EcoStruxure Power Monitoring Expert

Toronto PLUG 2017

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Agenda

1	EcoStruxure Power
2	Power Monitoring Expert 8.2 Review
3	Power Monitoring Expert Roadmap
4	Q&A

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EcoStruxure Power

Digitized Power Distribution

EcoStruxure Power is a vertically integrated stack of services & products…

Reference Designs

Cyber Security

Analytics & Services

Edge Control

Connected Products

EcoStruxure™ Advisor Services

(cloud hosted expert services & analytics engines)

EcoStruxure™ Power Management

(Power SCADA Operation, Power Monitoring Expert)

MV Smart Panels

UPS

Power Quality

Relays / RTUs

LV Smart Panels

Breakers

Power Metering

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…across the medium / low electrical distribution system…

Architecture overview	Equipment	Connected Product	Edge Control	Services

Medium Voltage

Utility 1 — MV Gear

Utility 2 — MV Gear

Low Voltage

MLVS Gear — MLVS Gear

Final distribution

LV Gear

UPS

UPS

Floor Smart Panel — Other Loads

IT Smart Panel — Critical loads

Isolated Smart Panel — Critical loads

IP Communications Backbone

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EcoStruxure Power Monitoring Expert 8.x review

PME in the last 3 years…

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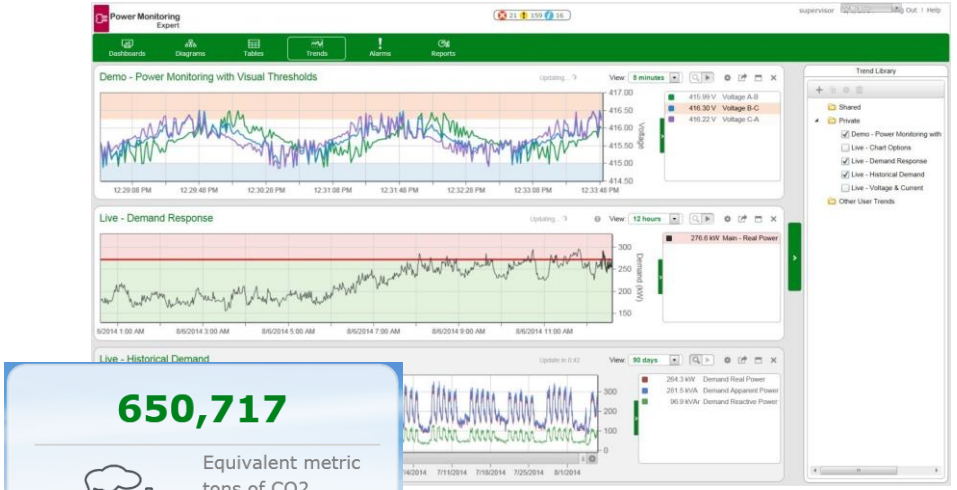
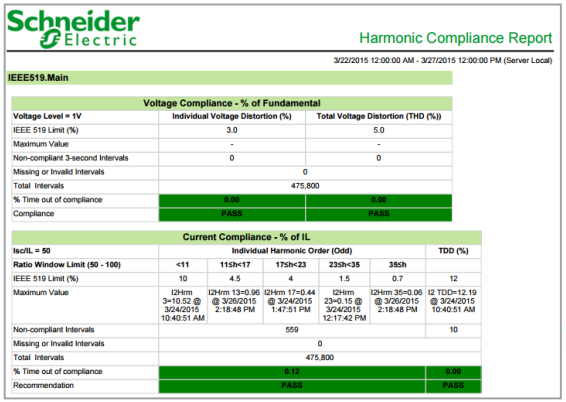
PME 8.0

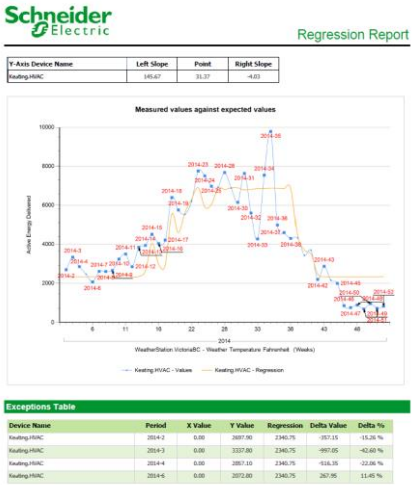
End User Functionality Focus (2015)

Power Monitoring Expert 8.0

- Web based real time trends
- Harmonics Compliance report
- EN51060 2010 Reports
- Native notification of Alarms (Smart notifications)
- Simpler Report Customizations
- New Reports and Dashboard Gadgets
- Additional Software Modules
- Faster communication performance
- Easy Alarm configuration
- BMS Integration
- New device drivers







Software Modules

Extend you PME System Capabilities

Cost Management

Energy Analysis Module:

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

Energy Billing Module:

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

IT Billing Module

- Flexible rate engine and reports for datacenter applications

Power Efficiency Module

- Track and analyze PUE, losses and overall system efficiency.

Network Management

Power Quality Performance Module:

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

Generator Test/EPSS Module:

- Automated generator and ATS testing and reporting for maintenance and regulatory compliance

Power Capacity Module:

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

Event Notification Module:

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

Asset Management

UPS Performance Module:

- Global overview UPS status, battery health, auto test report etc.

Breaker Performance Module:

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

Generator Performance Module:

