



Upgrade to PME 9.0

Unlock your Power System Full Potential with IoT Enabled Power Management

Power Solutions

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We have an opportunity to co-create the future as the new energy world becomes



More ELECTRIC

2X

faster growth of electricity demand compared to energy demand by 2040

Source: IEA WEO 2014



More DIGITIZED

10X

more connected devices than people by 2025

Source: United Nations, IHS



More DECARBONIZED

82%

of untapped energy efficiency potential in buildings (and more than 50% in industry)

Source: World Energy Outlook 2012



More DECENTRALIZED

70%

of new capacity additions will be renewable forms by 2040

Source: BNEF

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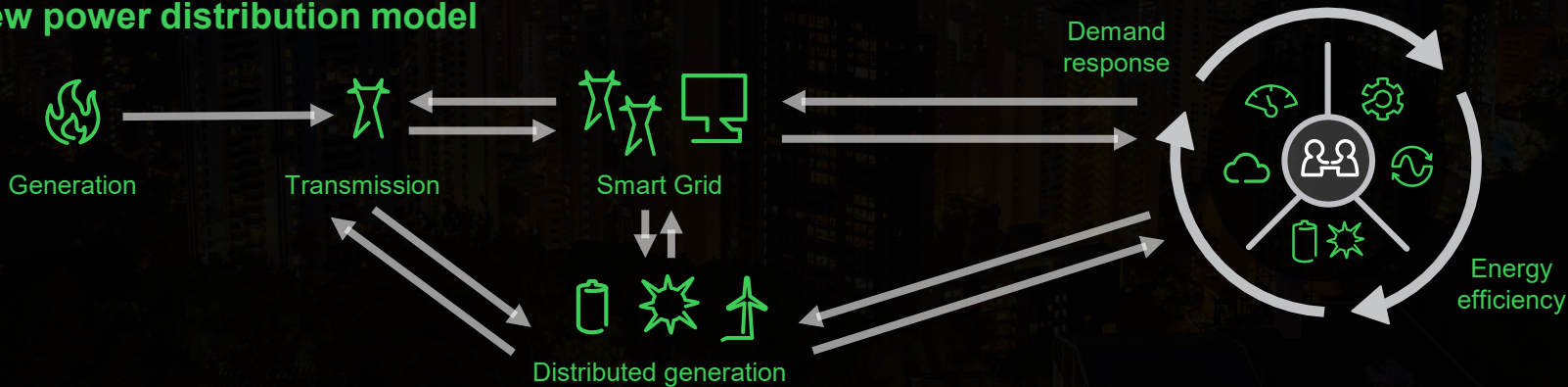
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How power distribution has changed

Traditional power distribution model



New power distribution model



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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



