incident showing related events, waveforms, and trends.
- > Gain deeper insight about the cause and impact of an incident by seeing a visual timeline before, during, and after the incident
- > Record your analysis for later viewing, with custom annotations and custom filters to show only what is most relevant.



[Airport Case Study](#)

[Hospital Case Study](#)

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Electric

Power Quality Monitoring

“I want to have the information to identify power quality issues and manage their impact to keep them from **disrupting operations** or damaging my critical loads and equipment.”



Avoid Electrical Fires

- > Track harmonics to prevent overheating or burning of transformers



Avoid Disruption of Business by Preventing ED Failures

- > Monitor disturbances and power system events
- > Capture and study event details
- > Trend and report on power quality disturbances and issues
- > Patented Disturbance Direction Detection to locate the directionality of events

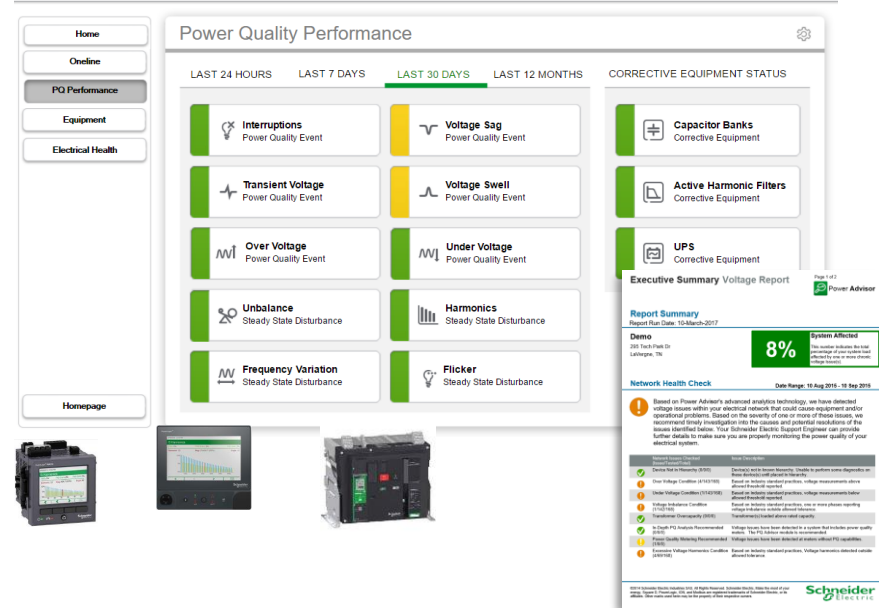


Increase Electrical Asset Reliability and Lifetime

- > Monitor and react to electrical conditions such as unbalance that may decrease equipment lifetime

[Utility case study](#)
[Industry case study](#)

EcoStructure
Power Monitoring Expert



Life Is On

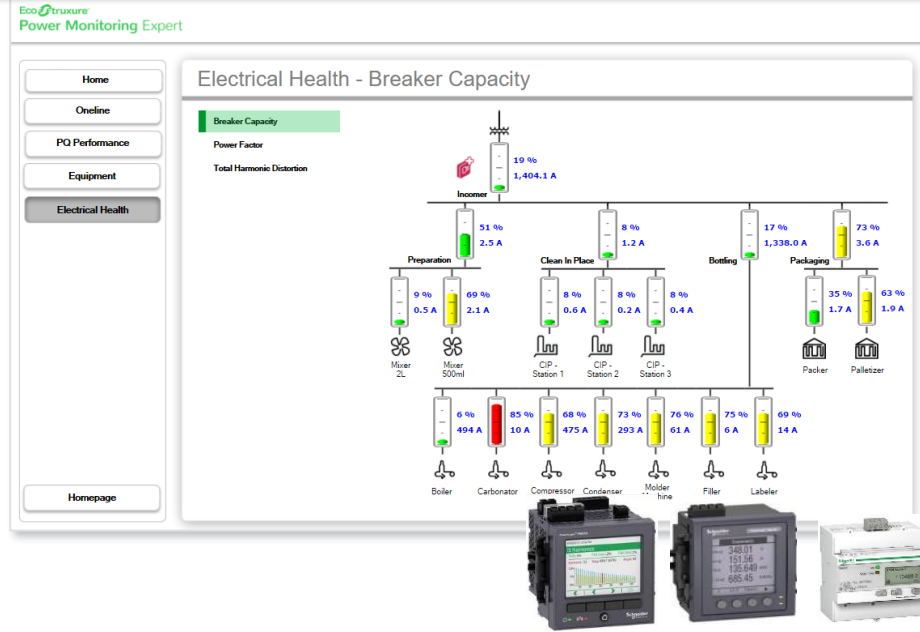
Schneider
Electric

Capacity Management

“I want to prevent disruption to business from electrical overload with load management and capacity planning.”