- Monitor the parameters of your generator

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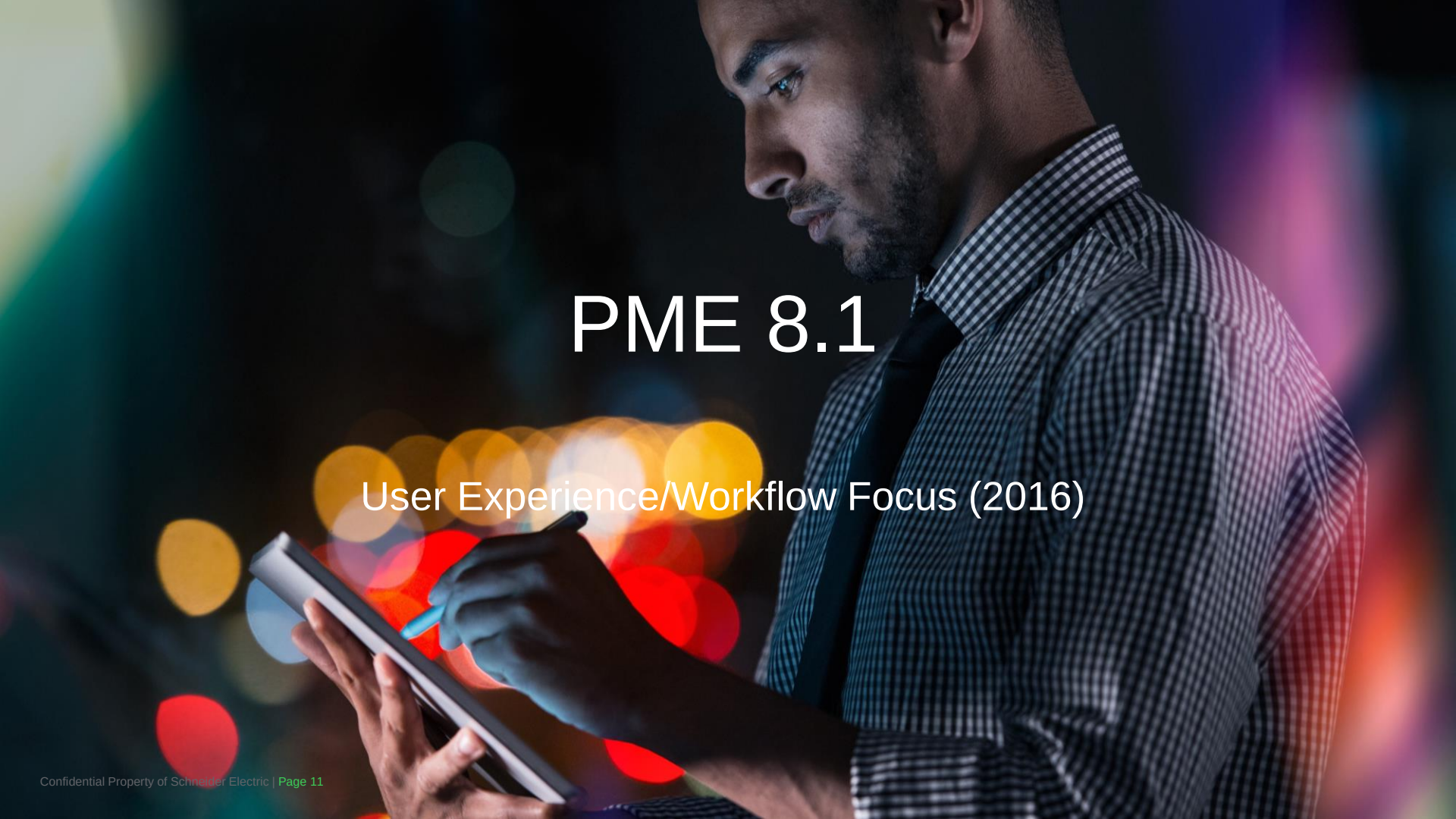
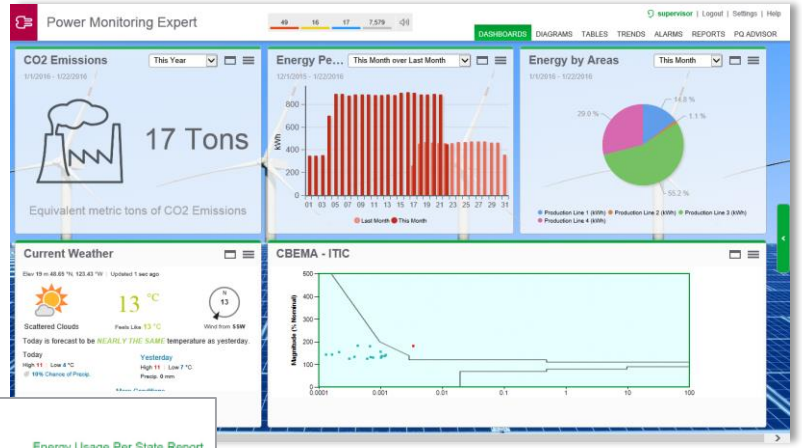
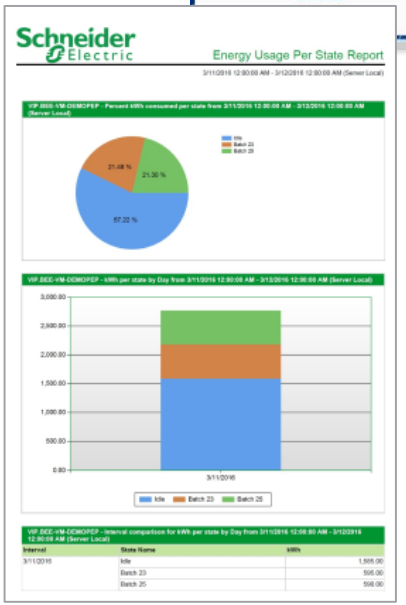

PME 8.1
User Experience/Workflow Focus (2016)

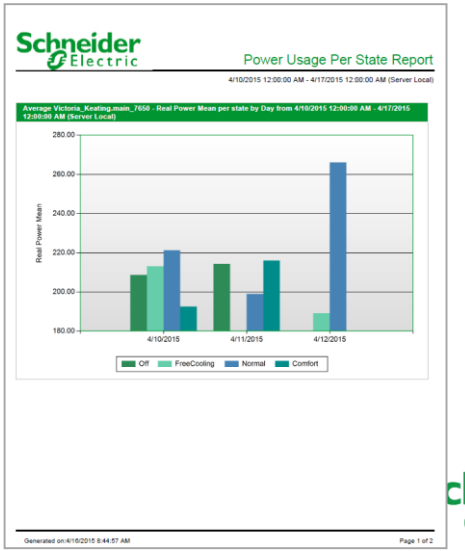
Power Monitoring Expert 8.1

User Experience/Workflow Focus (2016)

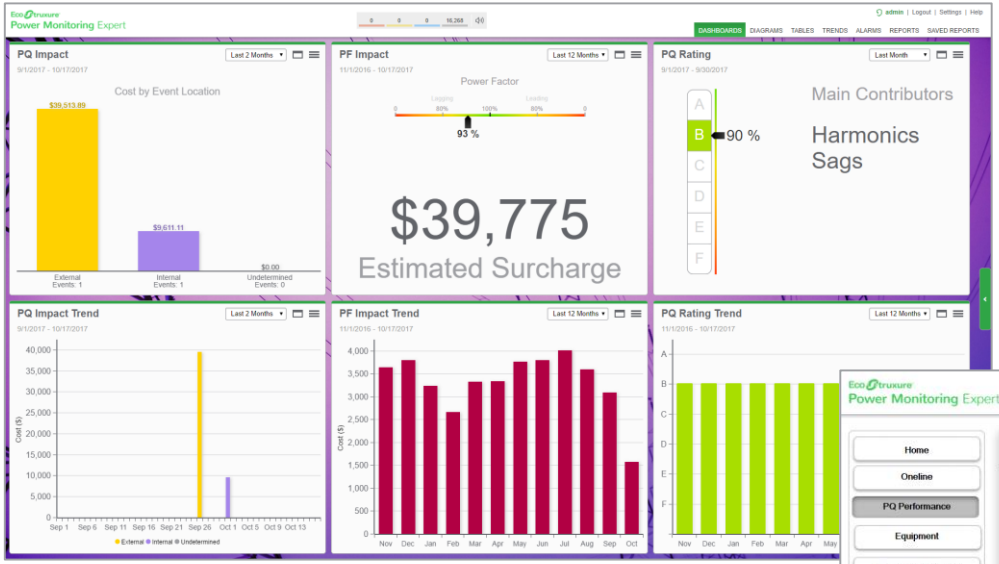
- New Web Client look and feel (HTML5)
- New and improved Dashboards and Gadgets
- New Energy Management Reports
- Energy Performance reporting
- ETL improvements
- Power Quality Simplified