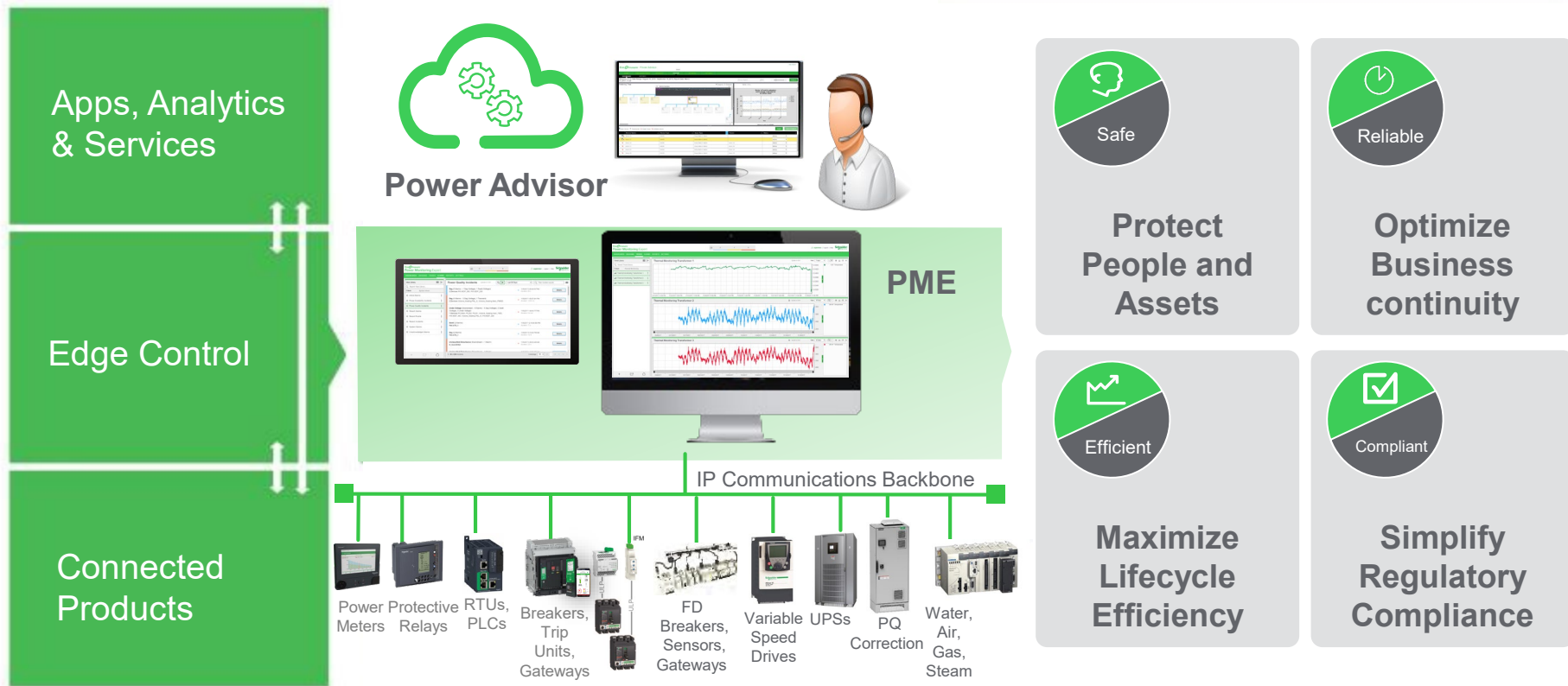
Buildings

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Don't Get Left Behind

Power Monitoring Expert brings edge control to power distribution



Why Upgrade?

Let's face it, You manage it should

- Software up your actual
- Old softwar cyber secur for older ver
- Technology



o monitor and

means more time for

represents a big
fixes are available

will be.

A woman with dark hair and glasses is smiling and looking towards the right. She is wearing a light-colored top with orange polka dots. She is sitting at a desk with a laptop in front of her. The background is a blurred office environment with shelves and papers.

New Functionality

More value out of your existing infrastructure easier and better

Feature Comparison Matrix

The more the merrier...

Feature / Version	6.0.1	7.0.1	7.2.2	8.2	9.0
Real Time Monitoring					
Vista Diagrams	+	+	++	+++	+++
Diagrams (Web)	+	+	++	+++	++++
Real time Tables	X	+	++	+++	++++
Real Time Trends	X	X	X	+++	++++
Alarm Management					
Smart Alarm Viewer	X	X	X	X	++
Timeline Analysis Tool	X	X	X	X	++
Alarm Annunciator	X	+	++	+++	++++
Alarm Notification	X	X	X	+++	+++
Alarm Configuration	+	+	+	+++	++++

Feature Comparison Matrix (Cont.)

The more the merrier...

Feature / Version	6.0.1	7.0.1	7.2.2	8.2	9.0
Data Analytics and Visualization – Reporting, Dashboards, etc.					
Dashboards	X	+	++	+++	++++
Web Reports (# default report Templates)	+	+	++	+++	++++
Hierarchies for data aggregation and business logic	X	+	++	+++	++++
Optional Software Modules	X	X	X	+++	++++
Technical Infrastructure, Interoperability and others					
Role-Based Access Control	X	X	X	X	++
Latest SQL Version Supported (SQL2017)	X	X	X	X	++
Latest OS (server) Supported	X	X	++	+++	++++
WAGES support	X	++	++	+++	+++
SBO Connector (integration with SmartStruxure solution)	X	X	X	++	+++
Cybersecurity	+	+	++	+++	++++

The Ultimate Energy and Power Management System

PME 9.0 + ION9000



Power Events Analysis



Power Quality
Performance



Power Quality
compliance



Backup Power Testing



Utility Bill Verification



Energy Usage and
Performance

- From microseconds to years of data analysis of your power network
- Verify compliance with most common PQ standards or customize to meet local regulations
- Device specific to system wide event analysis
- And much more...

Power Events Analysis

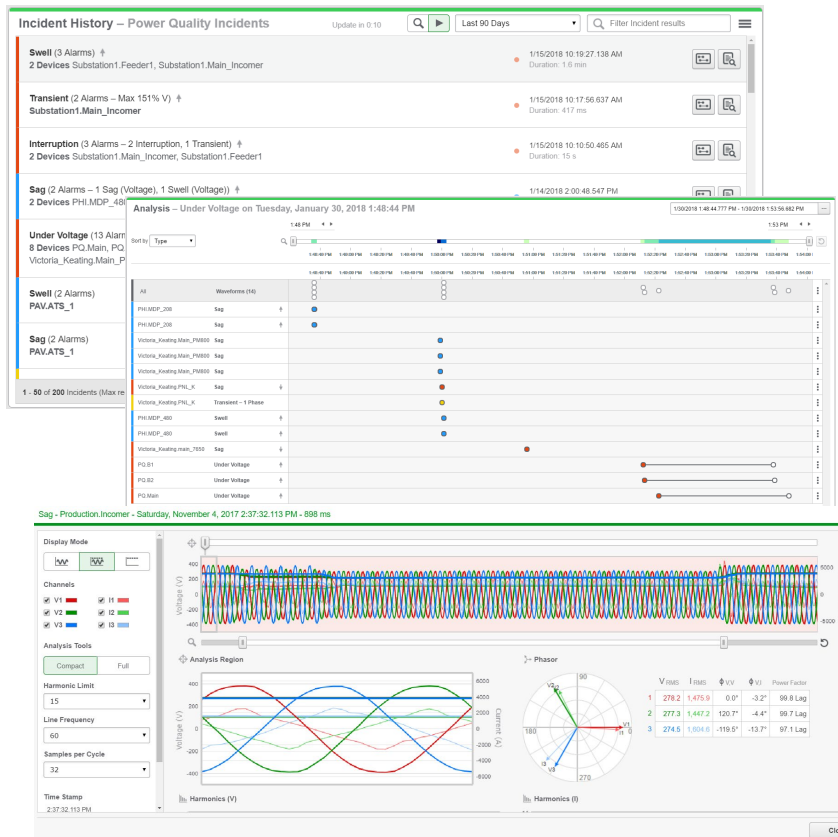
The Right Information at the Right Time



- “I need to quickly see the impact of incidents that effect my facility. I have too many alarms to understand what is really going on. I don't want to be distracted by irrelevant information when I am trying to restore operations”