Avoid Disruption of Business by Preventing ED Failures

- > System wide or individual circuit monitoring of electrical loading combining electrical metering with system software
- > Trending and reporting on historical capacity loading with trending, dashboards and reporting
- > Pre-defined historical reports for generator, UPS and branch circuit capacity planning.
- > Inform operations or process decision-making for site or process expansions or modifications



[Airport Case Study](#)

[Hospital Case Study](#)

Life Is On

Schneider Electric

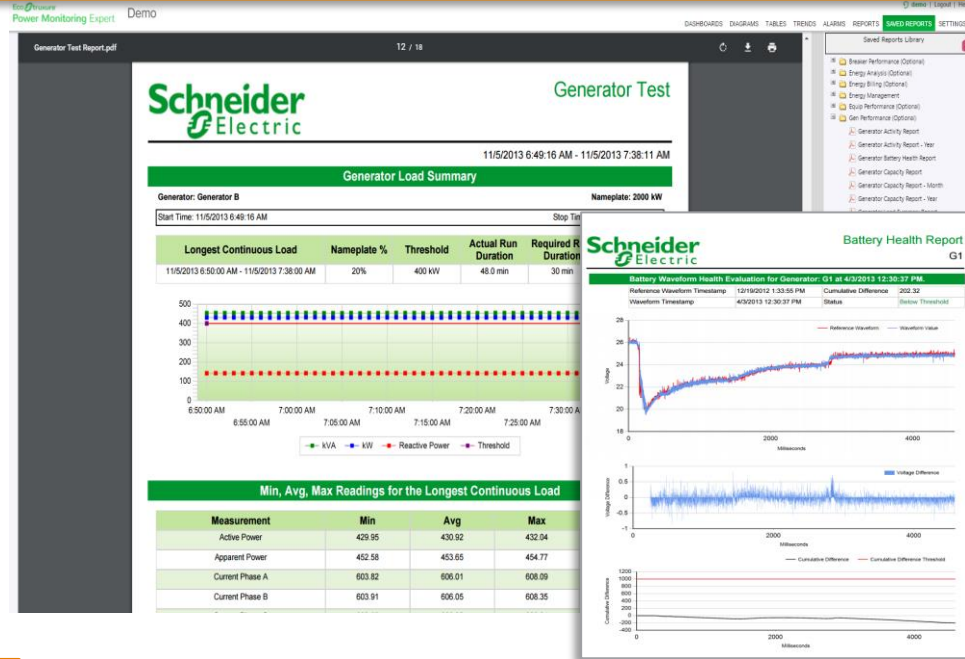
Backup Power Testing

"I want to ensure uptime during an electrical outage and have peace of mind that I can rely on my backup power supply when it is needed."



Avoid Disruption of Business by Preventing ED Failures

- > Record key test parameters like generator run time, exhaust temperature, oil temperatures and fuel levels to ensure reliability of generators.
- > Capture generator battery and UPS electrical signature and compare overtime to identify possible degradation.
- > Mitigate human error in testing procedures and reporting through automatic reporting based on standards
- > Have peace of mind that systems have been properly tested and will be available when needed.
- > Reduce time-consuming testing and documentation efforts to focus maintenance teams on proactive maintenance



Hospital applications

Life Is On

Schneider
Electric

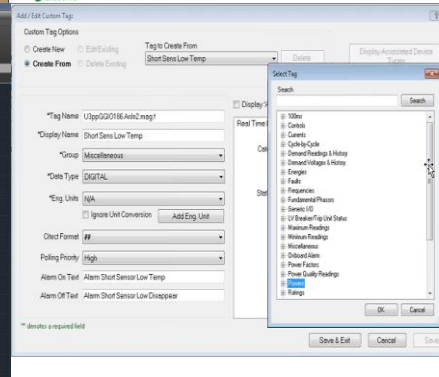
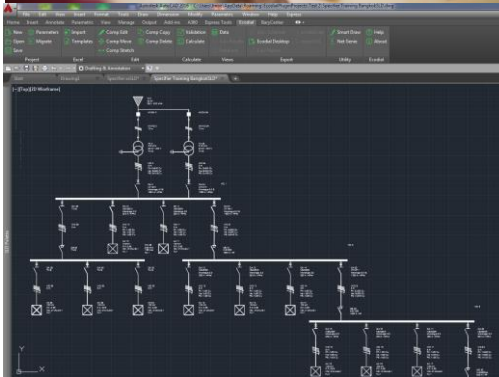
Configuration & Commissioning Efficiency



“I want to save money by reducing the amount of time it takes to configure & commission my MV LV Smart panels and integrate the EcoStruxure Power power management software.”

Simplify Install & Commissioning

- > Expertise in power domain speeds up deployments through knowledgeable engineers and support
- > Software tools for every phase of the lifecycle for design offices, panel builders ; Electrical contractors and system integrators.
- > Software for panel builders & electrical contractors to configure & commission smart architecture points (Ecoreal XL, Ecoeach)
- > Edge Control productivity tools designed with power systems in mind to simplify and speed up commissioning time



Utility Bill Verification

“I want to verify that my utility bill is accurate, both from a metering and bill calculation perspective.”



Save Money by reducing Energy Spend

- > Only requires a revenue grade meter on the main incomer(s) and PME/PSO for reporting
- > Compare internally generated “shadow bill” of site-level energy consumed during the billing period.
- > Shadow bills are the evidence to illustrate errors to the utility, which can have fast financial return
- > Identify opportunities over the course of several billing periods to reduce consumption.
- > Understanding the billing “levers” can help change the behaviour (peak shaving, demand response ...)