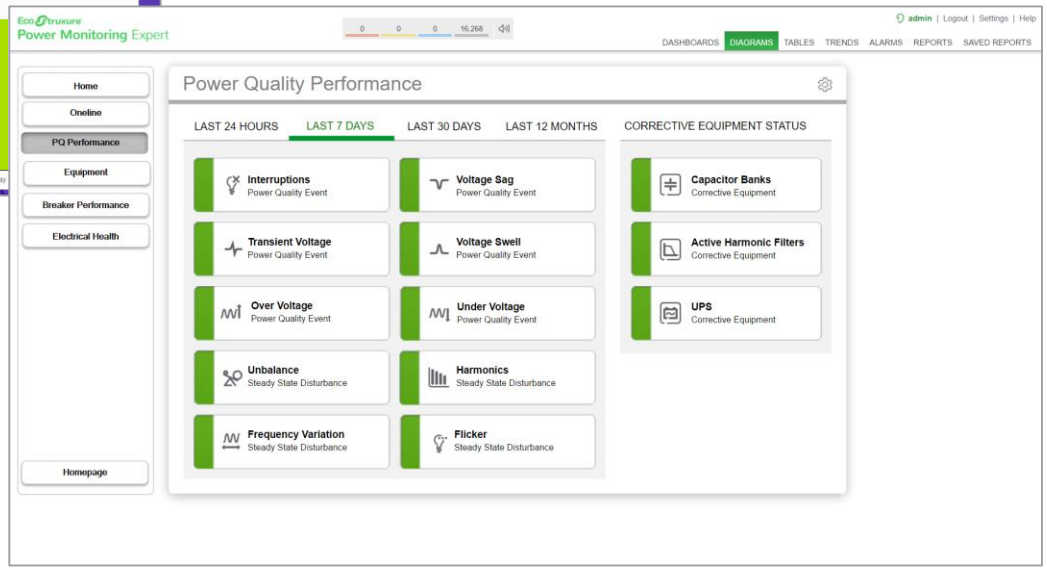






Power Quality Performance Module





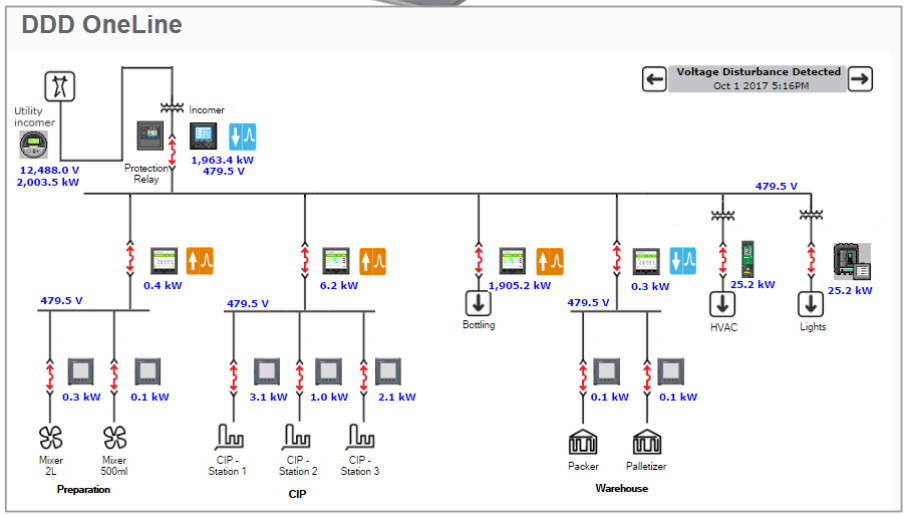
PME 8.2

Cyber Security focus (2017)

Power Monitoring Expert 8.2

Cybersecurity Focus (2017)

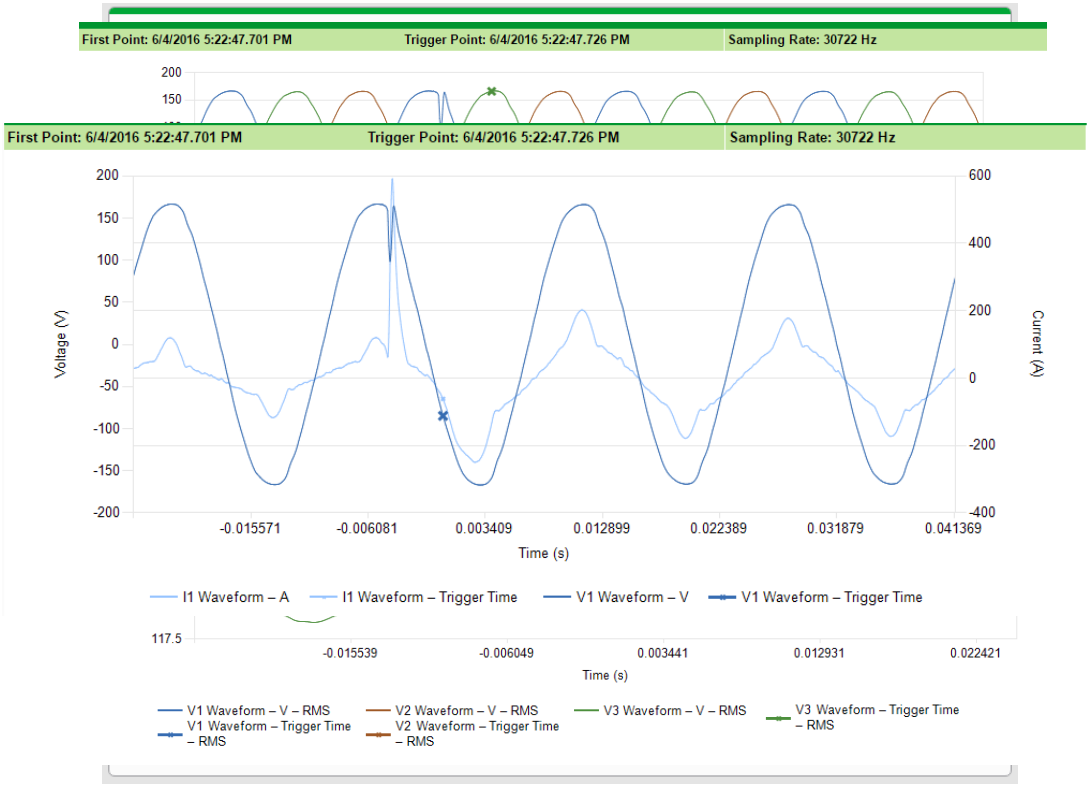
- Cyber Security hardening
- Improved IT Compliance
- Improved Power Quality Report
- More customizable Web interface
- COMTRADE export
- Expanded technology Ecosystem