- Faster incident analysis by automatic grouping of related alarms.
- Make faster decisions, with key alarm information - such as disturbance direction - available at a glance
- Ensure important information is not lost in a flood of data with intuitive and powerful alarm filtering, searching, and categorization.
- See what you've missed with alarm counters



Connected Devices



Time Synchronization



Smart Alarms, Timeline
and waveform analysis

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Multi-Site Support

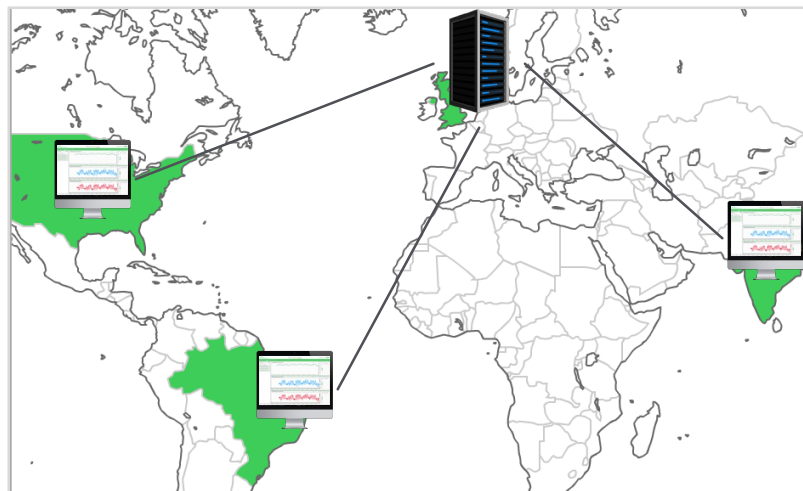
Localized Role Based Access Control



- “I manage multiple locations from one system, and I need to let local users view the data from their site without being overwhelmed by all the data from the other sites”



- For local users in a system connected to multiple sites, enables a user experience like having their own system
- Enables restriction of users to authorized sources and content based on their Group.
- Easy setup and administration.
- Simplifies user management with Active Directory integration.



User Groups



App Shared Library



Multi-Time-zone

Equipment Monitoring & Performance

Insights on your Electrical Distribution Equipment



- “I want to keep track of key operational parameters for electrical equipment. Be notified of configuration changes, lifespan reduction, or risk/safety hazards”



- 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)

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	%

Hospitals Line Insulation Monitoring System

OR Room 1 Details - Page 1

OR_Panel01:		No Test In Progress
Status:	Hazard	
Total Hazard Current:	..	7.00 mA
Load:	...	71.00 %
Volts L1 - L2:	...	120.20 V
Volts L1 - Ground:	...	70.71 V
Volts L2 - Ground:	...	70.71 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



Breaker Performance
Module



Backup Power Module



Condition Monitoring

Energy Analysis & Performance

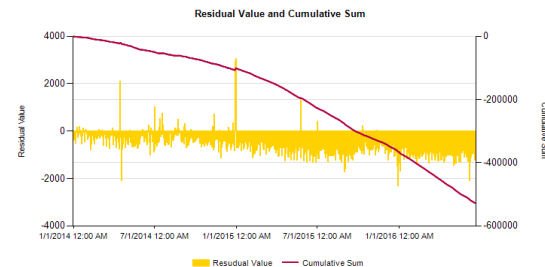
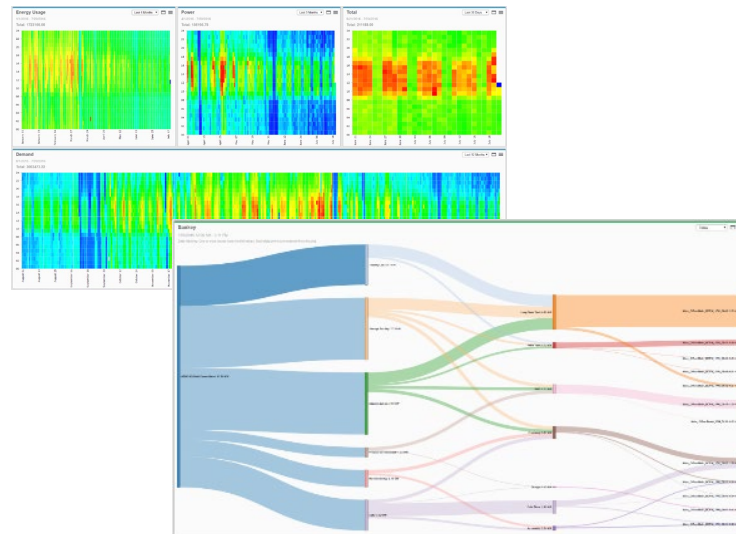
Powerful Energy Management Tools



- “I want to analyze energy usage and performance indicators for my facility or building against a baseline and monitor and verify systematic improvement initiatives like ISO50001”