Utility Original Bill

AGL South Australia Pty Ltd (ABN 49 091 105 092)
ELECTRICITY ACCOUNT

Tax Invoice

Account: [REDACTED] Direct Phone: [REDACTED]
Account Number: [REDACTED]
Issue Date: 08-NOV-10
Amount Due: \$45,544.18
Due Date: 18-NOV-10

Account Summary (see www.agl.com.au for details)

Charge Summary	Total Amount including GST	Amount of GST Payable	Total Amount including GST
Charging Network (AGLCT-2010)			\$13,824.17
Regulated network			\$32,829.77
Energy Charges	\$14,282.33	\$2,626.91	\$16,909.24
Network Charges	\$12,749.80	\$1,274.96	\$14,024.76
Other Charges	\$1,788.84	\$178.88	\$1,967.72
TOTAL	\$41,430.80	\$4,140.80	\$45,544.18

TOTAL AMOUNT DUE
Greenhouse gas emissions graph appears at end of bill: \$45,544.18

9 NOV 2010

Service Address: [REDACTED] Account Number: [REDACTED]
Amount Due: \$45,544.18
Due Date: 18-NOV-10

Schneider Electric NW Minerals Monthly Energy Costs

9/11/2013 12:00:00 AM - 10/11/2013 12:00:00 AM (Denver Local)

Electricity Account NW Minerals Ltd
Account Manager: Edward Fontaine
Address: EO Box 959, Port Outback, SA 5099
Service Address: Petrolite Road, Port Outback 959
Direct Phone: 02 9621 9999
Account Number: 9700 7647 9999
Devices: Victoria_Healing_Main_9800
Rate: AGL Rate

	Number of Units	Unit Cost	Cost (\$)
Energy - Peak	60,637.75 kWh	\$0.110207	6,680.38
Energy - CP Peak	120,254.88 kWh	\$0.041902	5,039.81
Network - Peak	60,637.75 kWh	\$0.020900	1,267.41
Network - CP Peak	120,254.88 kWh	\$0.020900	2,504.75
Maximum Demand Peak 100 kW	100 kW	\$11.040000	1,104.00
Maximum Demand Peak 150 kW	150 kW	\$7.050000	1,057.50
Maximum Demand Peak 200 kW	80 kW	\$0.048000	3,840.00
Maximum Demand Peak 250 kW	0 kW	\$0.07190000	0.00
AGL Ancillary Services	179,882.8 kWh	\$0.000732	131.73
AGL Peak Fees	179,882.8 kWh	\$0.000420	75.35
AGL NSC - 6047	179,882.8 kWh	\$0.000200	36.00
AGL	20.00 kWh	\$0.1071	2.14
AGL	976,107.75 kWh	0.1%	1,416.18
Total (\$)			21,011.83

Generated on: 10/20/2013 4:33:04 PM Page 1 of 1

[Industry case study](#)
[Airport case study](#)

[Oil & Gas case study](#)

Cost Allocation

“I want to encourage energy efficient behaviour and support cost accounting by accurately allocating direct and indirect energy costs to departments / processes.”



Save Money by reducing Energy Spend

- > Measure energy costs using standalone metering (e.g. BCPM, iEM3000, PM5000, PM8000, ION9000) or embedded metering (e.g. Compact NSX, Masterpact MTZ, etc.)
- > Measure and allocate energy costs by business unit, department, area, floor or building through metered data reporting and business or process hierarchies in PME.
- > Before initiating an energy savings project, it is necessary to understand which load type, business unit, area, floor or building provides the biggest savings opportunities
- > Allocating energy cost to different departments or process areas often results in reduction as a result of a change in behaviour.

Schneider Electric Machine Shop Monthly Energy Cost
9/1/2013 12:00:00 AM - 10/1/2013 12:00:00 AM (Server Local)

Tenant	Welding Shop
Contact	Mr Jeff Schneider II
Devices	Victoria_Keating.main_7650
Rate	PGandE-E20 Rate

	Number of Units	Unit Cost	Cost (\$)
Energy Consumption Readings			
Victoria_Keating.main_7650: Start: 1,094,331.50 kWh @ 9/1/2013 12:00 AM End: 1,243,235.25 kWh @ 10/1/2013 12:00 AM			
Energy Consumption - Off Peak Summer	107,159.00 kWh	\$0.04786	5,128.63
Energy Consumption - Partial Peak Summer	37,724.00 kWh	\$0.07026	2,650.49
Energy Consumption - Peak Summer	34,020.75 kWh	\$0.10855	3,692.95
kW Demand - Peak Summer Demand Peak Time @ 9/27/2013 3:30 PM	320.81 kW	\$4.56	1,462.89

[Healthcare case study](#)
[Stadium case study](#)