Power Quality Report Enhancements

More customization Options:

- Additional date ranges
- “Subscription mode” add sub-reports to the PDF output for subscriptions
- Waveforms sorted by time for same event
- Additional PQ Curves to overlay
- RMS charts
- Secondary Y-Axis for current waveform



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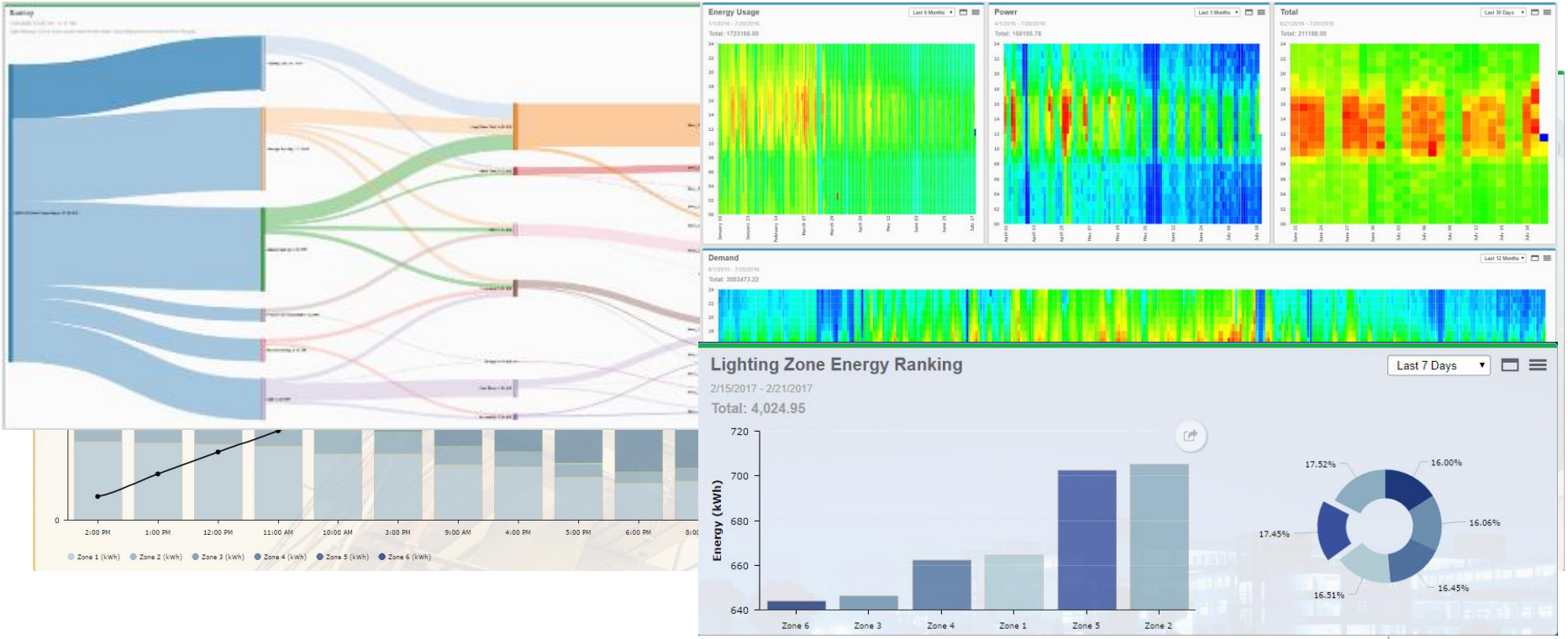
PME Extensions by AZZO

Powerful, Innovative, and Intuitive add-ons



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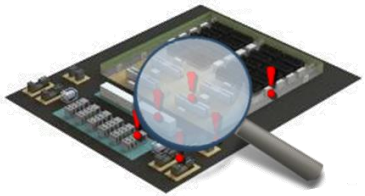
PME 9.0 Major Development Themes

Improved IT compliance



Power Events Analysis

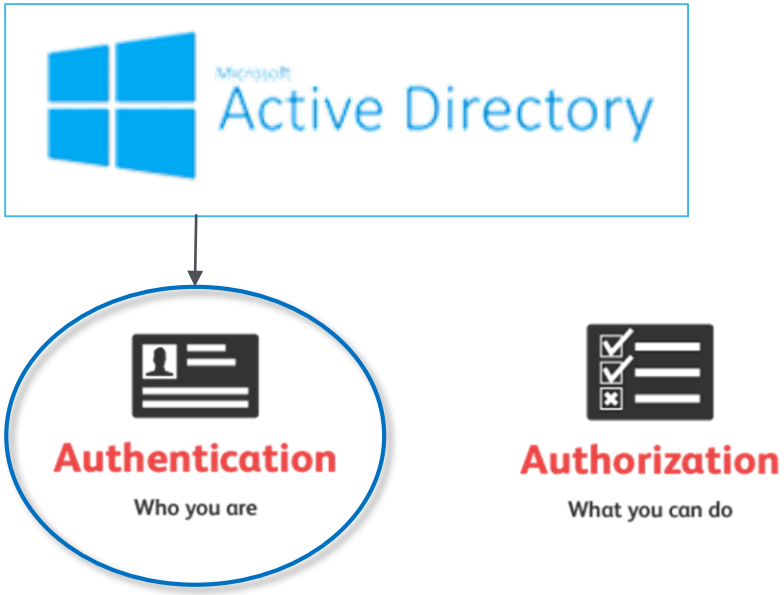
Multi-Site software solution

IT Compliance

Respond to needs of corporate IT departments

Windows Authentication – what is it?

Windows Authentication will allow users to log into PME using their Windows credentials.