- Understand better what influences your energy usage
- Create energy usage models and compare actual consumption against expected
- Accurately measure energy savings in the presence of changing variables like weather or production.
- Track KPIs such as Energy Intensity (kWh/unit) or Coefficient of Performance (COP)



Energy Analysis
Module



Advanced Usage
Analysis Gadgets



Consumption and
Scheduled alarms

IT Compliance

Operate in Demanding IT Environments



- *“As the IT department, we need our facility systems on our IT network to comply to our IT policies and minimize risk from cybersecurity threats that could impact our operations or reputation”*



- Support for commonly recognized IT policies such as Windows Active Directory to enable centralized user management and security policies.
 - Central user management
 - Secure password change policies
- Comply with corporate cybersecurity directives and align with industry-standard best practices



Active Directory

Cybersecurity



Windows
Authentication



100% HTML5

More Integration Options

Open and Interoperable

Context Data



Power and Energy/WAGES Data



User Interface Integration



EcoStruxure Building



3rd party

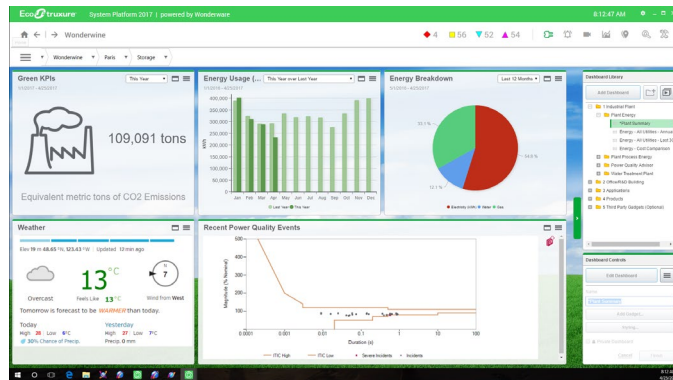
More ETL Capabilities



EcoStruxure Power Monitoring Expert v9.0

PME Data import options:

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



PME Dashboards inside Wonderware HMI

Seamless single-sign on with Windows

AD integration

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Software Modules

Each Module is a Part Number

Efficiency and Compliance



Energy Analysis Reports Module:

- Improve Operational Efficiency, Energy Performance and help achieve ISO50001 compliance

Energy Analysis Dashboards Module:

- Advance analysis and visualization gadgets. Sankey, heatmap/carpet, pareto and ranking.

Energy Billing Module:

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

Reliability and Safety



Power Quality Performance Module:

- Simple, global 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)

Event Notification Module:

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

Asset Compliance and Reliability



Breaker Performance Module:

- Breaker status diagrams and reports including electrical ageing and mechanical wear, for proactive maintenance

Backup Power Module:

- Monitor the parameters of your generator, ATSs and UPSs. Automated results for emergency power supply systems

New Partner Extensions

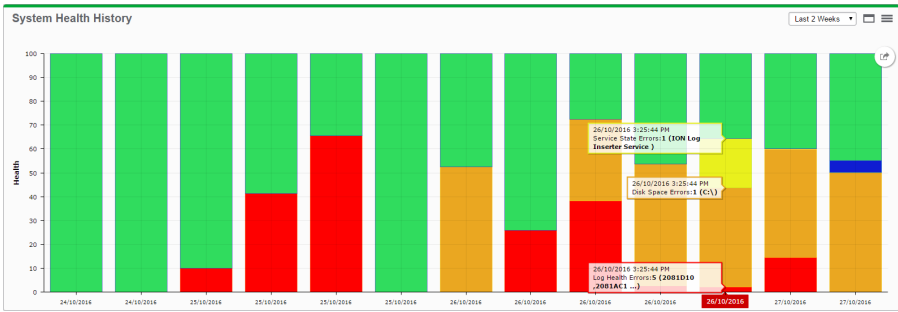
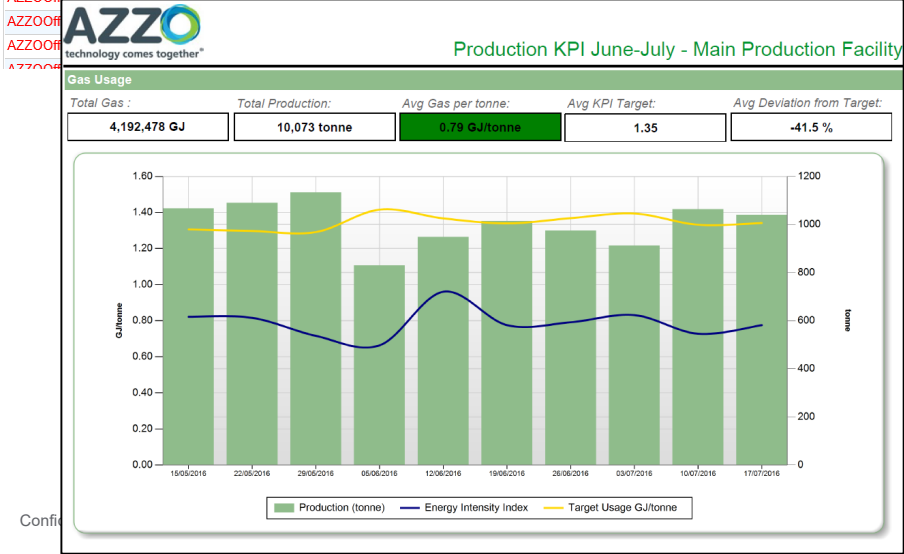
Access Powerful, Innovative, and Intuitive add-ons for your PME system