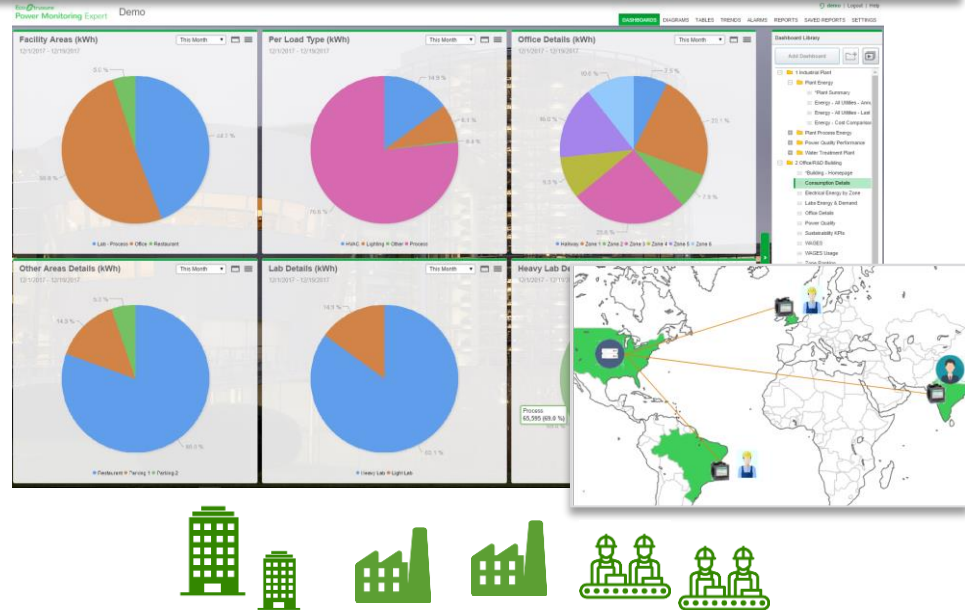
Energy Benchmarking

“I want to compare the efficiency of energy use across buildings / plants / process lines.



Save Money by reducing Energy Spend

- > Benchmark energy usage with respect to other buildings / plants / process lines
- > **Multi-site PME enables benchmarking across multiple sites from a centralized location.**
- > Compare energy usage by normalizing consumption with respect to area / production volume or other drivers
- > Gain understanding what makes an energy efficient facility use less energy than an inefficient facility.



[Industry case study](#)

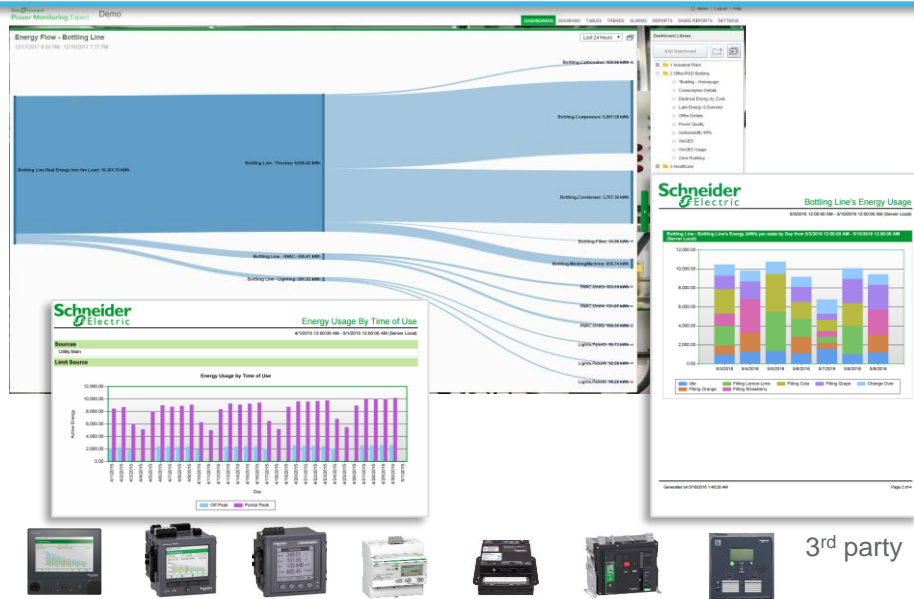
Energy Usage Analysis

“I want to analyze how much energy is consumed by the various load types and/or areas in my facility to determine where to focus my energy conservation initiatives.”



Save Money by reducing Energy Spend

- > **Determine** how much energy is consumed by the various load types or areas to identify where to focus energy conservation initiatives
- > **Understand** energy usage patterns and find energy waste
- > **Analyze** what factors contribute most to energy usage
- > **Assess** energy usage by process area or by product output
- > **Track** KPIs such as Energy Intensity (kWh/unit) or Coefficient of Performance (COP)
- > **Create** energy usage models and compare actual consumption against expected



[Hospital case study](#)
[Industry case study](#)

[Airport case study](#)

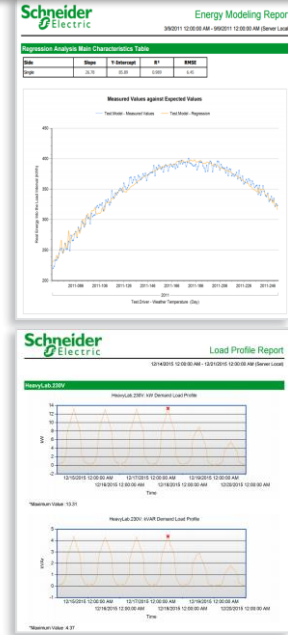
Energy Performance Analysis

“I want to analyse the energy performance of my facility or building against a modeled baseline which takes into account relevant energy drivers.”