- Windows user credentials can be managed by Active Directory (AD) or the local Windows machine.
- Many large companies use AD to maintain user credentials on their network, and enforce IT policies such as password complexity.
- **This feature will provide Active Directory support in PME, allowing us to comply with this common IT requirement.**

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Windows Authentication - Benefits

Meet common requirement of IT departments

Increased security through ability to use Active Directory to enforce IT policies

Streamline end user experience through single-sign on

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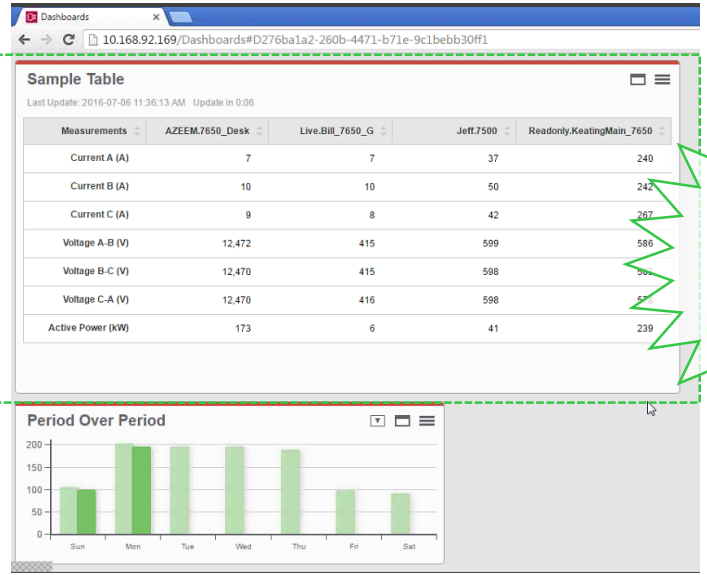
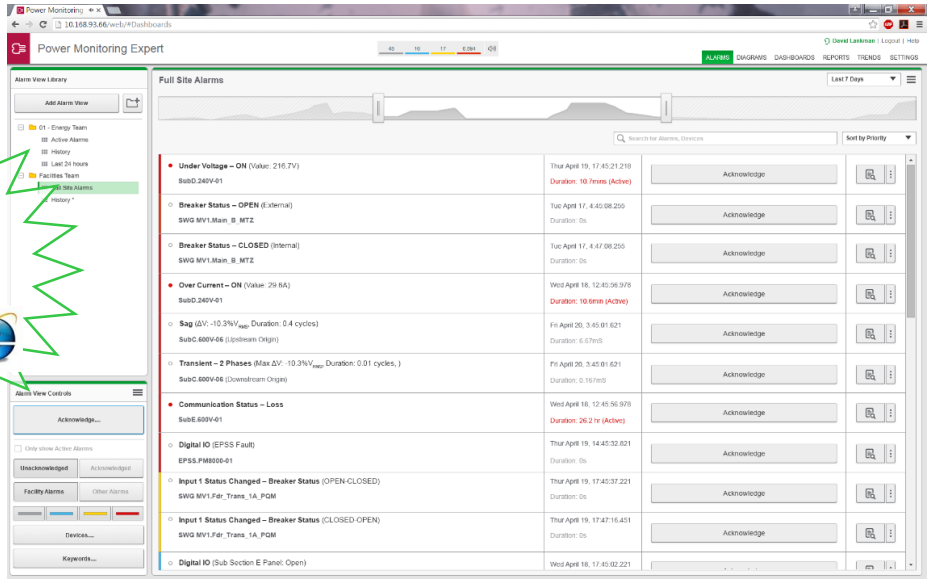
Multi-Browser Web Client

Silverlight will be completely removed in PME 9.0





- Tables tab replaced with HTML5 dashboard gadget
- View side-by-side cockpit views with other gadgets
- Show hierarchy roll-ups in real-time

- Alarms tab replaced with HTML5 alarm viewer tab
- Improved handling of alarm and event data
- Easy to use filters, personalized views

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Multi-Browser Web Client - Benefits

Better end-user experience – choose any browser

Able to comply to IT policies that deny browser plug-ins such as Silverlight

Able to view all web client applications on mobile devices

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Power Events Analysis

Get things back to normal faster than ever before

Next Gen Alarm Management – why are we doing it

The current alarm viewer produces too many alarms to understand what is going on.

PME 8.x alarm viewer

Alarms | Events

Edit Settings | Configure Alarms

View: Alarm History

10 Seconds

Alarms Displayed: 193 | Unacknowledged Alarms: 193 | Acknowledge | Select Columns

Drag a column here to group by that column

Active	Start Time	End Time	Duration	Device	Priority	Type	Condition
	10/8/2016 2:37:32.213 PM		n/a	Utility.Main		Dist Direction Detection 1	Disturbance
	10/8/2016 2:37:32.213 PM	10/8/2016 2:37:34.674 PM	00:00:02.4610000	Utility.Main		Voltage Disturbance State	Normal
	10/8/2016 2:37:32.213 PM		n/a	Production.Utility		Dist Direction Detection 1	Disturbance
	10/8/2016 2:37:32.213 PM	10/8/2016 2:37:34.674 PM	00:00:02.4610000	Production.Utility		Voltage Disturbance State	Normal
	10/8/2016 2:37:32.153 PM		n/a	LV.Transformer16b		Dist Direction Detection 1	Disturbance
	10/8/2016 2:37:32.153 PM	10/8/2016 2:37:34.604 PM	00:00:02.4510000	LV.Transformer16b		Voltage Disturbance State	Normal
	10/8/2016 2:37:32.153 PM		n/a	Production.Bottling		Dist Direction Detection 1	Disturbance
	10/8/2016 2:37:32.153 PM	10/8/2016 2:37:34.604 PM	00:00:02.4510000	Production.Bottling		Voltage Disturbance State	Normal
	10/8/2016 2:37:32.144 PM		n/a	LV.Transformer15b		Dist Direction Detection 1	Disturbance
	10/8/2016 2:37:32.144 PM	10/8/2016 2:37:34.596 PM	00:00:02.4520000	LV.Transformer15b		Voltage Disturbance State	Normal
	10/8/2016 2:37:32.144 PM		n/a	Production.CleanInPlace		Dist Direction Detection 1	Disturbance
	10/8/2016 2:37:32.144 PM	10/8/2016 2:37:34.596 PM	00:00:02.4520000	Production.CleanInPlace		Voltage Disturbance State	Normal
	9/29/2016 4:38:19.176 PM		n/a	Utility.Revenue		Dist Direction Detection 1	Disturbance
	9/29/2016 4:38:19.176 PM		n/a	Utility.Revenue		Tran V3 Max	167
	9/29/2016 4:38:19.176 PM		n/a	Utility.Revenue		Tran V2 Max	167
	9/29/2016 4:38:19.176 PM		n/a	Utility.Revenue		Tran V1 Max	167
	4/4/2016 12:05:00.000 PM		n/a	VIP.WIN-9EC6FLR0T5Q		Caustic Soda	Could not que
	4/4/2016 12:00:00.000 PM		n/a	VIP.WIN-9EC6FLR0T5Q		Nitric Acid	Could not que
	4/4/2016 12:00:00.000 PM		n/a	VIP.WIN-9EC6FLR0T5Q		Caustic Soda	Could not que
	10/8/2016 2:37:32.123 PM	10/8/2016 2:37:34.577 PM	00:00:02.4540000	Production.Warehouse		Voltage Disturbance State	Normal

Problems today

Lots of noise created by rows of extra alarm data.

Alarms are too granular, such as individual per-phase alarms.

No way to filter between “Facility” alarms and “software” alarms.