System Diagnostic Failed

✖

Diagnostic Details

- Sources Requiring Attention
- AZZOOffice.PM8000, Voltage Disturbance Energy Delta on Input V2 - last log recorded at: 18/08/2015 4:55:00 AM (17 minutes ago). Enabled: YE
 - AZZOOffice.PM8000, Voltage Disturbance Energy Delta on Input V3 - last log recorded at: 18/08/2015 4:55:00 AM (17 minutes ago). Enabled: YE
 - AZZOOffice.PM8000, Voltage Disturbance Energy Delta on Input V1 - last log recorded at: 18/08/2015 4:55:00 AM (17 minutes ago). Enabled: YE
 - AZZOOffice.PM8000, Active Energy Delivered - last log recorded at: 18/08/2015 4:55:00 AM (17 minutes ago). Enabled: YES
 - AZZOOffice.PM8000, Active Energy Delivered Interval - last log recorded at: 18/08/2015 4:55:00 AM (17 minutes ago). Enabled: YES
 - AZZOOffice.PM8000, Active Energy Delivered Received - last log recorded at: 18/08/2015 4:55:00 AM (17 minutes ago). Enabled: YES



Reply
 Reply All
 Forward

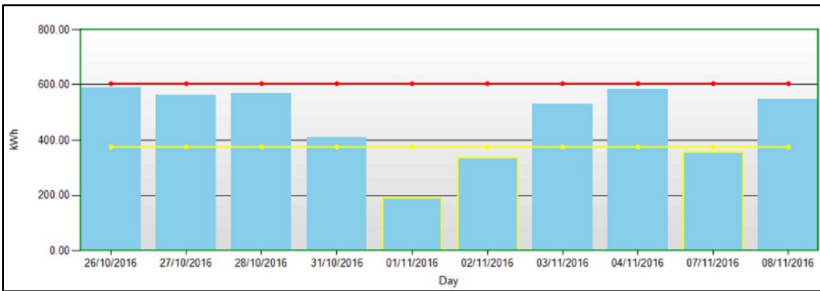
Wed 9/11/2016 12:04 AM

Water Usage Exception

To

Target Value Exception

Meter 15 - Spin Chiller Total - White Area, Water Volume Supply for 7/11/2016 (Weekday Usage) recorded value was 379, which falls below the lower limit of 394



Application Notes and TVDs*

Pre-engineered, tested and validated system customizations for easy deployment:

14 different applications

More than 3000 downloads

All implemented in the PME online demo

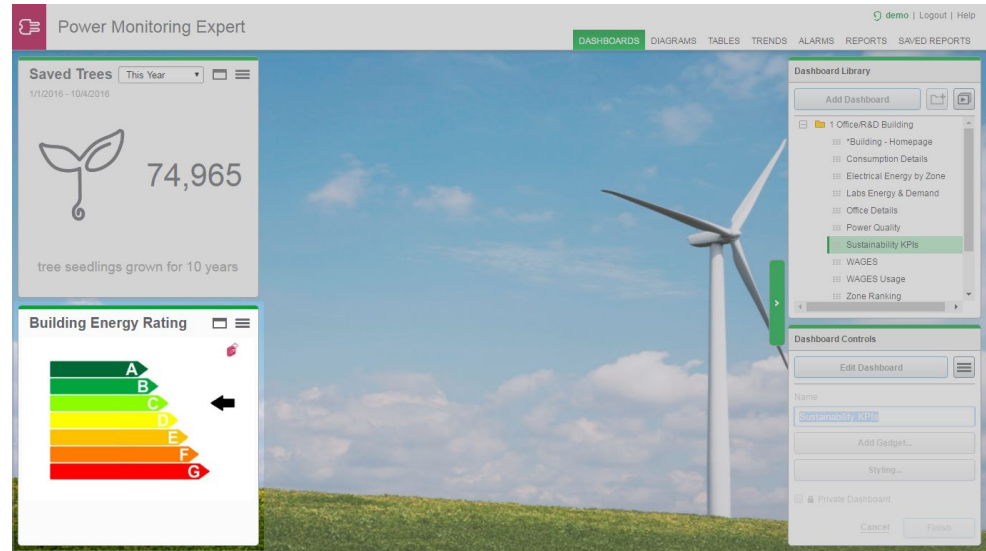
TVDs Include:

Marketing intro

Deployment steps

Required files for deployment

Design and Quote considerations (time)



*Tested Validated, Documented

Confidential Property of Schneider Electric | Page 19

[Click here for details](#)

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A man in a checkered shirt is shown in profile, looking down at a tablet. The background is dark with colorful bokeh lights. A green horizontal band is overlaid on the image, containing the text.

Better Performance

Get Insights at your Fingertips Faster

Faster Platform

Scheduled Log downloads

- By default, PME checks all devices for historical data every 30 seconds. XML file can change that:
 - by DeviceType
 - by DeviceName
 - by TOU Schedule

Bandwidth optimization for all Clients

- Real-time and historical requests managed in dedicated queues.
- All requests handled separately.