Save Money by reducing Energy Spend

- > Import “contextual” data for tracking energy performance, conducting energy analysis and calculating important KPIs
- > Gain insight into operational energy consumption shift, production line, production output or equipment to find opportunities to optimize.
- > Duration curve reporting for transformer load capacity analysis
- > Define a model of energy usage by heating/cooling degree days or other parameters that influence energy consumption.
- > Visualization of energy in context provides a feedback loop between energy manager and operations so decisions can be made to maximize energy efficiency.
- > Process SCADA or BMS do not have standard capabilities for providing this information

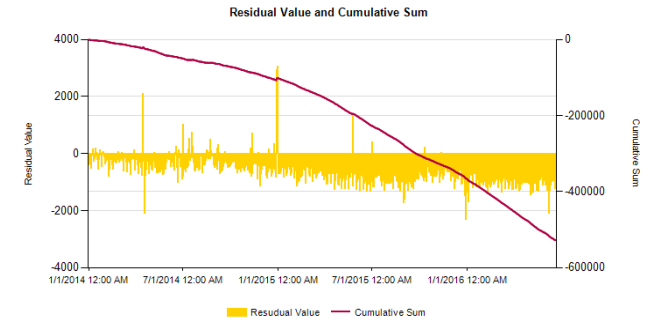
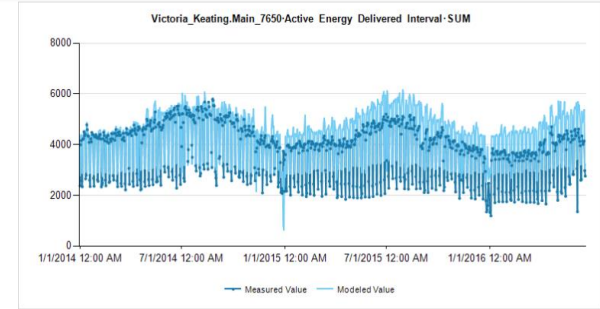


“I want to verify the energy savings from an energy retrofit or energy savings program.”



Save Money by reducing Energy Spend

- > Verify energy savings resulting from an energy retrofit.
- > Important if performance contract is used to fund retrofit.
- > Similar to Energy Performance Analysis, it is essential to have a dynamic baseline to account for the variability of energy consumption in the context of environmental factors or production.
- > Typically, the model is generated using baseline data from before the retrofit.
- > The model is used to show the difference between the modelled data (pre-retrofit) and the actual data (post-retrofit).
- > Weigh the results of energy conservation measures with targets or goals



Energy Efficiency Compliance

“I want to benchmark my energy consumption with respect to a national or international energy efficiency certifications body and display our energy reduction success to the public.”



Maintain Compliance Obligations

- > Energy Efficiency Certificates and Industry Benchmarking are
 - > Becoming requirements for many new buildings
 - > Often resulting in tax credits.
- > It is difficult to participate in many new projects if we cannot meet the requirements of the respective standard.
- > There are many different certificates



[Industry case study](#)
[Building case study](#)

[Colo Data Center case study](#)

“I want to track and report carbon emissions for public disclosure/transparency, green image, regulatory compliance, or participation in carbon markets.”



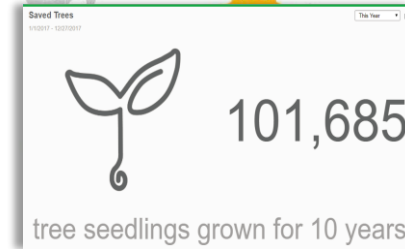
Maintain Compliance Obligations

- > Greenhouse Gas reporting based on
 - > Equivalent tons of CO₂ emissions
 - > Saved Trees, km driven, etc.
- > Period over period usage comparison
- > Building Energy Rating
- > Carbon emissions are reported and segmented by source, scope and pollutant and can be indexed to various metrics you specify.

Mandatory Greenhouse Gas Reporting Programs



ow.ly/NsqAZ

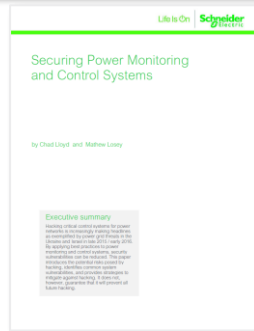




“I want to help ensure that my facility’s systems are aligned with our organization’s cyber security policies and align with international standards to help reduce risk of cyber attacks.”

Comply with standards & best practices

- > Cyber security is a constantly evolving risk to businesses as more and more systems get connected.
- > Help prevent cyber intrusions with a comprehensive organizational strategy that covers People, Technology and Processes.
- > Edge Control security features help align with standards like IEC 62443.
- > Best practices and technical features help reduce risk
 - > Secure networking architecture
 - > Active Directory integration
 - > Two Factor Authentication
 - > User privilege / authorization policy



using sophisticated means with extended resources, system specific skills and high

SL 4



using sophisticated means with moderate resources, system specific skills and moderate

SL 3



Protection against intentional violation using simple means with low resources, generic skills and low motivation

SL 2



Protection against casual or coincidental violation

SL 1

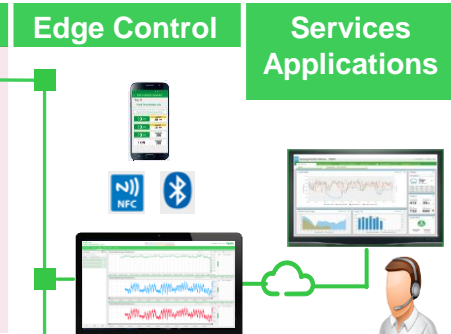
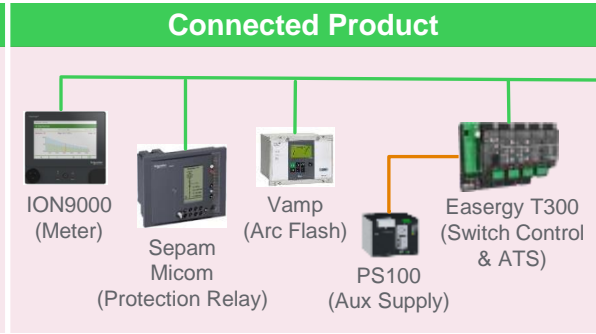
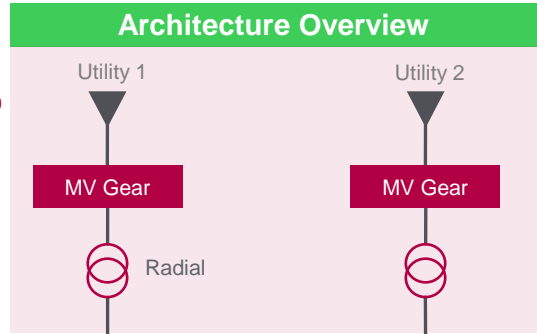