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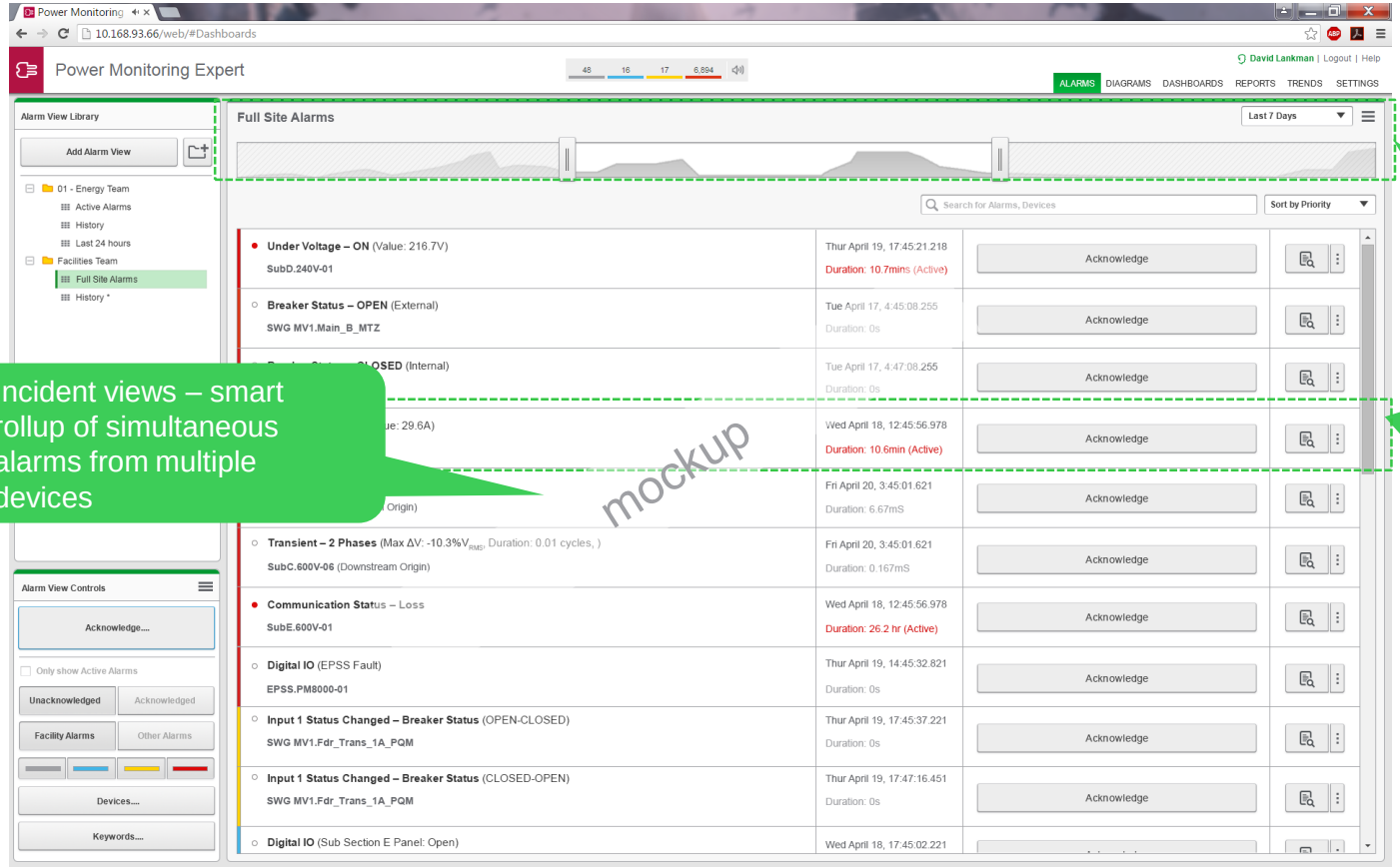
Next Generation Alarm Viewer



Incident views – smart rollup of simultaneous alarms from multiple devices

New filtering capabilities: keywords, timeline, alarm categories

- Event relevant, clustered alarm “cards”.
- High level, key information.
- Drill down to see more details.

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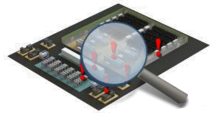
Next Gen Alarm Management - Benefits



A new “Incident” view speeds alarm analysis by intelligently grouping related alarms together.

Important alarm context is available at a glance, with more detailed information only clicks away.

Improved filtering, searching, and categorization helps ensure important information is not lost in a flood of data.

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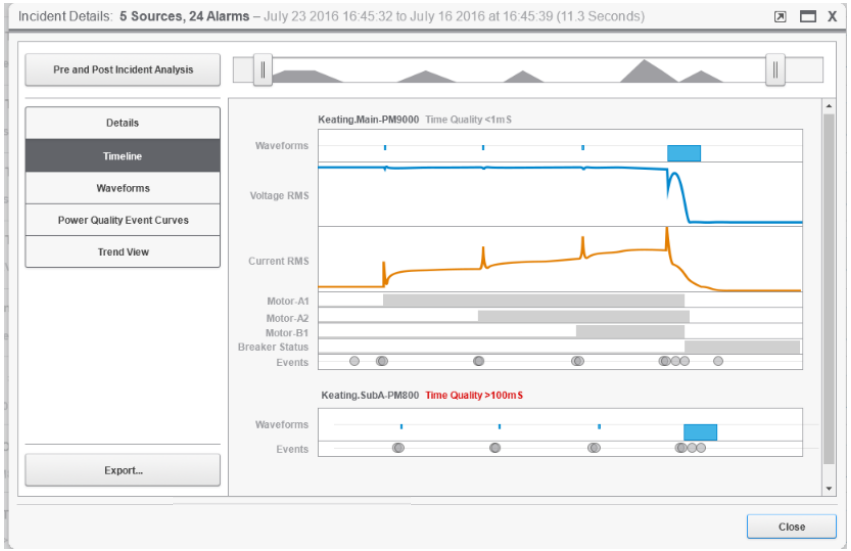
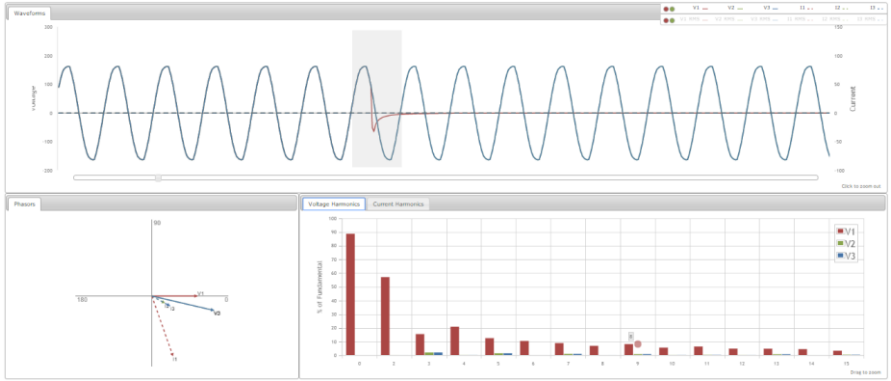
Pre/Post Event Analysis