EWS Requests Processing Faster



Better User Experience

Role-based access control:

- Only see content that is relevant to your user.
- See your meters and data in your local time zone regardless of location of server
- Single sign on with your windows credentials

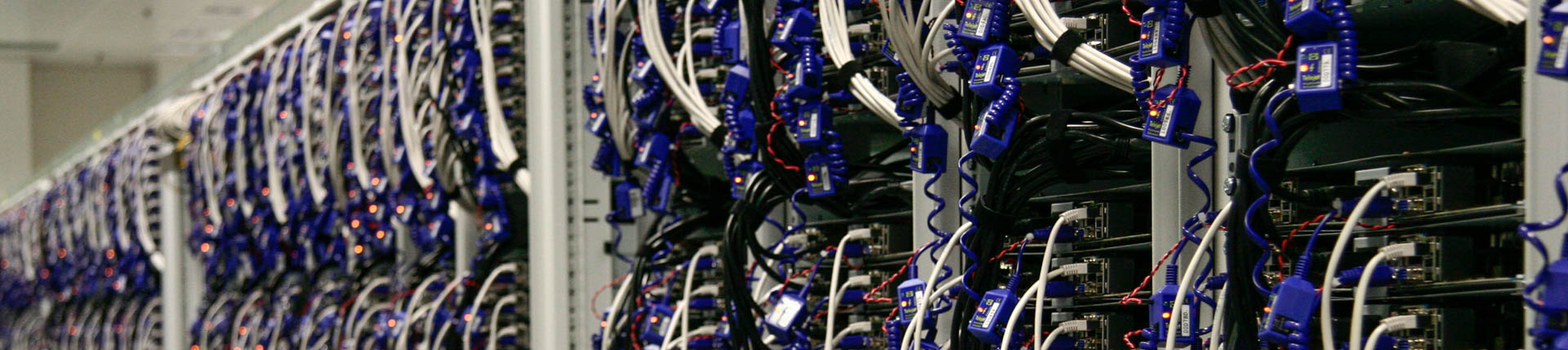
Alarm Management:

- Smart clustering of events and alarms. Intuitive and powerful searching, filtering and categorization
- Visual analysis of events with graphical timeline view

Other Improvements:

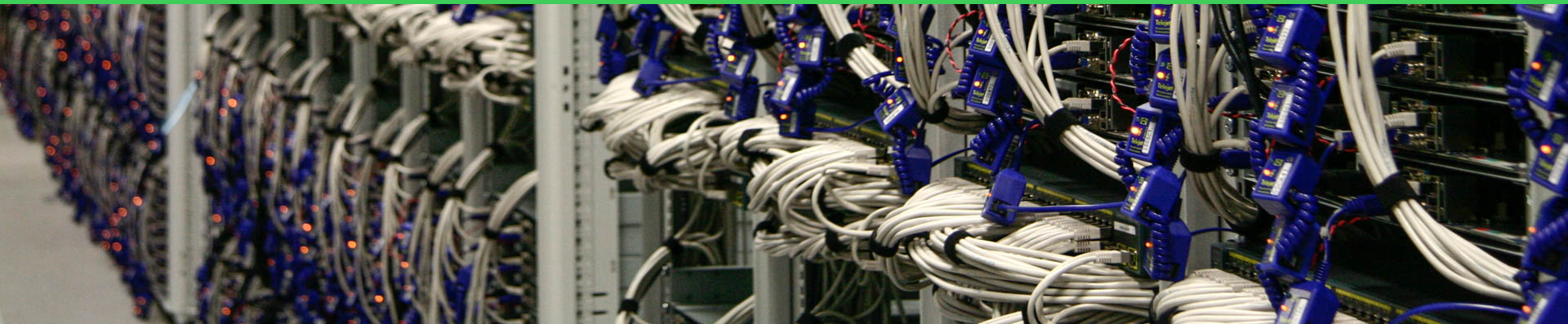
- Faster report management
- Consistent navigation and look and feel across applications. Home, add and favorite options.
- Better overall dashboard management
- More options for gadget creation





It's Not Just Your Software That's Changing

Keep ALL your infrastructure up to date



Hardware and Software Obsolescence

- Common lifespan of a server today is about 5 years, having hardware older than that increases the risk of failure. This is usually aligned with manufacturers warranty.
- Old software does not run in newer operating systems. Having old operating systems represents a big cyber security threat for your organizations because no more security updates or bug fixes are available for older versions of software.
- Schneider Electric remains committed to providing customers with the most technologically advanced products accompanied by quality service. We believe that upgrading to our newest technologies provides our customers the best value and return on investment.

Microsoft Support Life Cycle

New PME releases and updates address changes in technology environments that surround it, as other software packages are upgraded, they may no longer work with yours (Operating systems, SQL, Office, Web Browsers), some examples:

- “On April 8, 2014, support and updates for Windows XP will no longer be available. Don't let your PC go unprotected.” Microsoft
- Mainstream support for SQL Server 2008 R2 and Windows Server 2008 R2 ended.
- <http://support.microsoft.com/lifecycle/?LN=en-us&x=14&y=13&c2=1044>

Client operating systems	Latest update or service pack	End of mainstream support
Windows XP	Service Pack 3	April 14, 2009
Windows Vista	Service Pack 2	April 10, 2012
Windows 7 *	Service Pack 1	January 13, 2015
Windows 8	Windows 8.1	January 9, 2018
Windows 10, released in July 2015 **	N/A	October 13, 2020

Microsoft Support Life Cycle (Cont.)