System Architecture

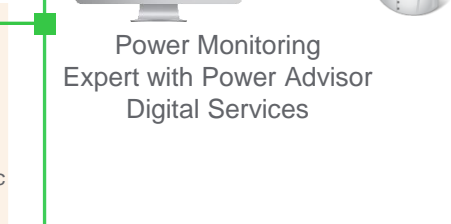
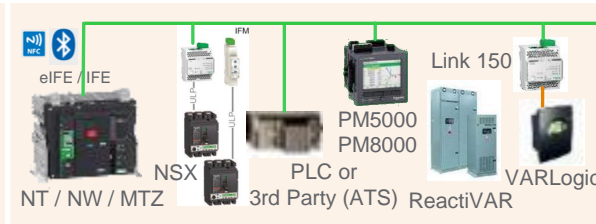
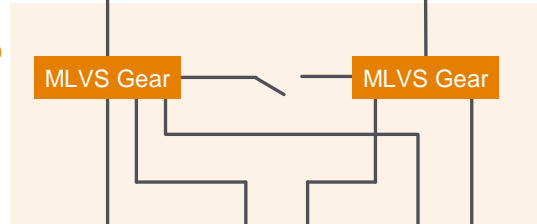
Digital Architectures and System Components

EcoStruxure Power Architecture for a Medium-Sized Hospital

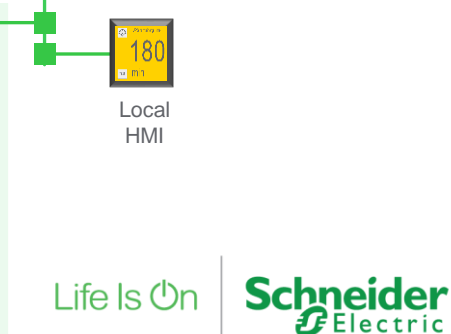
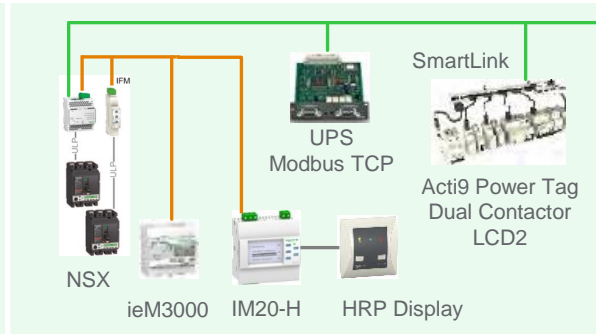
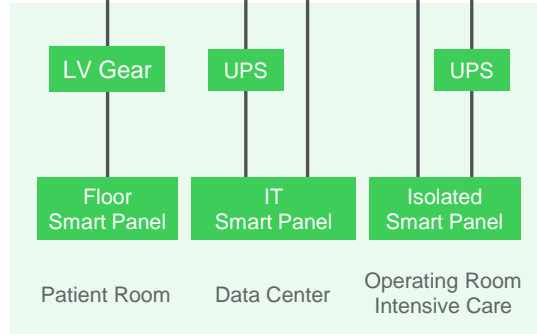
Medium Voltage