New timeline based event analysis tool



New web-based waveform viewer



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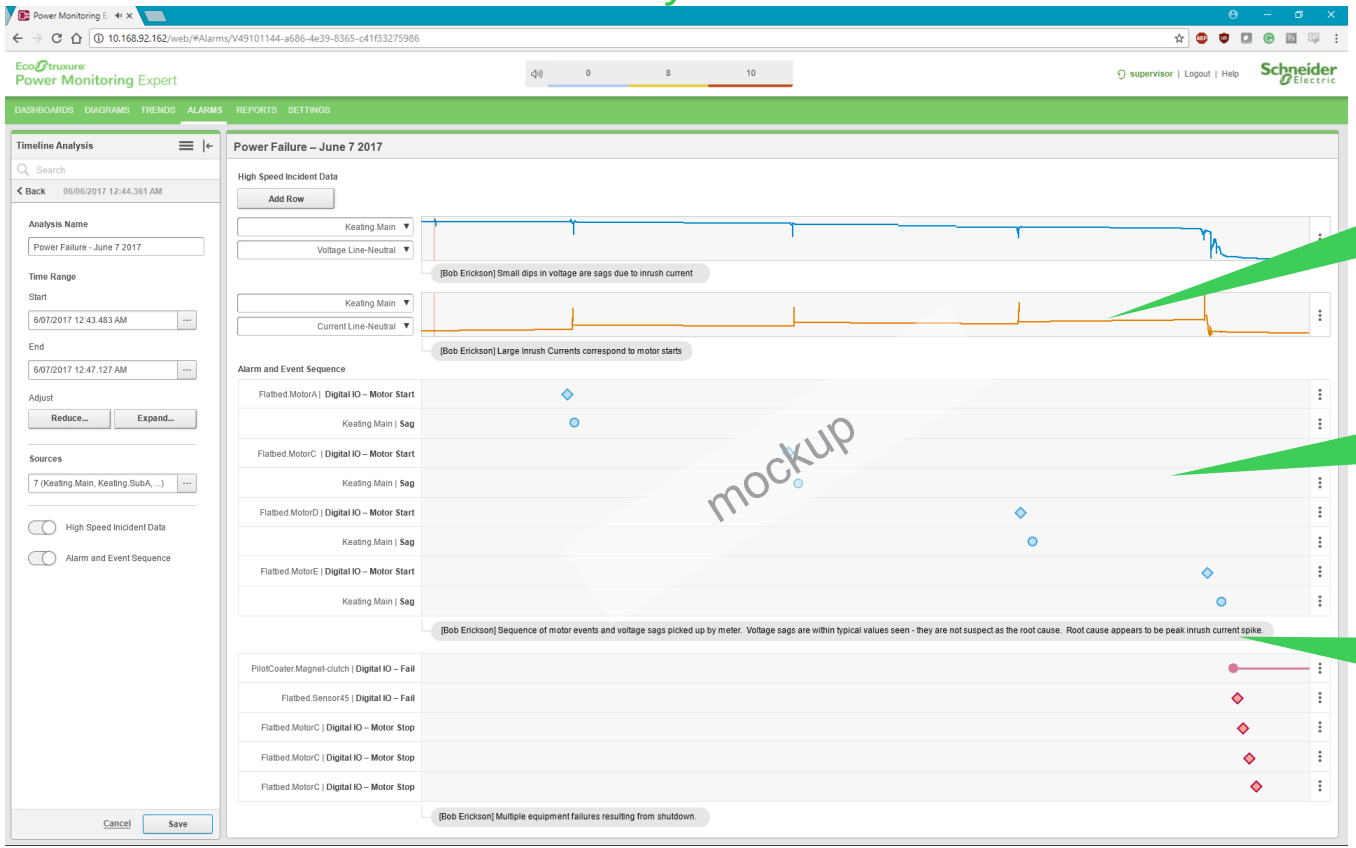
Pre/Post Event Analysis

New timeline based event analysis tool



See the bigger picture of what happened before and after an Incident.

Smart event correlation to bring in the right information at the right time.

Include information from across multiple devices.

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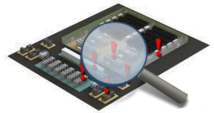
Pre/Post Event Analysis - Benefits



Increase facility reliability by reducing the time to identify and diagnose critical incidents.

Understand causes of critical incidents, and implement preventative measures to avoid downtime.

Capture notes and easily export data to increase operational efficiency in creation of management reports and searching for past resolutions.

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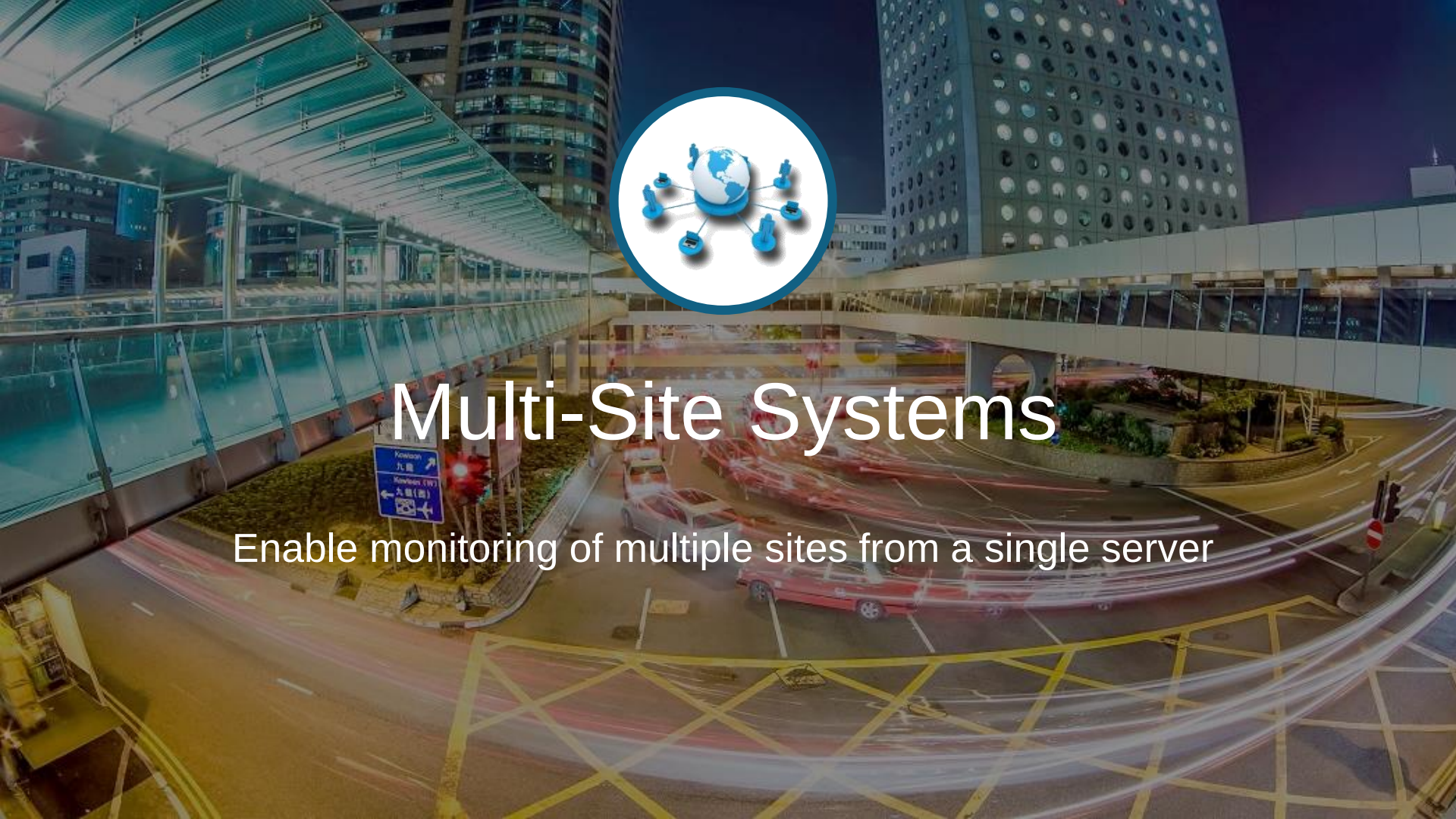