Migration is worth it!

Windows Server 2003 extended support ended on July 14, 2015

What does this mean for you? Microsoft will no longer issue security updates for any version of Windows Server 2003. If you are still running Windows Server 2003 in your datacenter, you need to take steps now to plan and execute a migration strategy to protect your infrastructure. By migrating to Windows Server 2012 R2, Microsoft Azure or Office 365, you can achieve concrete benefits, including improved performance, reduced maintenance requirements, and increased agility and speed of response to the business.

Extended support for SQL Server 2005 ends on April 12, 2016

If you are still running SQL Server 2005 after April 12, 2016, you will no longer receive security updates. Now is the time to upgrade to SQL Server 2014 and Azure SQL Database to achieve breakthrough performance, maintain security and compliance, and optimise your data platform infrastructure.

Mainstream support for [SQL Server 2008](#) and SQL Server 2008 R2 ended on **July 8, 2014**. Microsoft is encouraging customers to execute on upgrades and/or sustained engineering plans as soon as possible for both the SQL Server 2008 and SQL Server 2008 R2 versions. By remaining current on versions, you'll ensure that your product remains supported per the [Microsoft Support Lifecycle](#) policy.

Products Moving to End of Support	Effective Date
Microsoft Forefront Client Security	July 14, 2015
Microsoft MapPoint 2013	July 14, 2015
Microsoft Streets & Trips 2013	July 14, 2015
Microsoft Streets & Trips 2013 GPS Locator	
Microsoft Windows Server 2003 Compute Cluster Edition	July 14, 2015
Microsoft Windows Server 2003 R2 Datacenter Edition (32-Bit x86)	
Microsoft Windows Server 2003 R2 Datacenter x64 Edition	
Microsoft Windows Server 2003 R2 Enterprise Edition (32-Bit x86)	
Microsoft Windows Server 2003 R2 Enterprise x64 Edition	
Microsoft Windows Server 2003 R2 Standard Edition (32-bit x86)	
Microsoft Windows Server 2003 R2 Standard x64 Edition	
Microsoft Windows Server 2003, Datacenter Edition (32-bit x86)	
Microsoft Windows Server 2003, Datacenter Edition for Itanium-Based Systems	
Microsoft Windows Server 2003, Datacenter x64 Edition	
Microsoft Windows Server 2003, Enterprise Edition (32-bit x86)	
Microsoft Windows Server 2003, Enterprise Edition for Itanium-based Systems	
Microsoft Windows Server 2003, Enterprise x64 Edition	
Microsoft Windows Server 2003, Standard Edition (32-bit x86)	
Microsoft Windows Server 2003, Standard x64 Edition	
Microsoft Windows Server 2003, Web Edition	

Products Moving from Mainstream to Extended Support:

- Windows 8.1 All editions – January 9, 2018
- Office 2013 – April 10, 2018
- Windows Server 2012 All Editions – October 9, 2018
- Windows Server 2012 R2, All Editions – October 9, 2018

<https://support.microsoft.com/en-us/help/4043450/products-reaching-end-of-support-for-2018>

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Hardware Obsolescence

Everyone wants and needs to extract every last \$ of capital investment, that's the right thing to do. So when is the right time to replace a server?

The realities are:

- If you don't replace your server whilst it is still operational you'll have to do so after it has failed.
- As the server gets older.....the day that it will let you down gets closer.
- Just like a light bulb, where life expectancy is often written on the packaging, a server's life expectancy is not a secret; 5 years is typical, but from experience, we'd say closer to 4 years if hard disks aren't duplicated (with SAS or SCSI).



New Devices and Drivers

Power Monitoring Expert supports natively the latest devices from the Schneider Electric Power Metering and LV and MV portfolio including but not limited to:

- ION9000
- Masterpact MTZ (Micrologic X)
- PM8000 Series power meters
- AccuSine PCS+, PCSN
- ION7400 Utility Feeder meter
- UPS Galaxy VM/VX
- Varlogic Plus Cap bank controller
- SMARTPANEL! (Smartlink IP, IFE/IFM, PowerTag)

Power Monitoring Expert 8.2 supports all previous supported legacy devices too!



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Up-to-date support for up-to-date software

Digital Services and Expert Support

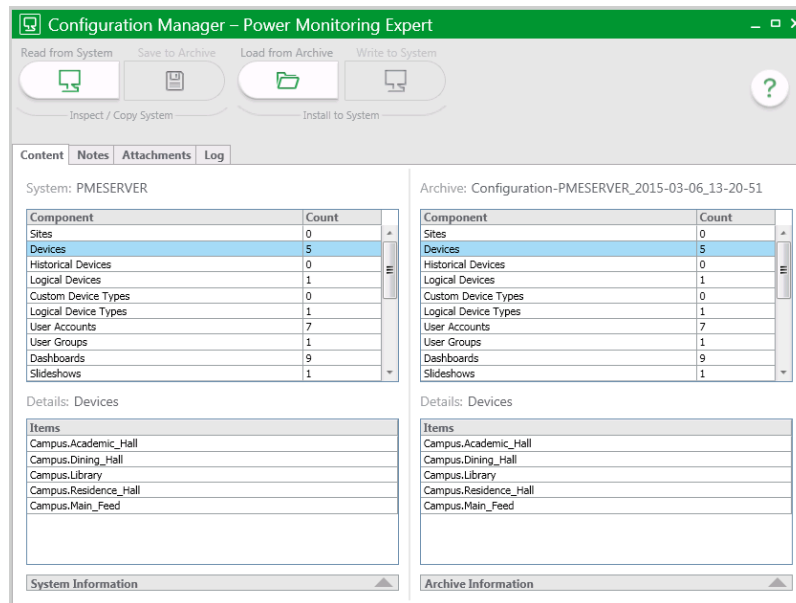


Configuration Management Tool

The longer the wait the harder the upgrade process...