Low Voltage



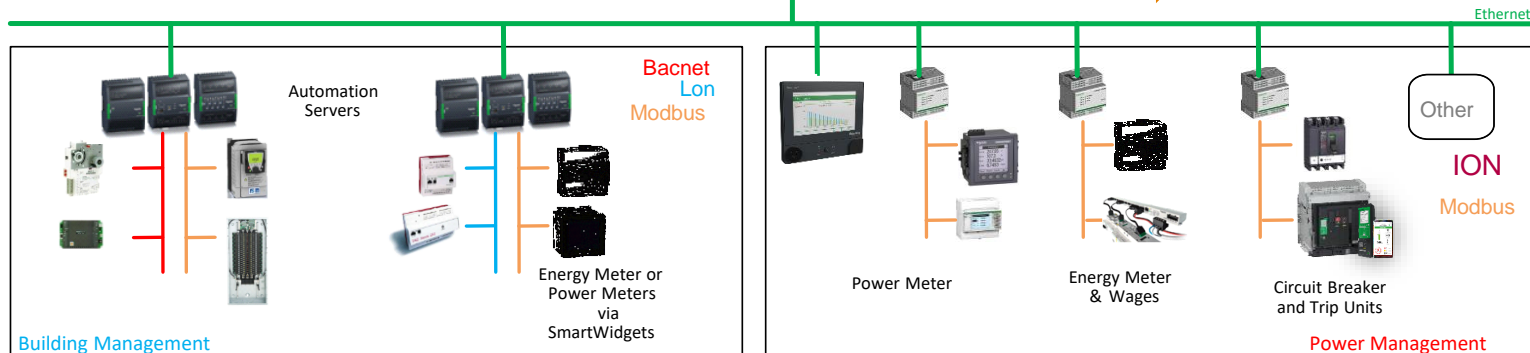
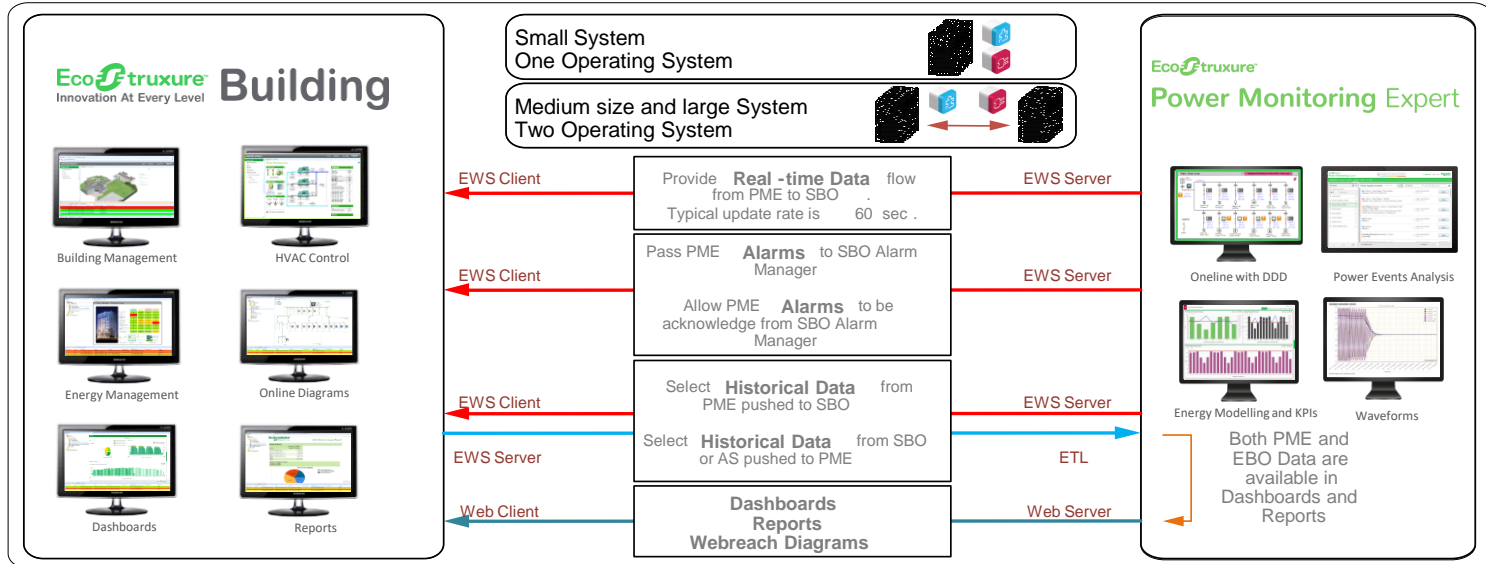
Final Distribution



Life Is On

Schneider Electric

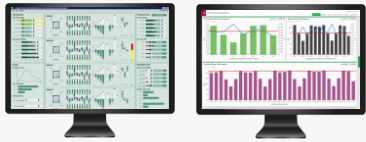
EcoStruxure Power + EcoStruxure Building



Integration Architectures

EcoStruxure Power + EcoStruxure Plant

Process Control System



Existing SCADA



PACs
PLCs



Process instruments & existing meters

Power and Energy System



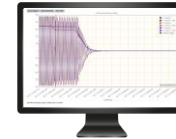
Production
Event Data

Energy
Data

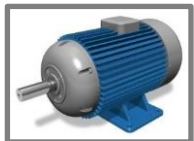
Real-time data



Additional Schneider Electric metering



- Energy per Shift
- Energy per State
- Energy by production KPIs
- Energy Modelling and Forecasting
- Energy monitoring
- Cost allocation
- Power monitoring
- Power quality analysis
- Downtime avoidance
- Capacity management



PME Cybersecurity

Feature Summary

Secure Development Lifecycle (SDL) policy

Processes assure resilience and formal customer response

Advanced encryption and authentication

Secure communications throughout system components

Full system backup, recovery and reconstitution

Minimize downtime

Technology highlights :

- TLS 1.2 support
- CA certificates
- Encrypted credential storage
- Windows FIPS mode Compliance
- Configuration Management Tool (system backup and restore)
- Whitelisting





Did you know?