Multi-Site Systems

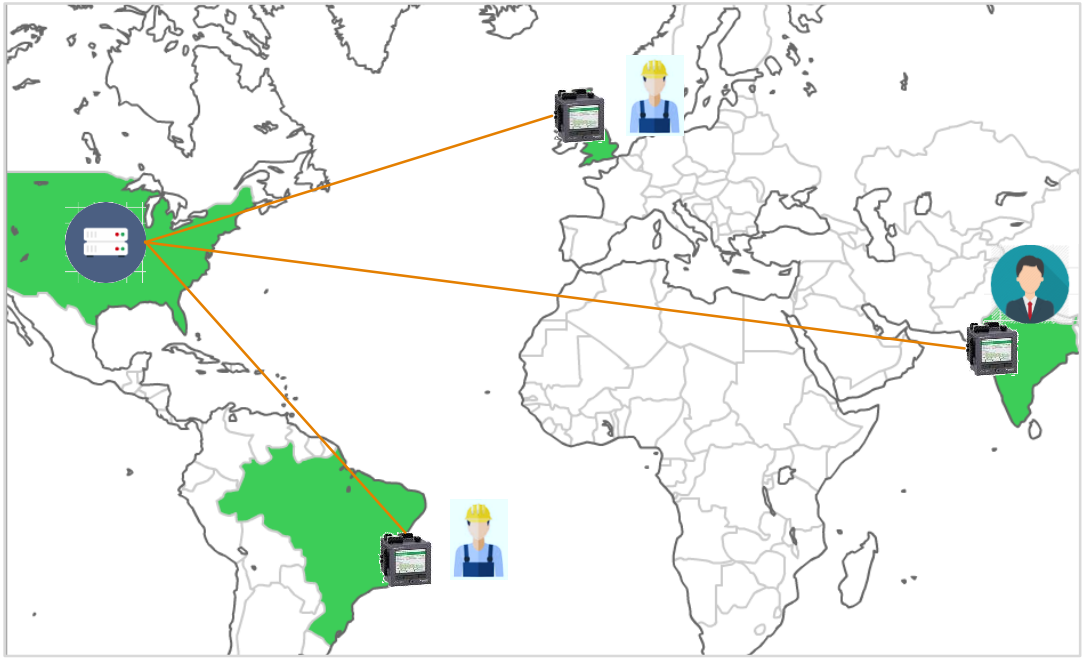
Enable monitoring of multiple sites from a single server

Multi-Site PME : Customer feedback and market trends

- Monitoring of multiple sites
- Virtualized IT environments
- Centralization of Expertise
- Particularly in industrial segments

New features in PME 9.0 to support these trends

1. User Groups
2. Multi-Timezone



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User Groups

UK Facilities Team

Users

Devices

Content views

Brazil Facilities Team

Users

Devices

Content views

International Facilities Team

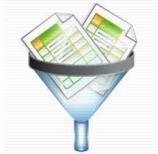
Users

Devices

Content views

PME User Groups - Benefits

Enables restriction of users to authorized sources and content based on their Group.



Provides a simpler user experience by filtering what users see based on their Group.

Easy setup and administration, without adding work for customers who do not use Groups.

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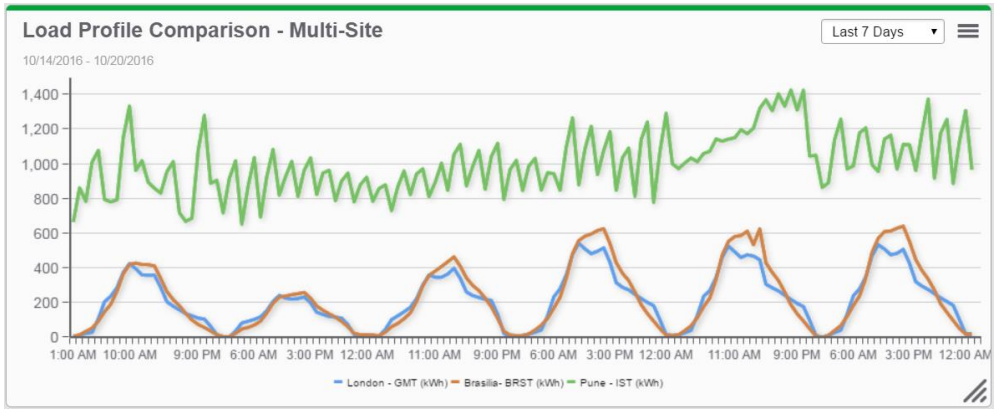
Multi-Timezone



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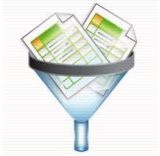
Multi-Timezone - Benefits

Easier to use by displaying data in the local timezone of the meter, regardless of where the server is located.



Enables intuitive cross-site reporting.

Easy setup and administration, without adding work for customers who do not use multi-timezones.

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Additional Features

- Device Type Editor (replaces MDI)
- **Trends** now support **hierarchies!**
- **Dashboard Report!**
- Manual Data Editor
- New device drivers:
  - **ION9000**
  - PowerTag
  - Smartlink IPZ
  - UPS Galaxy VM/VS
  - Compact NSXm / Powerpact B
- SQL 2016 Express included
- SQL 2017 Support
- Designer:
  - Fast Framework Download
  - Test Ext pulse/bool/num from designer

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