Migrate your old configuration to your new system

- Simple 4 step workflow
- Support for N-2 versions of the software
- Take full backups of your system





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

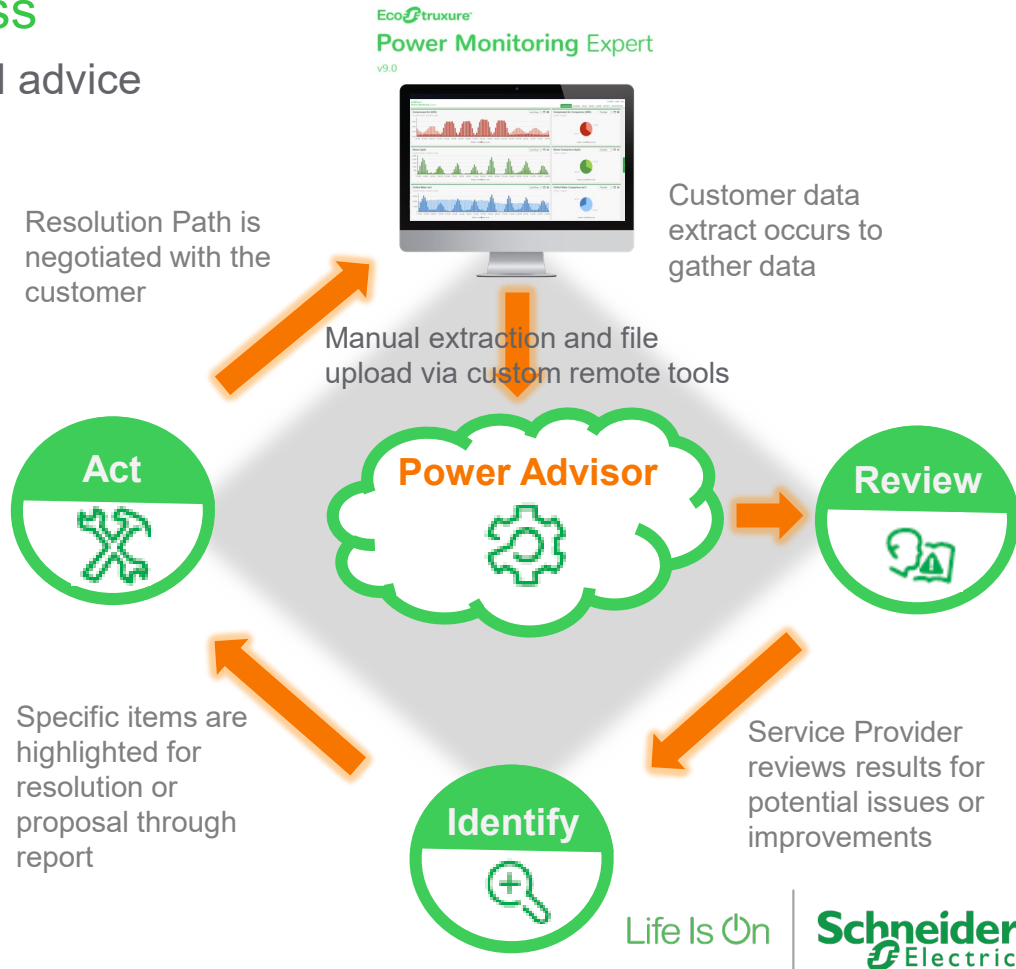
>15% of facilities are operating with problematic power quality conditions, which could lead to equipment damage and unplanned downtime

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 collage displays several report pages from the EcoStruxure Power Advisor interface. Key elements visible include:

- Executive Summary Diagnostic Report:** Shows a 'Report Summary' for a 'Demo' system at 295 Tech Park Dr, LaVerne, TN, with a report run date of 10-March-2017. It includes a 'System Health' section with a warning icon and a 'Potential Issue' section.
- Detailed Report:** Provides a 'Report Summary' for the same system, including a 'Report Details' section.
- Diagnostic Report:** Shows a 'Report Summary' for the same system, including a 'Report Details' section.
- Executive Summary Voltage Report:** Shows a 'Report Summary' for the same system, including a 'Report Details' section.
- Detailed Report:** Provides a 'Report Summary' for the same system, including a 'Report Details' section.
- Voltage Report:** Shows a 'Report Summary' for the same system, including a 'Report Details' section.
- Network Health:** Shows a 'Report Summary' for the same system, including a 'Report Details' section.
- Potential Issue:** A highlighted section titled 'Potential Issue: Excessive Voltage Harmonics Condition' with a 'System Affected' percentage of 8%. It includes a 'Report Details' section.

The reports are generated by Schneider Electric's EcoStruxure Power Advisor software, as indicated by the logo and text at the bottom of the collage.

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