25% of power management systems have outdated configurations that put monitoring and control of the network at risk

10-15% of devices in the typical power management system are nearing end of their supported lifecycle

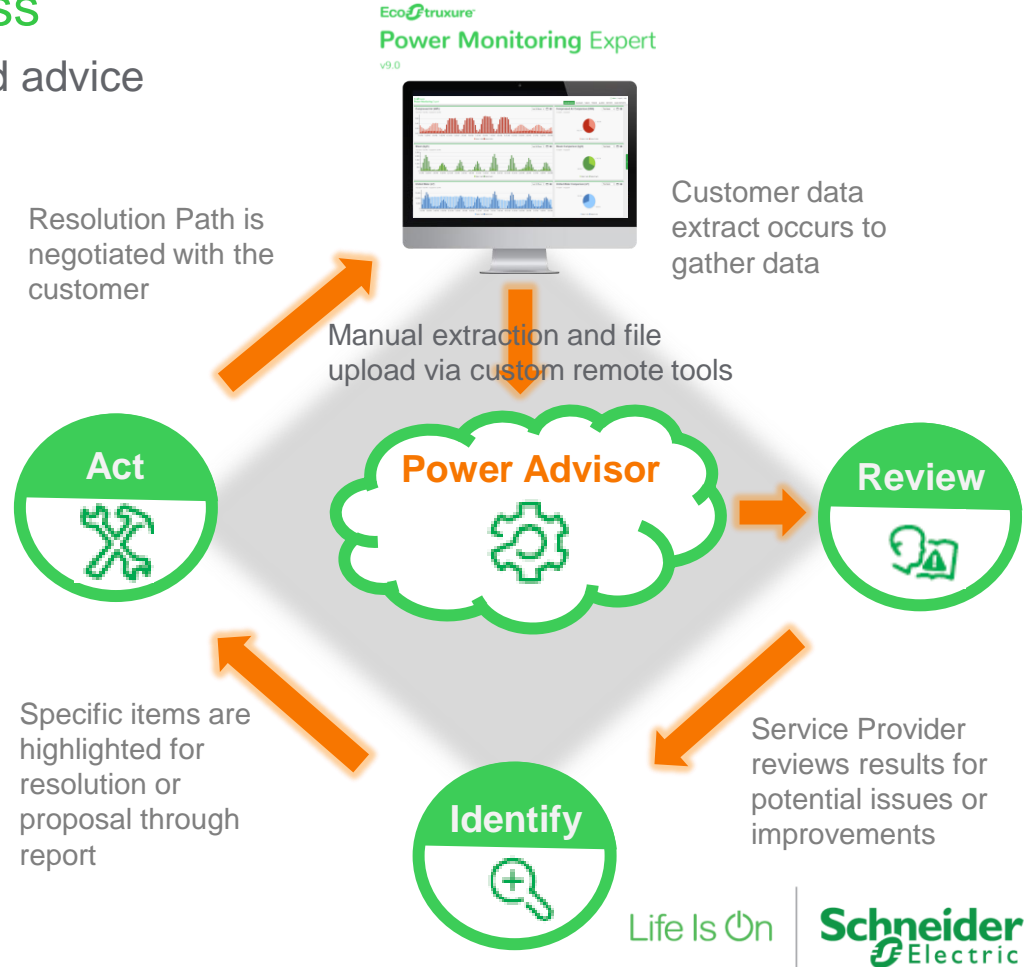
>15% of facilities are operating with problematic power quality conditions, which could lead to equipment damage and unplanned downtime

For facility managers with large and critical power facilities, **EcoStruxure Power Advisor** delivers optimized system **performance** and power **reliability** through advanced analytics and expert services.

EcoStruxure Power Advisor Process

How customer information becomes trusted advice

1. **Review** all of the data obtained on the customer system for analysis
2. **Identify** problem points generated by the report
3. **Act** with the customer to provide a recommended solution and system improvement



EcoStruxure Power Advisor

Introduction and Core Benefits

- Cloud based analytics and service tool
- Provides in depth analysis and assessment relating to system and network diagnostics
- Identifies potential issues such as:
 - Data Quality Issues (Gaps, Zero Values, Mismatched Intervals)
 - Unmetered loads / Obsolete metering
 - Energy Balance violations / Meters under reporting
 - Chronic power quality issues (ex. Voltage imbalance, harmonics)
- When used in conjunction with on-site maintenance it ensures highly focused productivity for on-site maintenance from identification of a problem to clear resolution.
- All results produced with actionable Executive and Detailed Reports

The image displays several overlapping screenshots of the EcoStruxure Power Advisor software interface. The reports shown include:

- Executive Summary Diagnostic Report:** Page 1 of 2, showing a report run date of 10-March-2017 for a demo site at 295 Tech Park Dr, LaVerne, TN. It features a 'Report Summary' section and a 'System Health' section with a warning icon and text: 'Based on F issues with unreliable d decisions b report for a actions for Electric Tec of your Pow'.
- Detailed Report Diagnostic Report:** Page 1 of 28, showing a 'Potential Issue' for a device (s) in a 'Possible Cause' section.
- Executive Summary Voltage Report:** Page 1 of 2, showing a 'Report Summary' section and a 'Network Health' section with a warning icon and text: 'Based on voltage is operation recomme issues id further of electrical'.
- Detailed Report Voltage Report:** Page 1 of 17, showing a 'Report Summary' section with a 'System Affected' indicator showing 8% system load affected by one or more chronic voltage issues.
- Report Details:** A section detailing a 'Potential Issue: Excessive Voltage Harmonics Condition' with a source of 0.43% system load affected and a 'Potential Issue: Over Voltage Condition' with a source of 1.57% system load affected.

The interface also includes a 'System Health' section with a list of indicators: System Issues, No Data in Query, All Zero Values, Energy Balance, Negative Values, Unchanging Values, Meter Underreporting, Consistency Negative, Device Not in History, and Meter Detection. A table lists various devices (e.g., Device 80, 141, 137, 138, 139, 140, 19, 11, 42, 121, 122) with their respective status icons (green checkmarks, yellow exclamation marks, red exclamation marks).

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Schneider
Electric

